# APPENDIX F

# CHEMICAL-RESISTANT VAPOR BARRIER DOCUMENTATION

Colloid Environmental Technologies Company
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Hoffman Estates, IL 60192, USA
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Hoffman Estates, 01.17.2019

Mr. Daniel Balbiani, P.E.
Principal Engineer
PES Environmental, Inc
1215 Fourth Avenue
Suite 1350
Seattle, WA 98161

RE: 700 Dexter Project
Subject: Core Flex – Contaminants / Vapor

Dear Mr. Balbiani,

CoreFlex will be resistant to detrimental effects from contaminates cited in the various reports; specifically Tetrachloroethene: typically <100 mg/kg but localized areas of 5,000 to 16,000 mg/kg in the tested soils and Tetrachloroethene: 3.5 mg/L up to 16.5 mg/L in the tested ground water samples. CoreFlex will be an effective barrier to the contaminants as well as to groundwater ingress. CECTO has numerous Brown Field applications of the CoreFlex product, with the first being in 2009, without incident. To be clear, CoreFlex is the only product that provides both waterproofing and chemical vapor intrusion protection. Additionally, CoreFlex has welded seams and is terminated mechanically everywhere which enhances its ability to prevent vapors from entering a structure.

Regards,

CETCO

Robert Cisneros
Technical Services Manager

# MEMORANDUM

MORRISON HERSHFIELD

| | | | |
|---|---|---|---|
| TO: | Tom Milholland and Brian Dieterle – Kendall Heaton<br>Drew Graham and Brad Rock – OAC | ACTION BY: | |
| FROM: | Andy Lang | FOR INFO OF: | 700 Dexter project team |
| PLEASE RESPOND BY: | | PROJECT No.: | 170022600 |
| RE: | 700 Dexter – Below Grade Waterproofing and Vapor Control | DATE: | October 11, 2018<br>Revised Oct 11, 2018 |

\\MH.LOCAL\DATA\OFFICES\SEATTLE\PROJ\8170123 700 DEXTER - KHA\9. DESIGN\6. BELOW GRADE WATERPROOFING\700 DEXTER_BG WATERPROOFING AND VAPOR CONTROL_REV.DOCX

Morrison Hershfield (MH) is providing this memorandum to summarize the design for controlling water and vapor penetration into the below grade structure at the Dexter Yard project, located at 700 Dexter Ave N in Seattle, WA. This memo has been revised to include information related to quality control and quality assurance of the installation.

Due to the location of the water table, the bottom slab and lower floor level is anticipated to be subject to hydrostatic pressure, and a permanent foundation dewatering system will not be provided. We also understand that contaminates are present in the soil and/or groundwater that will require a gas/vapor barrier be used.

MH was informed that the foundation will be constructed using a matt slab with thickened footings. Foundation walls are likely to be one-sided formed, cast-in place concrete. Waterproofing membrane will be pre-applied below the matt slab and on the foundation walls prior to casting the concrete slab and foundation walls. Injection and monitoring wells will penetrate the bottom slab and waterproofing. These wells will each consist of a single steel casing that will be grouted and capped top provide a water and vapor tight seal within the wells. This work is outside MH's scope of services.

Cetco Coreflex 60 will be used as the foundation waterproofing and gas/vapor barrier. Attached is the technical data sheet for the Coreflex, along with the Product Manual, which includes the installation instructions and detailing. These documents are available on Cetco's website at http://www.cetco.com/en-us/Products/Building-Materials/Waterproofing.

The Coreflex membrane consists of a 60 mil thick thermoplastic membrane integrally bonded to a hydrophilic "Active Polymer Core" (APC), which swells when exposed to water to provide a secondary waterproofing barrier should water penetrate past the thermoplastic facer. The APC has a geotextile fabric on the interior surface, which achieves a mechanical bond to concrete that is cast against it, resulting in membrane that is fully bonded to the foundation structure. The thermoplastic membrane provides the primary waterproofing as well as the gas/vapor barrier. All laps in the membrane are heat welded to provide a durable seal. Site water samples had been sent to Cetco for compatibility testing, which confirmed that Coreflex 60 was suitable for use at this site.

The Coreflex will be installed underneath the slab and along all the foundation walls to provide a continuous barrier to water and gas/vapor entry into the below grade structure. Typical manufacturer-recommended details will be used to seal the Coreflex to penetrations, such as the steel casings containing the injection and monitoring wells. The project-specific installation and detailing will follow the procedures indicated for *Underslab/Property Line Walls* contained in the attached Product Manual. Additional project-specific details will be developed, as may be necessary, to account for any site

conditions that may vary from what is included in Cetco's published literature. All such details will be obtained from Cetco.

Various accessories will be used as part of the installation of the Coreflex waterproofing membrane. The specific materials that may be used will depend on project-specific detailing, and all such materials are listed in the attached Product Manual. Additional product information and/or technical data sheets are available for these accessories on Cetco's website. In addition to the continuous waterproofing and gas/vapor barrier membrane, waterstops will be installed at all cold joints in the concrete as an additional waterproofing/vapor migration protection.

A 15-year system warranty is available from Cetco and MH understands the owners intend to obtain Cetco's Hydroshield system warranty. To obtain this warranty, Cetco's HydroShield™ Quality Assurance Program will be followed. This Program includes the following requirements:

- Cetco's involvement in review of the design and detailing, providing additional project-specific details where required. This involvement will include periodic site review by a manufacturers' representative through the construction period to address site-specific conditions as may be needed.
- Installation of the membrane system by a manufacturer-approved applicator who has completed Cetco's Approved Applicator Program.
- Third-party independent inspection to confirm installation in accordance with the manufacturers' requirements. This includes review of all substrates prior to the membrane installation; review of all completed membrane and detailing work prior to the membrane being covered/concealed, and review of all waterstops at cold joints in the concrete. Written reports are issued following the visits to document all observations and any corrective action that may be required prior to covering the work.

When properly installed in accordance with the manufacturers' recommendations, the Coreflex will provide an effective and durable barrier to prevent water and gas/vapor penetration into the below grade structure.

# COREFLEX® 60

## THERMOPLASTIC WATERPROOFING MEMBRANE WITH ACTIVE POLYMER CORE

### DESCRIPTION

COREFLEX 60 is a 60 mil (1.5 mm) nominal thermoplastic membrane reinforced with a 5.0 oz weft inserted knit polyester fabric integrally bonded to an Active Polymer Core (APC). COREFLEX 60 offers the ultimate in waterproofing barrier protection technology. The barrier performance starts with a thermoplastic membrane with welded seams providing a monolithic watertight barrier layer. The thermoplastic membrane is reinforced with a weft inserted knit polyester reinforcement fabric and is produced with DuPont's Elvaloy-KEE® (Keytone Ethylene Ester), a solid phase high molecular weight ethylene interpolymer.

Unlike traditional liquid PVC plasticizers, the Elvaloy-KEE does not experience phase separation and migrate out; thus the membrane properties are maintained for long term performance. Elvaloy-KEE also provides superior chemical resistance properties. The Active Polymer Core layer is integrally bonded to the Elvaloy-KEE thermoplastic membrane. The APC layer is designed to activate with water to swell and form a positive seal. Thereby, at any unforeseen puncture or installation defect, the APC layer reacts at the breach, self-sealing to stop the water ingress. COREFLEX is the only welded thermoplastic membrane composite with this reactive, self-sealing performance feature.

### APPLICATIONS

The COREFLEX 60 waterproofing system provides waterproofing protection for structural concrete surfaces. Below-grade applications include backfilled cast-in-place concrete and masonry block foundation walls as well as property line shoring walls such as soldier pile and lagging. The membrane can be continued under the floor slab and up onto a horizontal deck to provide a continuous, uniform waterproofing system. COREFLEX 60 can be used to waterproof structures under continuous or intermittent hydrostatic pressure. COREFLEX 60 applications include: Plaza Decks, Split-Slab Deck Construction, Foundation Walls, Earth-Covered Structures, Property Line Construction, Under Slab, Tunnels and Greenroofs.

### INSTALLATION

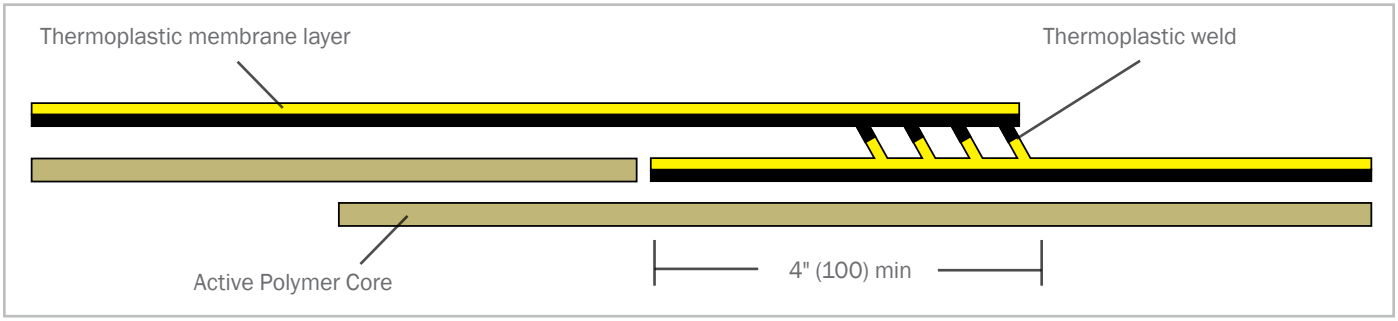
General: Install COREFLEX 60 Waterproofing System in strict accordance with the manufacturer's installation guidelines and details using accessory products, protection and drainage layers, and overburden as specified or required. Install COREFLEX 60 with the grey APC geotextile side directly in contact with the concrete to be waterproofed. Division 3 Concrete Work should include WATERSTOP-RX® installed in all applicable horizontal and vertical concrete construction joints and around penetrations.

### PACKAGING

COREFLEX 60 is available in 54" x 50' (1.4 m x 15 m) rolls; 54" wide thermoplastic membrane with APC layer offset by 6" (150 mm) along the long roll edge.

### QUALITY INSURANCE PROGRAM

Rely on quality waterproofing products and the HydroShield Quality Assurance Program from CETCO. This program is designed to protect your building and its contents from water leaks through pre-installation planning, experienced craftsmanship, and onsite inspection backed by the strongest warranty in the industry. If it's worth building, it's worth protecting.




Typical COREFLEX 60 membrane overlap assembly with continuousthermoplastic weld

www.cetco.com
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**Sudamérica:** +56 2 25735900

# COREFLEX® 60

## THERMOPLASTIC WATERPROOFING MEMBRANE WITH ACTIVE POLYMER CORE

| TECHNICAL DATA | | |
|---|---|---|
| PROPERTY | TEST METHOD | TYPICAL VALUE |
| Membrane Composite Thickness | ASTM D751 | 150 mil (3.8 mm) |
| Hydrostatic Pressure Resistance (min 1 hr @ 100 psi) | ASTM D5385 | 231 ft (70 m) |
| Puncture Resistance | ASTM D4833 | 224 lbs (996 N) |
| Tensile Strength ASTM D751 | ASTM D751 | 549 lbs (2,442 N) |
| Bonded Seam Strength | ASTM D751 | 705 lbs (3,136 N) |
| Peel Adhesion to Concrete | ASTM D903 (mod) | 10 lbs/in (1,751 N/m) |
| Methane Permeability | ASTM D1434 | 25 mL (STP)/$m^2$/day |
| Oil Resistance | ASTM D543 | Passed |
| Microorganism Resistance | ASTM D4068-88 | Passed |
| Enviromental Stress Cracking | ASTM D1693 | Passed |
| Hydrostatic Resistance (Procedure A) | ASTM D751 | 754 psi (5.2 mPa) |
| Water Vapor Retarder | ASTM E1745 | Class A |
| *Water Vapor Transmission* | ASTM E96 | 0.1 perms (0.036 gr/m/hr) |
| *Tensile Strength* | ASTM E154 | 387 lbf/in (68 kN/m) |
| *Puncture Resistance* | ASTM D1709 | 12.0 lbs (5,500 grams) |

**North America:** 847.851.1800 | 800.527.9948

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UPDATED: SEPTEMBER 2013

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# COREFLEX®

## WELDABLE THERMOPLASTIC WATERPROOFING WITH ACTIVE POLYMER CORE FOR CAST-IN-PLACE CONCRETE AND SHOTCRETE APPLICATIONS









MINERALS TECHNOLOGIES CETCO®

# COREFLEX®
## THERMOPLASTIC WATERPROOFING WITH AN ACTIVE LAYER

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*THIS MANUAL CONTAINS THE INSTALLATION GUIDELINES FOR THE COREFLEX 60 AND COREFLEX XP WATERPROOFING SYSTEMS FOR BOTH CAST-IN-PLACE CONCRETE AND SHOTCRETE APPLICATIONS, INCLUDING UNDERSLAB, PROPERTY LINE WALLS, BACKFILLED FOUNDATION WALLS, AND TUNNELS. FOR APPLICATIONS NOT COVERED IN THIS MANUAL, CONTACT CETCO FOR SPECIFIC INSTALLATION GUIDELINES. BEFORE INSTALLATION, READ THIS MANUAL TO GAIN FAMILIARITY WITH SPECIFIC PROCEDURES AND APPLICATIONS.*

*PLEASE NOTE: ALL REFERENCES TO “COREFLEX“, APPLY TO BOTH THE COREFLEX 60 AND THE COREFLEX XP WATERPROOFING SYSTEMS. ALL REFERENCES TO “WATERSTOP-RX/XP” APPLY TO WATERSTOP-RX OR WATERSTOP XP.*

## LIMITATIONS

COREFLEX is designed for waterproofing applications where the product is properly covered and confined. COREFLEX should only be installed after substrate preparation has been properly completed and is suitable to receive the waterproofing system. COREFLEX should be used with structural grade reinforced cast-in-place concrete with conventional forms that produce a smooth surface. Use COREFLEX with reinforced shotcrete walls conforming to ACI 506 Core Grade 1 or 2; minimum 200 mm (8”) thick, applied from the bottom up in their full wall structural design thickness in a single application per shotcrete lift. Consult CETCO for guidelines for stay-in-place concrete forms.

COREFLEX should not be installed in standing water or over ice. Site groundwater samples should be submitted to CETCO for compatibility testing. COREFLEX is designed for use under reinforced concrete slabs 150 mm (6”) thick or greater with a mud slab substrate. COREFLEX is capable of bridging typical shrinkage cracks in concrete up to 1.5 mm (1/16”).

COREFLEX membranes are not designed to waterproof expansion joints. Consult with CETCO regarding all expansion joint applications and limitations.


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## PRODUCTION DESCRIPTION

***COREFLEX 60***

A dual component waterproofing membrane system that combines a modified PVC reinforced thermoplastic membrane with an Active Polymer Core (APC) layer into one high performance, easy to use product. This composite membrane provides both a fully welded thermoplastic membrane with an integrally bonded self-sealing active waterproofing layer to assure optimal performance. No other product fits the range of installation conditions that COREFLEX does; including underslab, property line walls, backfilled foundation walls, tunnels, earth covered structures, new and restoration plaza decks, split-slab construction and greenroofs.

***COREFLEX XP***

A dual-component waterproofing membrane system that combines a modified PVC reinforced thermoplastic membrane with an XP technology core layer in to one high performance, easy to use product. COREFLEX XP offers the same installation and performance benefits as COREFLEX 60, but features XP technology, the latest innovation in active waterproofing. This advanced polymer technology provides exceptional performance in a wide range of ground contaminates, including high-salinity conditions. ***COREFLEX XP should be used with other XP detailing products: CORETEX XP, SEAL-X XP, and WATERSTOP XP.***

## ACCESSORIES

***ADHESIVE SB-100:*** Adhesive for securing CoreFlash membranes to various substrates, including cured concrete, wood, metal and cementitious boards.

***AKWASWELL®:*** Hydrophilic polyurethane caulk used for detail work including pipe penetrations.

***CETSEAL®:*** A multipurpose UV stable single component polyether moisture cure sealant/adhesive. Primary applications are grade termination sealant, membrane lap sealant and waterstop adhesive.

***CORECAP® TIE-BACK COVERS:*** Preformed non-reinforced thermoplastic flashings, designed to provide a welded thermoplastic cover over tie-back heads on property line shoring walls; three preformed sizes available. CoreCap(s) used in conjunction with same size rigid TB-Boot.

***CORECLAD®:*** 24 ga. stainless steel sheet laminated on one side with thermoplastic polymeric coating for flashing applications and termination details.

***COREDISC®:*** CoreDisc is a nominal 100 mm (4") round x 1.5 mm (60 mil) non-reinforced thermoplastic disc. CoreDiscs are used for T-joint patches and to repair small punctures in the PVC membrane.

***COREFLASH:*** 1.5 mm (60 mil) thick reinforced thermoplastic membrane (yellow top coat and black bottom coat) used for non-exposed detail and flashing applications including curbs, walls, field wraps, butt-joints and patches.

***COREFLASH NR:*** 1.5 mm (60 mil) thick UV stable non-reinforced extruded white thermoplastic membrane used for detail and flashing applications including curbs, walls, field wraps and patches.

***COREFLASH UV:*** 1.5 mm (60 mil) thick UV stable reinforced thermoplastic membrane (white top coat and black bottom coat) used for flashing applications exposed to direct UV and or weathering conditions including curbs, walls, field wraps and patches

***CORETEX®:*** APC polymer impregnated geotextile for transition details, corners, butt-joints and protection from rough edges and surfaces.

***CORETEX XP®:*** Used with COREFLEX XP, CORETEX XP is a polymer impregnated geotextile featuring XP technology for transition details, corners, butt-joints and protection from rough edges and surfaces. Herein refered to in this manual as CORETEX.

***INDUCTION WELDING PLATE:*** 80 mm (3 1/4") diameter nominal metal plate with thermoplastic coating for attachement of COREFLEX membrane to shoring with induction welding machine.

***PF-150:*** Molded non-reinforced thermoplastic flashings, specially designed for round penetrations 50 mm (2") or less in diameter.

***PF-340:*** Pre-fabricated factory welded thermoplastic pipe penetration sleeve with open cut side for simple installation around 75 mm (3") to 100 mm (4") pipe penetrations; comprised of a non-reinforced 60 mil membrane stack and a 60 mil reinforced membrane base flange.

***SEAL-X XP:*** SEAL-X XP is trowel-grade detailing mastic designed for a variety of surface preparation and detailing work. It swells upon contact with water to form a watertight barrier, even in high-saline water conditions.

***TW-ANCHOR:*** Specially designed anchors that allow for rebar to be tied into and supported without creating membrane penetrations.

***UNIVERSAL CORNER:*** Molded non-reinforced thermoplastic flashings used to seal inside and outside corner details. Universal Corners come as one piece and are trimmed to fit the appropriate corner condition.

## ASSOCIATED PRODUCTS

***AQUADRAIN®:*** Foundation drainage composite consisting of a molded profile core and a filter fabric. System includes sheet drainage and base drain collection. CXJ-200/CXJ-400 EXPANSION JOINTS: Extruded thermoplastic dual-cell center gland expansion joint with integrated side flashings that are welded to the COREFLEX membrane for sealing expansion joints in below grade applications. Available in 50 mm (2") and 100 mm (4") wide joint glands.

***WATERSTOP-RX®:*** Hydrophilic, swelling concrete joint waterstop used around penetrations and applicable concrete joints. WATERSTOP-RX swells upon hydration to form a positive seal in concrete cold pour joints.

***WATERSTOP® XP:*** Featuring XP technology, WATERSTOP XP is proven effective in a wide range of environments including high-saline conditions. Effective for both horizontal and vertical joints, it expands upon contact with water to form a positive seal to stop water ingress through cast-in-place concrete construction joints and around pipe penetrations.

# COREFLEX®
## THERMOPLASTIC WATERPROOFING WITH AN ACTIVE LAYER

# SECTION 1
# MEMBRANE WELDING PROCEDURES & EQUIPMENT

## 1.1 GENERAL MEMBRANE ORIENTATION AND OVERLAPS

All COREFLEX membrane overlaps require that both the thermoplastic membrane and the APC/XP layers (active layers) overlap a minimum 100 mm (4”) with all thermoplastic membrane edges continuously welded per CETCO guidelines.

Membrane overlaps shall be oriented to shed water (shingle style) wherever possible. Specific equipment, especially wedge welders, may require greater overlap dimensions to facilitate welding.

Welding equipment shall be approved by CETCO. Contact your local CETCO representative for an updated list of suitable welding equipment. CETCO recommends that the installer tests all new welding equipment with COREFLEX prior to purchase or prior to using it at the project site.

All welding shall be performed by CETCO Approved Applicator staff that have successfully completed a two day course of instruction provided by CETCO prior to project work. Successful course participants are provided a CETCO COREFLEX Certified Welder ID Card that is required to be in their possession on site while welding. For information on CETCO’s COREFLEX Training Class, contact your local CETCO representative.

The use of automated welding equipment is recommended for all COREFLEX and CoreFlash membrane overlap seams exceeding 3 m (10’) in length.

All thermoplastic welds shall be continuous and without interruption or defect.

Along the long roll edges, COREFLEX is produced with the active layer offset 150 mm (6”) from the PVC membrane layer to facilitate thermoplastic welding. Overlap the adjacent membrane edges, PVC to PVC, and maintain a uniform minimum overlap width of 100 mm (4”) for both the PVC layer and the active layer. Dependent on the membrane orientation for an application, COREFLEX may be welded with either the yellow thermoplastic side or the active layer side oriented toward the installer. In all applications the thermoplastic side shall be oriented outward, relative to the interior of the structure.

When welding with the active layer side up, it will be necessary to fold the Active layer selvedge edge back so that it is out of the way prior to running the welding equipment. Depending on the angle of the tip assembly, some welding equipment may scorch the edge of the folded acitve layer. In this orientation adjust the equipment so that the tip assembly is positioned slightly shallower in the overlap to avoid scorching the folded active layer.

In an application with the active layer side up, once the thermoplastic welding process is complete, fold back the active layer selvedge edge to its original position, whereas it overlaps the adjacent membrane active layer a minimum 100 mm (4”). Adhere the overlapped active layer selvedge edge in place with dabs of CETSEAL maximum 300 mm (12”) on center or a continuous bead of CETSEAL within the active layer overlap.

To facilitate thermoplastic welding along roll butt end edges or field cut roll dimensions where the active layer and PVC are trimmed flush at the edge, cut the ends straight and at a right angle to a long roll edge.

Place the butt ends (or field cut dimensions) of adjacent rolls aligned 25 mm (1”) of each other to accommodate a single welding pass. Best practice is to trim adjacent roll ends to form a common edge alignment. Sequencing of the welding and placement of the Coretex strip will depend on the orientation of the COREFLEX membrane. Both the PVC membrane and active layer will need to be spliced. Cut strips, a minimum of 225 mm (9”) of CoreFlash and Coretex respectively.

When working with the active layer side up, the welding of the CoreFlash strip is typically carried out first (maintaining a minimum 100 mm (4”) overlap) followed by the placement of the Coretex strip. Overlap the COREFLEX 100 mm (4”) onto the CoreFlash strip at the butt ends of the rolls and create a continuous thermoplastic weld between the CoreFlash strip and the COREFLEX membrane. Repeat on the other side of the butt end or cut edge. Once welds are completed and verified on both edges place the 225 mm (9”) Coretex strip, centered, over the welded butt end splice and secure with dabs of CETSEAL maximum 300 mm (12”) on center or a continuous bead of CETSEAL.

When working with PVC thermoplastic side up, the 225 mm (9”) Coretex strip must be placed first with each adjacent COREFLEX edge overlapping the Coretex strip a minimum 100 mm (4”). In this instance it is not required to secure the Coretex strip with CETSEAL as the weight of the membrane will keep the Coretex strip in place.

Depending on site and detail specific conditions, alternate membrane overlap/weld methods may be required or desired. Consult CETCO for alternate membrane installation techniques, procedures, and details to properly provide a 100 mm (4”) membrane overlap with a continuous thermoplastic weld. Strictly adhere to CETCO’s membrane welding guidelines. All welds shall be continuous and without interruption or defect. All surfaces to be welded shall be clean and dry. No adhesives shall be present within the areas of the weld. Do not use chemical cleaners to remove dirt and debris. Use cotton rags to clean membrane; do not use synthetic rags.



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## 1.2 HAND WELDING

### 1.2.1 APPROPRIATE HOT-AIR HAND WELDER TEMPERATURE CALIBRATION

COREFLEX, CoreFlash and CoreFlash NR all require different temperature settings in order to weld the products efficiently. Other factors that can have an affect on temperature setting include, but are not limited to, power, ambient temperature, membrane storage and weather. In order to ensure that the hot-air hand welder is set to the correct temperature, each type of membrane shall be tested prior to installing field material for that day.

***COREFLEX:*** COREFLEX is a composite membrane consisting of an active layer and PVC layer rather than COREFLASH, which is just a PVC membrane. Due to the inclusion of the active layer, the welding process will be slower than welding COREFLASH and the temperature setting of the hot-air hand welder will need to be set lower. Set the hot-air hand welder to a setting of approximately 400° C (750° F) If using an analog model consult hot-air welder manufacture as to which temperature setting corresponds to 400° C (750° F). Using a scrap piece of COREFLEX, approximately 100 mm (4") x 100 mm (4"), hold the nozzle tip of the hot-air hand welder 12 mm (1/2") from the membrane face for a period of 8–10 seconds. At the end of the 8–10 seconds, remove the heat source and immediately press the handle edge of the silicon roller into the heated area and attempt to displace the heated PVC creating a visible displacement (smear) in the top surface of the PVC. This visible displacement of PVC confirms that the temperature of the hot-air hand welder is sufficient for welding the membrane together. There should be little to no discoloration of the membrane. If brown to black discoloration is present after removing the heat source, the temperature is too high and can cause burning of the membrane within the overlap when completing the welding process. If there is no visible displacement (smear) of the PVC membrane surface with the handle edge of the silicon roller after 8 – 10 seconds, then the temperature is too low. Increase or decrease the temperature of the hot-air hand welder until an appropriate temperature setting is reached.

***COREFLASH:*** Set the hot-air hand welder to a setting of approximately 427° C (800° F). If using an analog model consult hot-air welder manufacturer as to which temperature setting corresponds to 427° C (800° F). Using a scrap piece of CoreFlash approximately 100 mm (4") x 100 mm (4"), hold the nozzle tip of the hot-air hand welder 13 mm (1/2") from the membrane face for a period of approximately 5 seconds. At the end of the 5 seconds, remove the heat source, using the handle edge of the silicon roller immediately press into the heated area and attempt to displace or smear the molten PVC creating a visible displacement. This movement of PVC membrane allows the user to confirm that the temperature of the hot-air hand welder is sufficient for welding the membrane together. Upon removing the heat after 5 seconds there should be little to no discoloration of the membrane. If brown to black discoloration is present after removing the heat source, the temperature is too high and can cause burning of the membrane within the overlap when conducting the welding process. Should there be no movement of the PVC membrane with the handle edge of the silicon roller after 5 seconds then the temperature is too low. Increase or decrease the temperature of the hot-air hand welder until an appropriate temperature setting is reached.

***COREFLASH NR:*** CoreFlash NR is a non-reinforced membrane. This membrane can be welded at a lower temperature setting than both COREFLEX and CoreFlash, therefore a lower temperature should be utilized for CoreFlash NR. Set the hot-air hand welder to a setting of approximately 343° C (650° F). If using an analog model consult hot-air welder manufacture as to which temperature setting corresponds to 343° C (650° F). Using a gloved hand and a scrap piece of CoreFlASH NR, approximately 100 mm (4") x 100 mm (4"), quickly fold this scrap piece in half over the nozzle tip of the hot-air hand welder, pinch the membrane against either side of the nozzle tip and draw the piece of CoreFlash NR down the tip. This should transfer a white coating of PVC on the front and back flat areas of the nozzle tip. The PVC coating on the nozzle tip should maintain a white appearance for approximately 30 seconds. If the coating turns brown or burns within the 30 second period, the temperature is too high; decrease the temperature setting on the hot-air welder and retest. The 30-second period will allow for the scrap piece of CoreFlash NR to cool as well. Once the CoreFlash NR is cool, attempt to pull the welded sample apart; the membrane should tear around the welded area rather than separate at the weld. If the weld is pulled apart increase the temperature of the hot-air hand welder and retest.

### 1.2.2 HAND WELDING PROCESS

Once the temperature setting has been accurately tested, welding membrane overlap seams with a hot-air hand welder shall be completed per the following three step process:

#### STEP 1. TACK WELD



STEP 1. Tack Welding

Overlap the COREFLEX membrane ensuring that the PVC selvedge edge is overlapping the adjacent sheets' PVC layer a minimum of 100 mm (4"). Tack weld the overlap to hold both thermoplastic membranes together to maintain the minimum 100 mm (4") wide overlap by inserting the nozzle tip of the hand welder into the overlap seam approximately 50 mm – 75 mm (2"–3") depth. Apply pressure with 1 or 2 fingers over the nozzle tip, when you feel warmth telegraphing through the membrane pull out the nozzle and press firmly down on the membrane to set the tack weld. Repeat this tack weld process intermittently along the membrane overlap while maintaining the minimum 100 mm (4") overlap.

# COREFLEX®
## THERMOPLASTIC WATERPROOFING WITH AN ACTIVE LAYER

### STEP 2. PRE-WELD



STEP 2. Pre Weld Placement

Insert the nozzle tip into the membrane overlap seam approximately 40 mm (1–1/2”) with the nozzle tip parallel to the sheet edge. Using a silicon roller, press both membranes together at the end of the membrane overlap to trap the hot-air and seal off the start of the pre-weld. Then using the crease in the nozzle as a depth guide, create a thin, continuous pre-weld approximately 25 mm (1”) inside the membrane overlap seam. Form a continuous thin pre-weld by moving the hand held hot-air welder while simultaneously pressing both membranes together just in front of the hot-air welding tip with the silicon roller for the length of the weld. The pre-weld will prevent the loss of hot-air and concentrate heat along the seam edge of the overlap during the final weld.

### STEP 3. FINAL WELD



STEP 3. Final Weld Placement

Insert the nozzle tip of the hand welder into the membrane overlap seam at a 45°angle relative to the membrane edge.

When welding COREFLEX/CoreFlash (overlaying layer) to COREFLEX (underlying layer) with the yellow PVC membrane side up (facing the installer) the hot-air hand welder should be held up at a 45° angle to the membrane, directing more heat to the underlying membrane to properly heat the underlying COREFLEX to a temperature sufficient to form a thermoplastic weld.

When welding COREFLEX (overlaying layer) to COREFLEX/CoreFlash (underlaying layer) with the active layer side up (facing the installer) hot-air hand welder should be held at the lowest angle possible, directing heat to the top membrane to properly heat the top COREFLEX-60 membrane to a temperature sufficient to form a thermoplastic weld.
With either of the above welding orientation conditions, once the proper welding temperature has been reached and the thermoplastic membrane surface begins to “flow”, apply light pressure with a hand roller, by rolling across the overlap seam with the hand roller running parallel to the nozzle tip (at an approximate 45° angle across the membrane overlap). As rolled, a small bead of molten material should extrude out of the seam edge.
When welding transitions from one plane to another (as in the horizontal to vertical plane change from slab to wall applications) begin the weld at the corner transition then work outward on both surfaces. Weld a COREDISC or COREFLASH NR patch over the seam at the transition.

### STEP 4. WELD WIDTH VERIFICATION



STEP 4. Weld width verification

Verify the weld width: Refer to Section 1.5 for weld testing procedures.

## 1.3 MANUAL WELDING EQUIPMENT

### HAND HELD HOT-AIR WELDERS

For all straight field seams use a 40 mm (1–1/2”) wide nozzle to create a nominal 40 mm (1–1/2”) wide homogeneous thermoplastic weld without interruption or defect. Use a minimum 20 mm (3/4”) wide nozzle for corners, T-joints, patches and other field detailing, maintaining a nominal 20 mm (3/4”) wide homogeneous thermoplastic weld. Some semi-automatic welding equipment utilize a 30 mm (1–1/4”) wide nozzle; which is also acceptable.

## 1.4 MACHINE WELDING

### AUTOMATED HOT-AIR WELDERS

Use a 40 mm (1–1/2”) wide nozzle to create a nominal 40 mm (1–1/2”) wide homogeneous thermoplastic weld without interruption or defect. In the absence of a working mud slab, a sheet metal or plywood substrate “track” should be placed under the membrane in order to run the welding equipment successfully. The width of the track will depend on the configuration and size of the welding equipment being used. The track can be either sacrificial or pulled out and leap-frogged in front of the welding equipment to provide a solid welding substrate for the entire length of overlap being welded. Welds shall be continu-

ous and without interruption or defect. Some automatic welding equipment utilize a 30 mm (1–1/4") wide nozzle; which is also acceptable.

### AUTOMATED WEDGE WELDERS



Automated hot-air welder

Use a minimum 50 mm (2") wide, solid wedge to create a nominal 50 mm (2") wide homogeneous thermoplastic weld without interruption or defect. Membrane overlap width may need to be increased according to the requirements of the equipment. Prior to wedge welding in an underslab application, fold the active layer selvedge edge of the bottom sheet back under and out of the way in order for the thermoplastic membrane of the bottom sheet to make contact with the wedge. After completing a thermoplastic weld, unfold the active layer selvedge edge to provide minimum 100 mm (4") active layer to active layer overlap at the membrane overlap assembly and apply a continuous bead of CETSEAL within the active layer. If the membrane is oriented yellow side up, lift up membrane or fold it back revealing the overlap in order to unfold the active layer selvedge edge. When using automated wedge welders, never tack weld membranes together prior to machine welding.



Automated wedge welder

## 1.5 QUALITY CONTROL/INSPECTION OF WELDED SEAMS

### 1.5.1 COREFLEX TRAINED INSTALLERS

All installers welding the COREFLEX system membranes must be in possession of a Certified CoreFlex Welder ID Card issued by CETCO. This card must be current and on the person welding. The card indicates that the individual welding the CoreFlex membrane has successfully completed the required CoreFlex training class. Individuals without a current Certified CoreFlex Welder ID Card may still assist with CoreFlex, but are not allowed to weld membranes on warranty eligible projects. Individuals without an active Certified CoreFlex Welder ID Card that are observed welding CoreFlex membrane may jeopardize the issuance and eligibility of the CETCO Warranty on that project. Contact your local CETCO sales representative with inquiries regarding the CoreFlex Training Class.

### 1.5.2 INSPECTING SEAMS

All welds shall be inspected by the waterproofing applicator's job foreman and/or supervisor on a daily basis. Inspection should take place only after the weld has had time to cool; probing a warm seam can damage the membrane. Weld continuity inspection shall include, but not be limited to, the probing of all field welds with a rounded flat head screwdriver or other dull pointed instrument (cotter pin puller). Drag the blunted tool along the cooled edge of the seam while applying gentle pressure. If any void or defect is found, immediately mark it so that it can be easily located and repaired. Prolonged use of a probing tool can restore an edge to the tool, so it will be necessary to occasionally re-round (dull) the probing tool.

Ensure that all aspects of the installation (sheet layout, attachment, welding, flashing details, etc.) are in strict accordance with current CETCO installation guidelines and details. Excessive patching of field seams due to poor workmanship will not be accepted at time of FINAL INSPECTION FOR WARRANTY ACCEPTANCE. Deviations from the specification and/or details must be authorized in writing by CETCO, prior to execution. Deviations from this procedure may result in forfeiture of warranty eligibility.

### 1.5.2 DAILY CALIBRATING OF WELDING EQUIPMENT

The daily process of calibrating welding equipment and an applicator's technique for the day's conditions is part of quality assurance. This step should be performed on a scrap piece of the same type of membrane that you are intending to install/weld. Ambient conditions should also be similar (test outside if you will be welding outside) to the field welding conditions. Repeat the calibration process as many times as necessary to dial the welding equipment in to achieve a proper, successful weld. Additional tests should be performed if the equipment sits idle for long periods of time and has been cooled or if weather conditions change during the day.

Testing shall be conducted on each piece of equipment, each day, and after each cool down (morning, after break, after lunch, etc.) on the project. Adjust equipment speed and or heat/power settings as necessary to achieve a proper weld. Poor weld results may also indicate an inadequate power source. It may be necessary to change to a different power source in order to achieve acceptable weld results.

### 1.5.3 COREFLASH NR

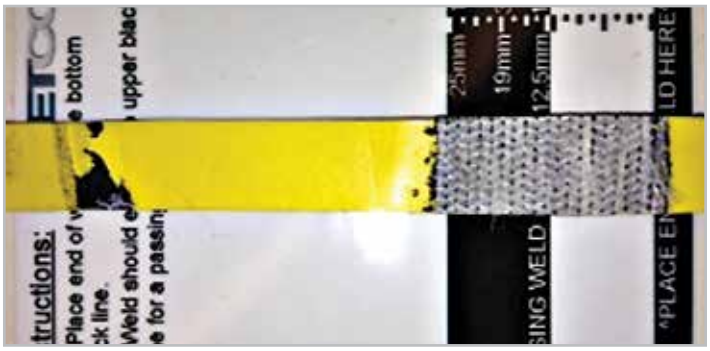
CoreFlash NR is a non-reinforced product that must be seam tested in a slightly different manner than COREFLEX. Inspect CoreFlash NR only after the welded area has cooled; inspecting while the membrane is still warm may lead to damage of the seam or membrane. Once

# COREFLEX®
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cool, use a blunt instrument or finger to attempt to gently roll the edge of the CoreFlash NR away from the CoreFlash or COREFLEX that it is welded to. When welded appropriately, CoreFlash NR will not peel up or separate from the underlying membrane. If the CoreFlash NR peels up, apply additional heat and repeat the welding procedure to ensure a proper weld. After conducting the edge roll technique, still probe the entire weld with a blunt instrument to confirm weld continuity.

### 1.5.6 PROJECT TEST STRIPS AND DOCUMENTATION OF WELD

Each day, for each piece of equipment, cut out and retain a 50 mm–100 mm (2”–4”)wide welded seam sample; date it and retain for the independent inspector/owners representative. Additionally a successful test strip, already pulled for verification of the weld process must be included. Similarly date and submit a successful test “pull strip” for the independent inspector. The independent inspector for the project will photo document the test strips for submittal to the CETCO Field Services Unit. Further test strips may be required as conditions change during the day, as problems arise, or at the independent inspector/owners representative discretion.




Weld needs to be greater than 12 mm

Taking samples of completed waterproofing should be avoided whenever possible. If a test cut is conducted on installed membrane, it must be patched properly. Test cuts shall be filled with Coretex extending 100 mm (4”) beyond the edges of the cut opening (in order to provide a flush surface and replace the piece removed with the test sample. Next, patch the cut with CoreFlash extending 100 mm (4”) beyond the edges of the cut opening and completed with a continuous thermoplastic weld.

## 1.6 INSTALLATION

In plaza deck or back-filled insallation, install COREFLEX over properly prepared substrate with the active layer oriented in direct contact with the structural concrete. In a property-line wall/underslab application the active layer shall be facing the installer and the yellow thermoplastic portion of the COREFLEX membrane should be oriented down against the substrate. Overlap all adjoining edges a minimum of 100 mm (4”). All overlaps (factory long roll dimension edges, butt or short roll dimensions, and cut edges) require a minimum 100 mm (4”) overlap of both the thermoplastic membrane and the active layer. COREFLEX overlaps must be assembled by fabricating a minimum 12 mm (1/2”) wide continuous thermoplastic weld. (See Section 1.1 Membrane Welding Procedures for detailed instructions) If the slab is poured in sections, COREFLEX should extend a minimum 300 mm (12”) beyond the slab edge. This enables COREFLEX to be properly overlapped for subsequent slab section pours. WATERSTOP-RX/XP should be installed in all applicable slab construction joints.

### 1.6.1 T-JOINT WELDING

**Multiple thermoplastic membrane edge overlaps:**

A CoreDisc or circular cut piece of CoreFlash NR with a minimum 100 mm (4”) diameter is required, centered and hot-air welded at the T-Joint intersection using the following steps (COREFLASH, COREFLASH UV and COREFLEX are not acceptable T-Joint Patching materials.) CoreDiscs and CoreFlash NR conform better to the change in plane and efficiently seal the pinhole typically created when three reinforced membranes come together to form a T-Joint.

While hand welding the CoreDisc, use the edge of the hand roller to press in and conform the CoreDisc completely to the thermoplastic membrane overlaps.

# SECTION 2
# DETAILING

## 2.1 LARGE PENETRATIONS DETAIL SEQUENCING

### PROPERTY-LINE/UNDERSLAB:
Install field sheet followed by CORETEX AFTER completing the following details.

### BACK-FILLED WALLS/PLAZA DECK:
Install CORETEX followed by field sheet BEFORE completing the following details.

### STEP 1: CUT & PLACE TARGET PIECE



STEP 1A. Cut target piece

Cut a square target piece of CoreFLASH that will extend a minimum 200 mm (8”) radius around the penetration. Then cut an opening in the center of the target piece to fit tightly around the penetration.



STEP 1B. Place target piece

Slide the opening down the penetration to the substrate. The opening should be tight fitting and the COREFLASH will actually neck up onto the penetration approximately 6 mm (1/4”).

### STEP 2: CUT & POSITION NR
Cut a piece of CoreFlash NR wide enough to wrap around the penetration with an additional 50 mm (2”) of overlap. Ideally the CoreFlash NR piece should be tall enough to extend a minimum of 200 mm (8”) up the penetration from the substrate and flare out approximately 25 mm (1”) onto the CoreFlash target piece.Therefore a minimum sizing of a CoreFlash NR piece to wrap a 200 mm (4”) O.D. pipe will be approximately 375 mm x 225 mm (15” x 9”).Next round the two corners on bottom edge of the CoreFlash NR with a pair of scissors. With a handheld welder, heat the bottom edge of the CoreFlash NR to the point where it starts to curl towards the heat.



STEP 2A. Heat edge and stretch NR

Heat a 200–300 mm (4–6”) section of the membrane. Stretch the membrane by pulling the edge of the CoreFlash NR in opposite directions along the heated edge of the membrane. Continue until the entire bottom edge of the CoreFlash NR and 75 mm (3”) up the vertical edges of the CoreFlash NR is stretched. When done properly, the stretched edge should have a scalloped appearance



STEP 2B. Scalloped edge

This scalloped edge will form the flange against the CoreFlash target piece. Wrap the CoreFlash NR around the pipe so that it fits tightly and has a 50 mm (2”) overlap running vertically on the penetration and a 25 mm (1”) flange on the CoreFlash target piece on the substrate.

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### STEP 3: TACK WELD NR



STEP 3. Tack weld NR

With a handheld welder (fitted with a 20 mm (3/4”) tip) place a tack weld at the back of the 50 mm (2”) overlap in two or three spots to hold the CoreFlash NR in place on the penetration. Be sure to keep the lowest tack weld up high enough to allow detailing the flange on the CoreFlash target piece first.

### STEP 4: WELD NR TO TARGET PATCH



STEP 4. Final weld NR to target piece

Insert the tip of the welder at the base of the penetration between the CoreFlash NR flange and the COREFLASH target piece. Weld the flange to the target piece going around the base of the penetration until the entire flange is welded in place. Stretch the CoreFlash NR membrane slowly and gently in order not to tear it (may require 2–3 revolutions around the pipe.)

### STEP 5: WELD VERTICAL NR STACK



STEP 5. Weld Vertical NR to target piece

Once the entire flange is welded in place, weld the vertical overlap seam up the penetration. Let the CoreFlash NR cool completely then probe the weld to verify the quality of the weld.

### STEP 6: INSTALL LOWER HOSE CLAMP



STEP 6. Install lower clamp

Install a stainless steel hose clamp around the penetration 50 mm (2”) down from the top edge of the CoreFlash NR and tighten it in place.

### STEP 7: APPLY AKWASWELL BEAD



STEP 7. Install AKWASWELL bead

Insert a 9 mm (3/8”) bead of AkwaSwell between the penetration and the CoreFlash NR tight to the stainless steel hose clamp.

### STEP 8: INSTALL SECOND HOSE CLAMP



STEP 8. Install second clamp

Install a second stainless steel hose clamp above the first clamp and flush with the top of the AkwaSwell bead; and tighten it in place.

### STEP 9: TRIM NR ABOVE TOP CLAMP



STEP 9. Trim NR above top clamp

With a utility knife trim the CoreFlash NR membrane tight to the top edge of the stainless steel hose clamp.

### STEP 10: APPLY CETSEAL BEAD




STEP 10. Install CETSEAL termination

To finish the detail place a 6 mm (1/4”) tooled bead of CETSEAL along the top edge of the CoreFlash NR.

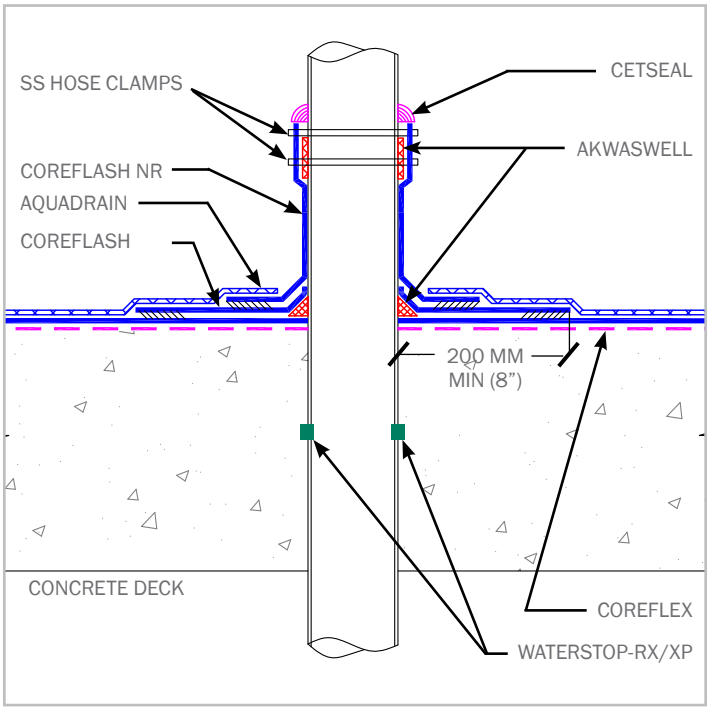
### STEP 11: PLACE AKWASWELL BEAD

Lift the COREFLASH target piece and place a bead of AkwaSwell, minimum 9 mm (3/8”), tight to the base of the penetration.

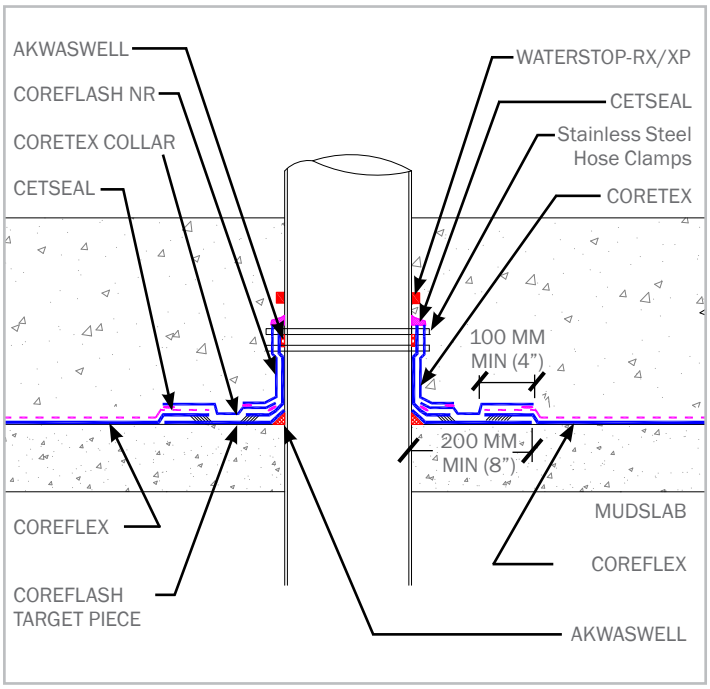
### STEP 12: WELD TARGET PIECE

Weld the COREFLASH target piece to the COREFLEX field sheet with a minimum 12 mm (1/2”) wide continuous weld.

# COREFLEX®
## THERMOPLASTIC WATERPROOFING WITH AN ACTIVE LAYER




2.1.1 LARGE PENETRATION – PLAZA DECK/BACKFILLED WALL




2.1.2 LARGE PENETRATION – UNDERSLAB/PROPERTY LINE WALL

## 2.2 ROUND PENETRATIONS

### Use PF-340 for penetrations between 75 mm – 100 mm (3" – 4") diameter

Ensure the pipe is secured in its final position and is clean and free of dirt, debris, mastics and other items that may inhibit an efficient detailing process.

## DETAIL SEQUENCING

**PROPERTY-LINE/UNDERSLAB:**
Install field sheet followed by CORETEX AFTER completing the following details.

**BACK-FILLED WALLS/PLAZA DECK:**
Install CORETEX followed by field sheet BEFORE completing the following details.

**STEP 1: PLACE PF340 AROUND PIPE**
Place the PF-340 tight around the pipe penetration with the base flange against the substrate.



STEP 1. Place PF340 around penetration

## STEP 2: TACK WELD BASE FLANGE



STEP 2. Tack weld PF340 to fit penetration

Tack-weld the base flange overlap. Move to the non-reinforced stack and tack weld the overlap in place. If any adjustments need to be made in order to get a tighter fit around the penetration, do so prior to beginning the pre-weld in the overlap.

## STEP 3: WELD PF-340



STEP 3. Weld PF340 overlap at base flange

With the reinforced base flange flush to the substrate complete a pre-weld and final continuous weld over the entire overlap seam of the PF-340 with a hot-air welder.

## STEP 4: WELD OVERLAP UP STACK



STEP 4. Weld vertical overlap seam up stack

Weld the vertical overlap seam of PF-340 with a hot-air welder.

## STEP 5: INSTALL FIRST HOSE CLAMP



STEP 5. Install lower clamp

Place the first stainless steel hose clamp around the pipe 50 mm (2”) from the top of the non-reinforced stack and tighten in place. Non-reinforced stack flashing height and hose clamp placement is dependent upon the thickness of the slab/wall to be poured and can be decreased as applicable.

# COREFLEX®
## THERMOPLASTIC WATERPROOFING WITH AN ACTIVE LAYER

### STEP 6: APPLY AKWASWELL BEAD



STEP 6. Install AKWASWELL bead

Insert tip of AkwaSwell caulk tube between the non-reinforced stack and the pipe, placing a 9 mm (3/8”) diameter ring of AkwaSwell continuously around the pipe tight to the stainless steel hose clamp.

### STEP 7: INSTALL SECOND HOSE CLAMP



STEP 7. Install second hose clamp

Place a second stainless steel hose clamp over the non-reinforced stack and push the second stainless steel hose clamp down against the visible AkwaSwell bead and tighten the top hose clamp.

### STEP 8: TRIM EXCESS



STEP 8. Trim excess membrane flush with top edge of clamp

Use a utility knife to trim any excess non-reinforced stack membrane flush with the top edge of the top hose clamp.

### STEP 9: APPLY CETSEAL BEAD



STEP 9. Apply CETSEAL bead at termination

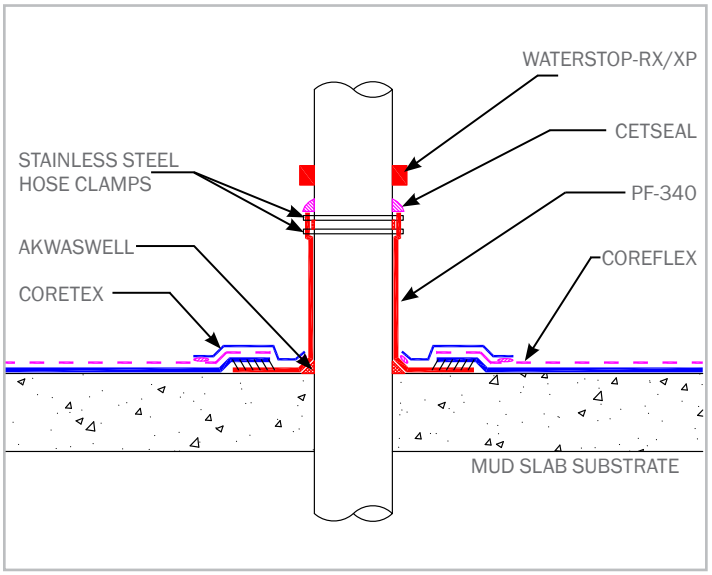
Place a 6 mm (1/4”) tooled bead of CETSEAL where the top of the stainless steel hose clamp and non-reinforced stack meet.

### STEP 10: APPLY AKWASWELL BEAD

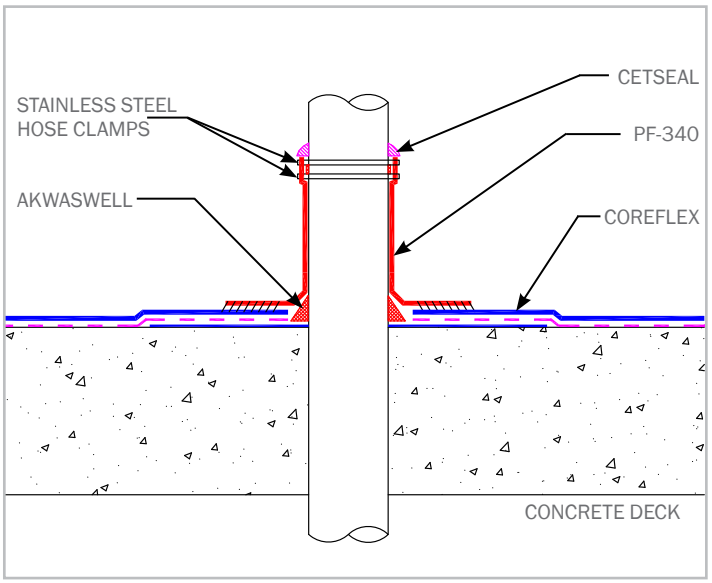
When the overlap is completely welded, apply a 9 mm (3/8”) bead of AkwaSwell under the reinforced base flange directly around the penetration at the substrate surface.

### STEP 11: WELD TARGET PIECE

Weld the COREFLASH target piece to the COREFLEX field sheet with a minimum 12 mm (1/2”) wide continuous weld.




2.2.1 ROUND PENETRATION – UNDERSLAB/PROPERTY LINE WALL




2.2.2 ROUND PENETRATION – PLAZA DECK/BACK FILLED WALL

## 2.3 ROUND PENETRATIONS

### Use PF-150 for round penetrations 50 mm (2") diameter or smaller

Use the PF-150 pre-molded penetration flashing for round penetrations with a diameter less than or equal to 50 mm (2") (small diameter pipes, nelson studs, rebar, all-threaded rod, etc). The PF-150 incorporates a molded stepped profile that is sized for round penetrations 9 mm (3/8") to 50 mm (2") penetrations. Ensure that the penetration to be flashed is clean and free of debris.

## DETAIL SEQUENCING

**PROPERTY-LINE/UNDERSLAB:**
Install field sheet followed by CORETEX AFTER completing the following details.

**BACK-FILLED WALLS/PLAZA DECK:**
Install CORETEX followed by field sheet BEFORE completing the following details.

### STEP 1: INSTALL TARGET PIECE



STEP 1. Install COREFLASH target piece

Begin by placing a CoreFlash target piece over the element to be flashed; pushing the CoreFlash target piece flush with the substrate (shoring system, mudslab, etc). CoreFlash Target piece should be a minimum of 250 mm x 250 mm (10" x 10") to ensure a 100 mm (4") overlap of PVC to PVC with the COREFLEX field sheet.

### STEP 2: AKWASWELL PLACEMENT



STEP 2. AKWASWELL placement

For penetrations smaller than 38 mm (1–1/2") place a bead of AkwaSwell on the first pre-molded "shelf" inside of the PF-150. Take care to keep the bead of AkwaSwell on this shelf only and not on the PF-150 flange that will be hot-air welded. For penetrations larger than 38 mm (1 1/2") place bead of AkwaSwell around the base of the element to be flashed.

# COREFLEX®
## THERMOPLASTIC WATERPROOFING WITH AN ACTIVE LAYER

### STEP 3: CUT PF150



STEP 3. Cut PF150 to size

Using a pair of scissors, cut the PF-150 at the appropriate pre-molded stepped shelf (one segment smaller than the diameter of the element to be flashed).

### STEP 4: HEAT AND PLACE PF150



STEP 4A. Heat trimmed PF-150 cut end

With a hot-air hand welder heat the cut end of the PF-150 slightly and then slide the PF-150 over the protruding penetration until the flat flange is flush with the CoreFlash target piece.



STEP 4B. Placement of PF-150

Keep the PF-150 centered and AkwaSwell intact on interior shelf during placement.

### STEP 5: TACK WELD PF-150 TO FLANGE



STEP 5. Tack weld PF-150 flange

With a hot-air hand welder, tack weld the PF-150 flange to the Core-Flash target piece at the interior of the flange.

### STEP 6: LOOSLY PLACE HOSE CLAMP



STEP 6. Hose Clamp Loosely Installed

Place stainless steel hose clamp around the cut-end of the PF-150 and tighten the hose clamp to achieve a loose fit.

## STEP 7: APPLY HEAT AND COLLAPSE



STEP 7. Hot-air applied to stepped stack

With a hot-air hand welder, apply heat uniformly around the exterior surface of the PF-150 stepped stack. Gently push the heated stack of the PF-150 towards the base flange causing the PF-150 to collapse upon itself.

## STEP 8: SECURE THE HOSE CLAMP



STEP 8. Tightly secure hose clamp

Secure the hose clamp tightly not allowing the collapsed PF-150 to slide back out to original position.

## STEP 9: WELD PF-150 TO COREFLASH



STEP 9. Weld the PF-150 flange to the COREFLASH

Working from the interior to the exterior of the flange edge, utilizing a hand held welder and silicon roller, weld the PF-150 flange to the CoreFlash target piece.

## STEP 10: APPLY CETSEAL BEAD



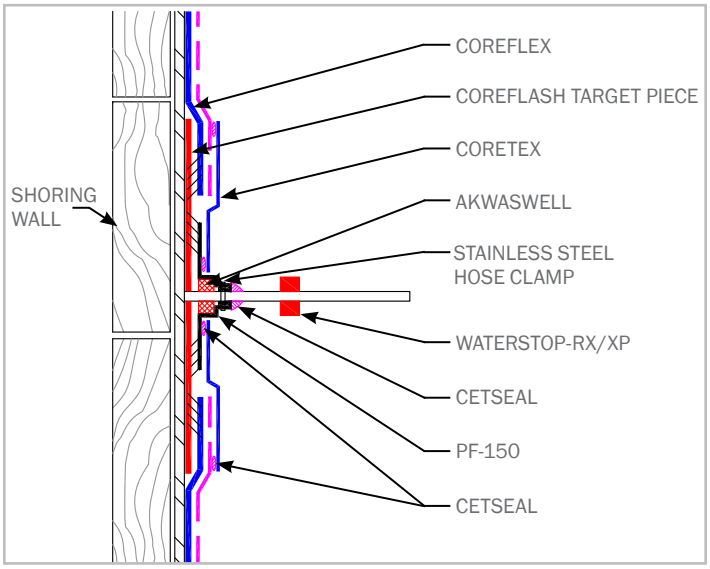

STEP 10. Apply CETSEAL at termination

Then tool a bead of CETSEAL around the cut end of the PF-150; covering the cut end and terminating onto the penetrating element.

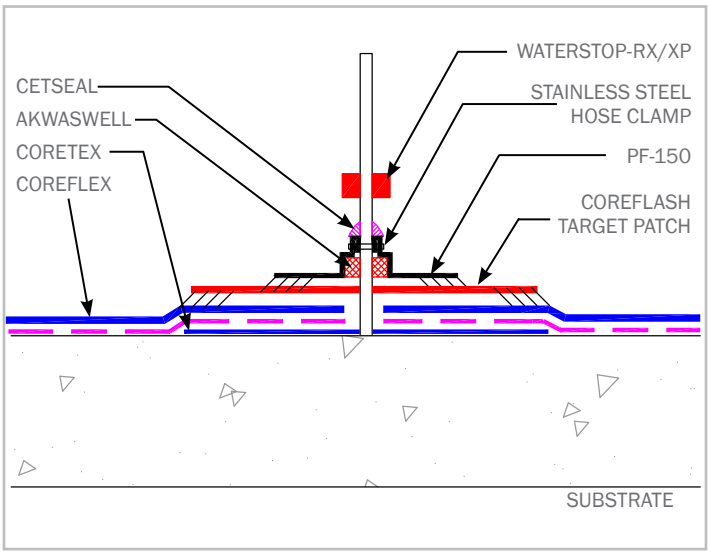
## STEP 11: WELD TO COREFLEX

Weld the COREFLASH target piece to the COREFLEX field sheet with a minimum 12 mm (1/2”) wide continuous weld.

# COREFLEX®
## THERMOPLASTIC WATERPROOFING WITH AN ACTIVE LAYER




2.3.1 ROUND PENETRATION – UNDERSLAB/PROPERTY LINE WALL




2.3.2 ROUND PENETRATION – PLAZA DECK/BACK FILLED WALL

## 2.4 SQUARE/RECTANGULAR PENETRATIONS

### DETAIL SEQUENCING

**PROPERTY-LINE/UNDERSLAB:**
Install field sheet followed by CORETEX AFTER completing the following details.

**BACK-FILLED WALLS/PLAZA DECK:**
Install CORETEX followed by field sheet BEFORE completing the following details.

### STEP 1: TARGET FLASHING



STEP 1. Target flashing

Cut a target piece of CoreFlash that is a minimum 400 mm (16”) wide and long enough to entirely wrap the perimeter of the square penetration and overlap upon itself a minimum of 100 mm (4”). Wrap the CoreFlex target piece extending 200 mm (8”) up the square penetration. Slit the membrane, from each corner of the square penetration, perpendicular to the long edge, allowing for the Coreflash to extend onto the substrate.

### STEP 2: TACK WELD TARGET FLASHING



STEP 2. Target flashing tack weld

With the target piece of CoreFlash now extending 200 mm (8”) up the penetration and the remaining 200 mm (8”) onto the substrate, create an overlap a minimum 100 mm (4”). Tack weld the target piece in place, and form a continuous thermoplastic weld for the entirety of the seam.


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## STEP 3: PLACE CORNER TARGET PATCH



STEP 3. Place corner target patch

Cut four CoreFlash “L” shaped target patch pieces large enough to fill in the corners of the flanges so that there is a continuous flange around the penetration 300 mm (12”) from the base of the penetration out onto the substrate.

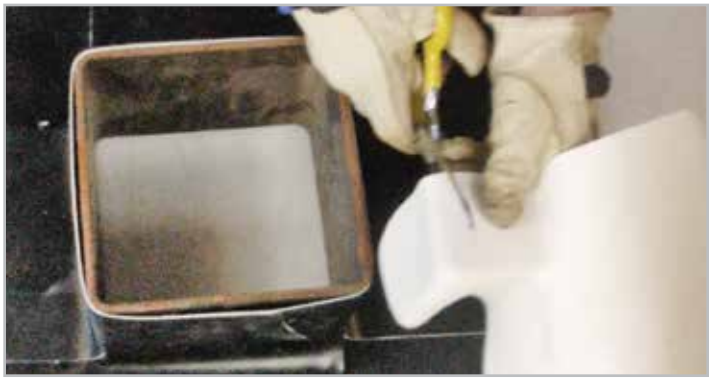
## STEP 4: WELD ALL OVERLAP SEAMS



STEP 4. Weld target patch in place

Weld all overlaps of COREFLASH flashing piece and “L” shaped target piece.

## STEP 5: PLACE UNIVERSAL CORNERS



STEP 5A. Cut inside outside corner to fit

Place a Universal Corner Cut to fit the outside corner at each corner of the penetration (5a) and secure with a continuous thermoplastic weld (5b).



STEP 5B. Fully Weld Performed Corners to fit

## STEP 6: REPEAT STEP 5 AT FOUR CORNERS



STEP 6. Install at all four corners

## STEP 7: APPLY AKWASWELL

Place a 9 mm (3/8”) bead of AkwaSwell 25 mm (1”) in from the edge of the CoreFlash; between the CoreFlash and the penetration.

## STEP 8: SECURE TERMINATION BAR

Secure the termination bar by fastening 200 mm (8”) OC so that the fasteners penetrate the membrane over the bead of AkwaSwell.

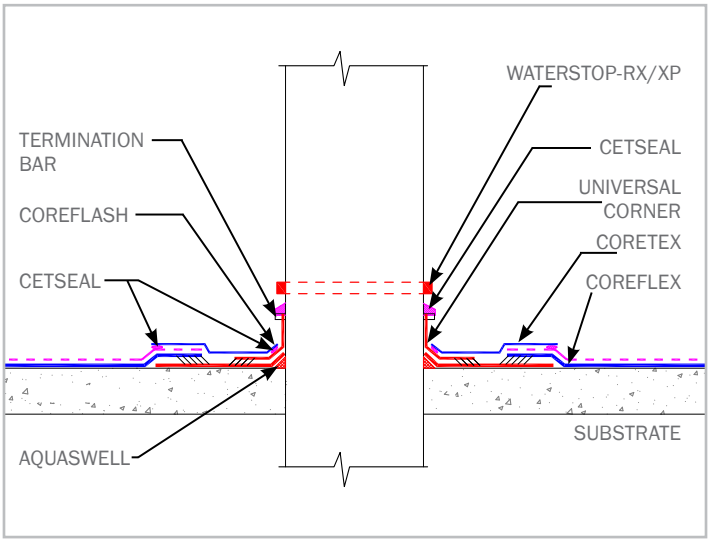
## STEP 9: APPLY CETSEAL

Place a 6 mm (1/4”) tooled bead of CETSEAL at the outer edge of the termination bar.

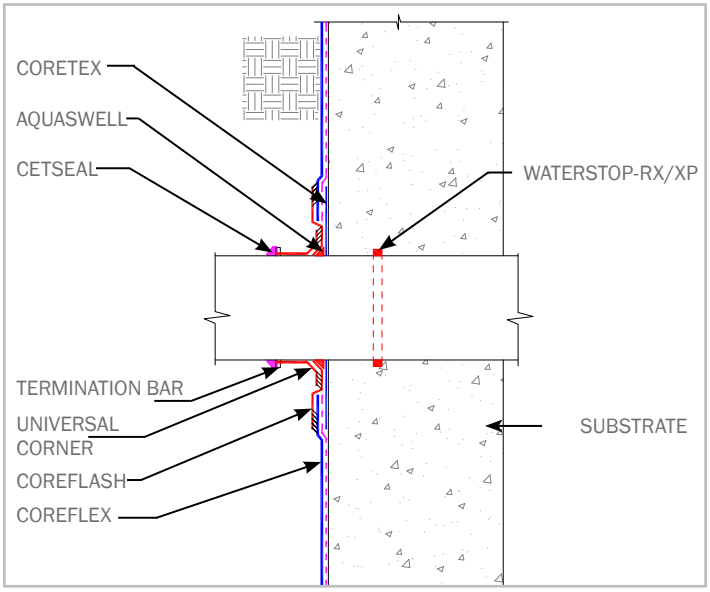
## STEP 10: CUT WINDOW AND PLACE

Cut a window in the CoreFlex that will fit over the penetration flashing overlapping the CoreFlash Flanges 100 mm (4”). Weld the COREFLEX to the CoreFlash flashing membrane with a thermoplastic weld. Install COREDISCs at all T-Joints. Cut a piece of Coretex and four square patches of Coretex the same dimensions as the pieces of CoreFlash described above and wrap it around the penetration securing it in place with beads of CETSEAL and as applicable wire ties.

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2.4.1 SQUARE PENETRATION – UNDERSLAB/PROPERTY LINE WALL

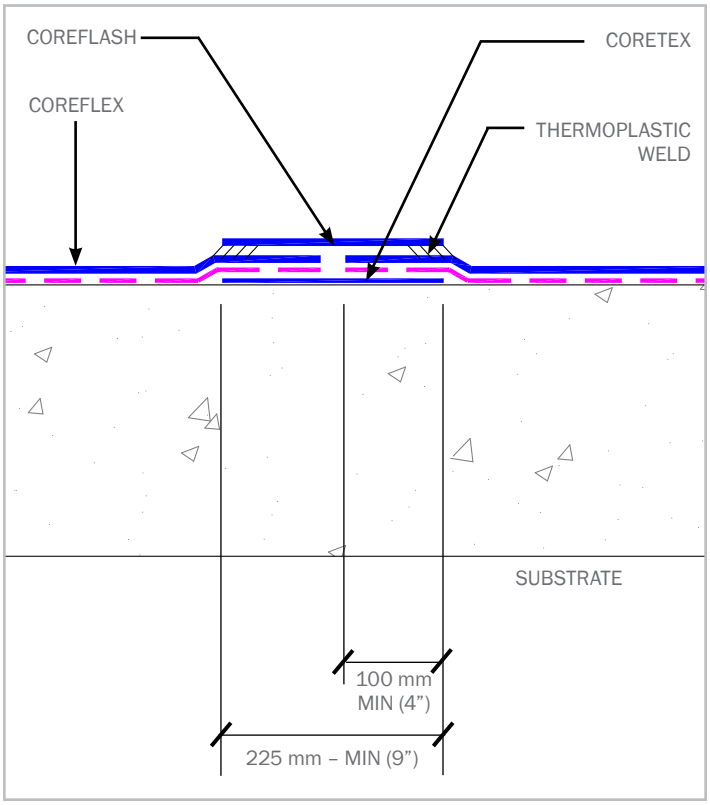



2.4.2 SQUARE PENETRATION – PLAZA DECK/BACKFILLED WALL

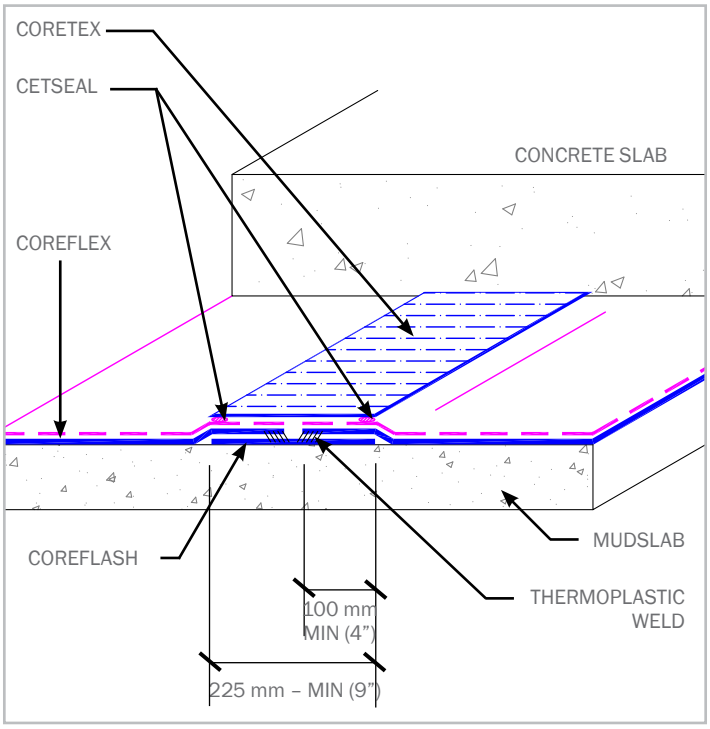
## 2.5 BUTT-JOINT DETAILING

***BACK FILLED WALLS/PLAZA DECK:*** When joining two roll ends or cut ends of CORELEX membrane a butt splice constructed with COREFLASH and CORETEX is required. At both COREFLEX roll ends, install a minimum 450 mm (9”) wide strip of Coretex extending up the face of the concrete wall from top of the footing to the grade elevation detail. Tuck edge of Coretex strip a minimum 100 mm (4”) behind the trimmed/aligned COREFLEX roll edges and secure Coretex strip with washer-head fasteners along both edges maximum 900 mm (36”) on center. **Do not secure Coretex strip fastened through COREFLEX membrane.** As applicable, overlap Coretex strip edges a minimum 100 mm (4”) to provide continuous strip. Install adjacent COREFLEX membrane sheets overlapping exposed Coretex strip a minimum 100 mm (4”); leaving approximately 25 mm (1”) of exposed Coretex between the two stacks of COREFLEX roll ends. Closely match roll ends to 25 mm (1”) of adjacent COREFLEX roll end. Secure COREFLEX roll ends with washer-head fasteners placed through the Coretex strip. Install minimum 450 mm (9”) wide strip of CoreFlash flashing over the COREFLEX centered along the Coretex strip detail (yellow side facing installer). Hot-air weld both edges of the CoreFlash strip to the COREFLEX; both continuous welds must be outside of all fasteners (no exposed fasteners). CoreFlash strip shall extend a minimum 100 mm (4”) over both COREFLEX membrane edges. Finish CoreFlash strip by hot-air welding a CoreDisc or CoreFlash NR patch over all T-Joints.

***Underslab/Property Line Walls:***
Repeat the procedure outlined for backfilled walls/plaza deck; first install the COREFLASH with thermoplastic welds then adhere CORETEX with continuous beads of CETSEAL.




2.5.1 BUTT-JOINT DETAIL PLAZA DECK/BACKFILLED WALL



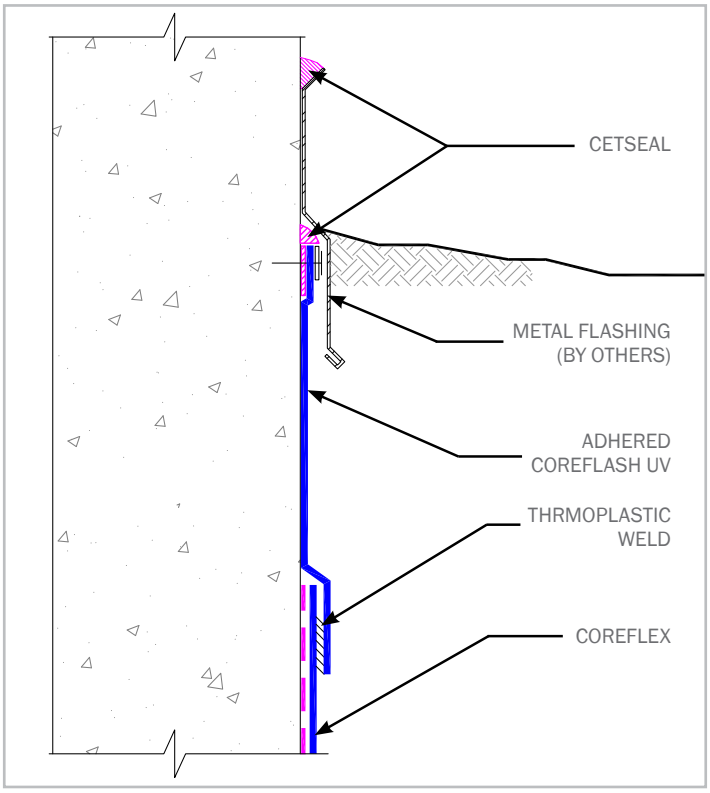

2.5.2 BUTT-JOINT DETAIL UNDERSLAB/PROPERTY LINE WALL

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## THERMOPLASTIC WATERPROOFING WITH AN ACTIVE LAYER

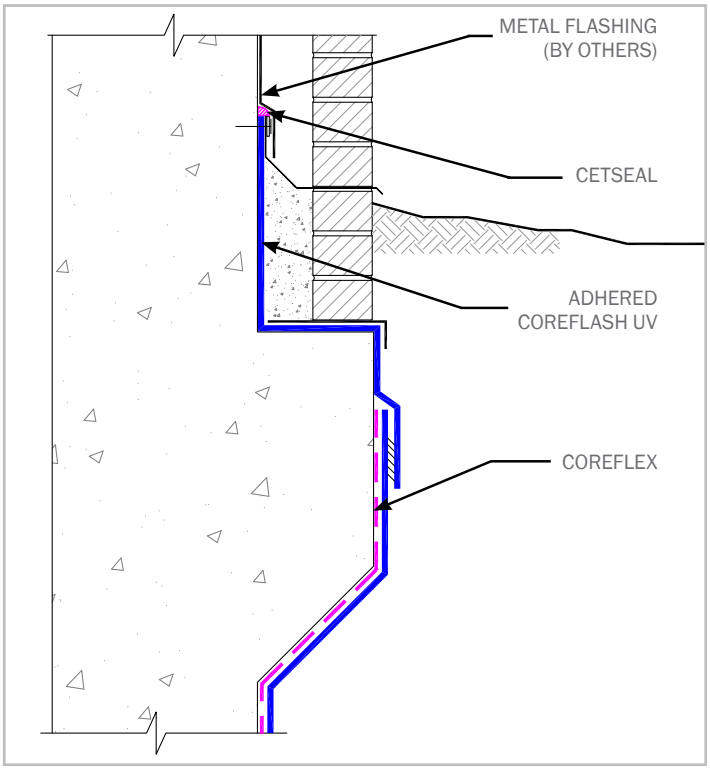
### 2.6 GRADE TERMINATION

Coordinate work with excavation and backfill operations conducted by others to remove the top elements of the shoring retention wall per local building code or as specified in the contract documents. Identify and repair any waterproofing and/or drainage sheet damaged by excavation and removal of the top shoring retention wall elements. Fasten top edge of COREFLEX membrane 300 mm (12”) below finished grade elevation with washer-head fasteners maximum 300 mm (12”) on center. Install CoreFlash UV grade flashing membrane with bottom edge overlapping COREFLEX membrane a minimum 100 mm (4”); use Adhesive SB-100 to adhere CoreFlash UV flashing membrane continuously to substrate (except for top 50 mm (2”)). Roller apply Adhesive SB-100 to both the black side of the CoreFlash UV and the substrate area at a coverage rate of 1.2 m²/liter (50 ft² per gallon). This equates to 1.2 m²/0.5 liter (50 ft² per 1/2 gal.) to the substrate and 1.2 m²/0.5 liter (50 ft² per 1/2 gal) to the membrane. Actual adhesive coverage depends upon the porosity and smoothness of the surface and workmanship. To insure proper application and curing of the adhesive, outside air temperature should be 4 °C (40 ˚F) and rising. Roll or trowel a smooth, even coat of the adhesive over the black bottom side of the CoreFlash UV and the area of the substrate to receive the flashing, ensuring 100% coverage. Allow the adhesive to set to the point that the adhesive becomes stringy to the touch. When sufficiently set, carefully place the adhesive coated side of the CoreFlash UV membrane onto the adhesive coated substrate. Roll or hand press membrane to substrate to ensure full contact and a continuous bond. Secure bottom edge CoreFlash UV to COREFLEX with a continuous thermoplastic weld. Overlap adjacent CoreFlash UV roll ends a minimum 100 mm (4”) and seal with continuous thermoplastic weld. Terminate top edge of CoreFlash UV flashing membrane at elevation per project details and specifications. Apply CETSEAL 50 mm (2”) wide x 2.3 mm (90 mil) thick behind the top, non-adhered edge of CoreFlash UV grade flashing. Then secure top edge of CoreFlash UV with termination bar fastened into substrate maximum 300 mm (12”) on center. Complete grade termination detail with tooled bead of CETSEAL along the top edge and at all penetrations through the flashing. Counter flash or cover the termination per project specifications.

Backfill should consist of compactable soils, pea gravel, or crushed stone (19 mm (3/4”) or less). Avoid backfill with aggregate larger than 40 mm (1.5”). Backfill should be added in 150–300 mm (6” to 12”) lifts and compacted to a minimum 85% Modified Proctor density. If gravel backfill, specify angular aggregate <19 mm (3/4”) with fines.




2.6.1 GRADE TERMINATION – STANDARD




2.6.2 GRADE TERMINATION – THRU-WALL FLASHING

## 2.7 PROPERTY LINE SHORING WALL TO SLAB TRANSITION

### SLAB TO WALL TRANSITION:

Where property line retaining walls, such as soldier pile and lagging, are used as the outside form, it is very important to extend the waterproofing a minimum 300 mm (12”) above the top of the slab since there is no access to the outer edge of the slab after it is poured.

### SLAB TO WALL CORNER TRANSITION:

Install COREFLEX sheet horizontally oriented (active layer side facing installer), membrane PVC selvedge edge up with a minimum 300 mm (12”) of the sheet extending out onto the horizontal substrate. These dimensions may be increased to allow for securement of the COREFLEX membrane to fall outside of gaps in the lagging or to allow room for use of automated welding equipment.

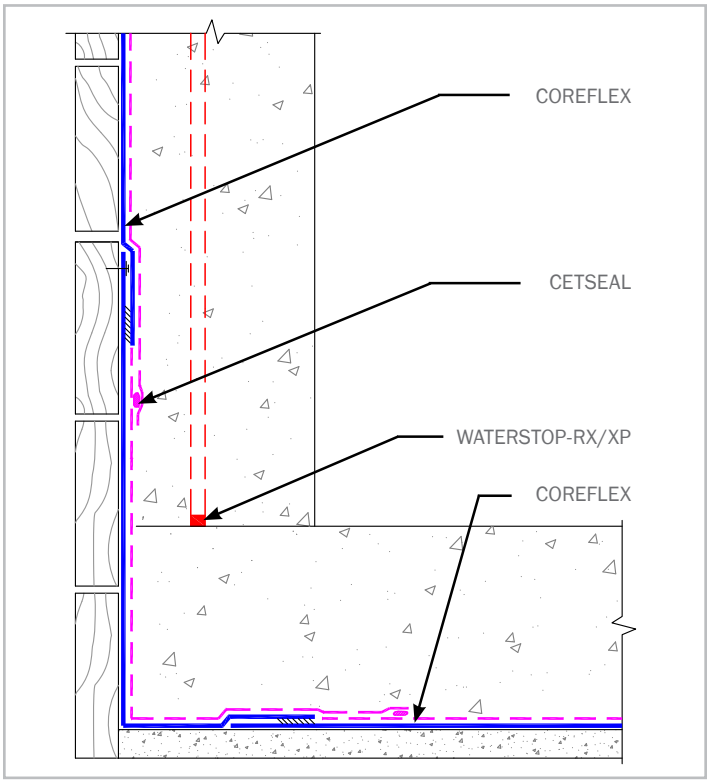
Install COREFLEX sheet to shoring wall along the top edge of the thermoplastic selvedge edge, secure with washer-headed fasteners approximately 25 mm (1”) from the top edge of the membrane; maximum 900 mm (3’) on center. Adjacent edges of COREFLEX sheets should be overlapped and detailed per guidelines in Section 1.1 Membrane Welding Procedures.

If the slab thickness is greater than 750 mm (30”) install a second full sheet of COREFLEX, horizontally oriented, to meet the 300 mm (12”) requirement above the slab. Overlap top edge of previous sheet and edges of adjacent sheets for both the thermoplastic membrane and active layer a minimum of 10 mm (4”).

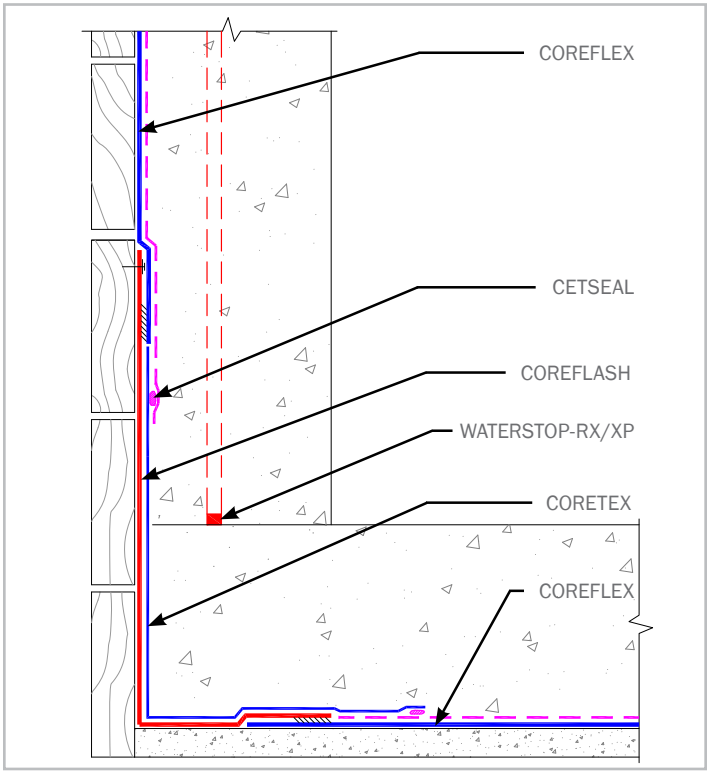
### SLAB TO WALL CORNER TRANSITION (ALTERNATIVE INSTALLATION METHOD):

Install a strip of COREFLASH horizontally oriented, with a minimum of 300 mm (12”) of the sheet extending out onto the horizontal substrate. These dimensions may be increased to allow for the securement of the membrane to fall outside of gaps in the lagging or two allow room for use of automated welding equipment. Place and secure the COREFLASH into the corner transition. Place COREFLEX on the horizontal substrate allowing for a minimum overlap of 100 mm (4”) over the horizontal flap of COREFLASH. Secure the COREFLEX to the COREFLASH with a continuous thermoplastic weld. Then secure COREFLEX, either vertically or horizontally, to the shoring wall so that it overlaps the COREFLASH a minimum of 100 mm (4”). Secure the top edge COREFLEX fastened to the shoring wall to the top edge of COREFLASH with a continuous thermoplastic weld.

To complete the slab to wall transistion, install CORETEX over all COREFLASH transition strips; overlap active layer of COREFLEX a minimum of 100 mm (4”) and secure CORETEX edges and sheet with continuous beads of CETSEAL.

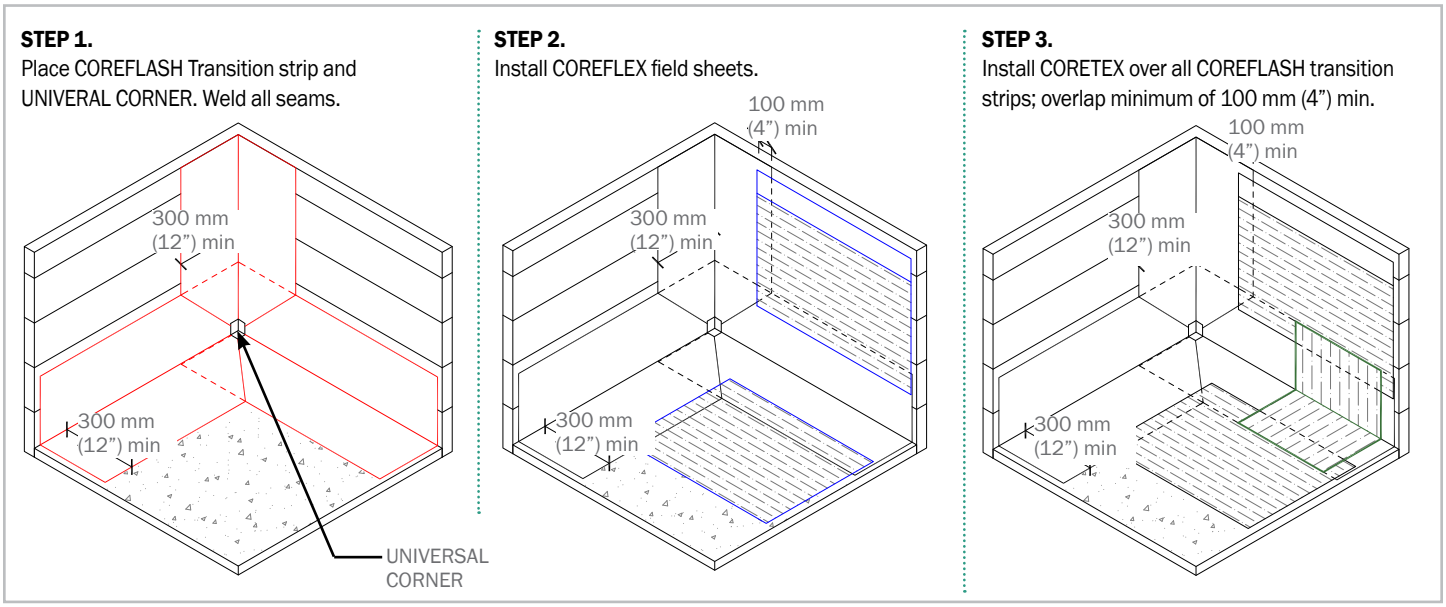



2.7.1 SLAB TO WALL TRANSITION – PROPERTY LINE WALL

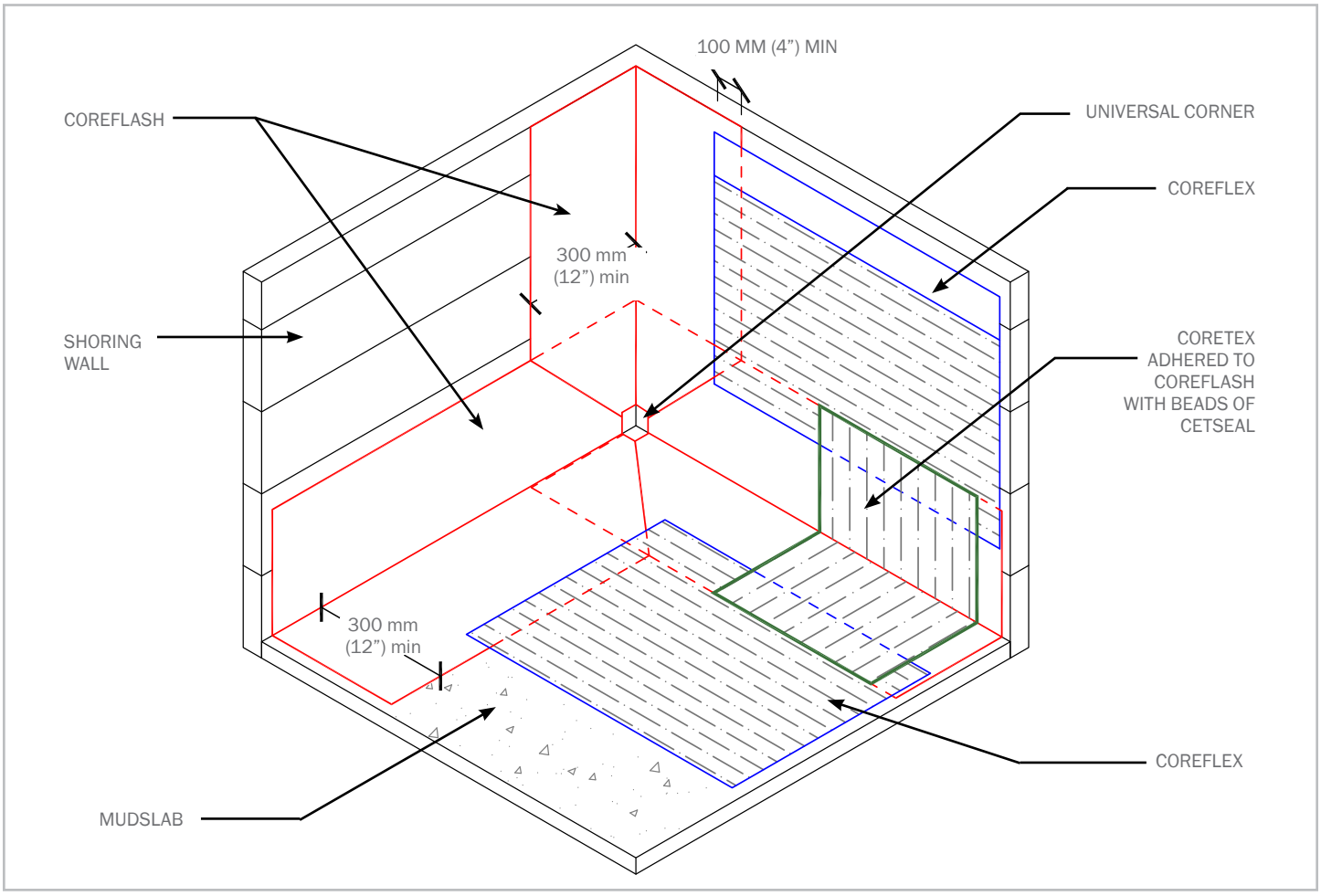



2.7.2 ALTERNATIVE METHOD SLAB TO WALL TRANSITION

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## THERMOPLASTIC WATERPROOFING WITH AN ACTIVE LAYER



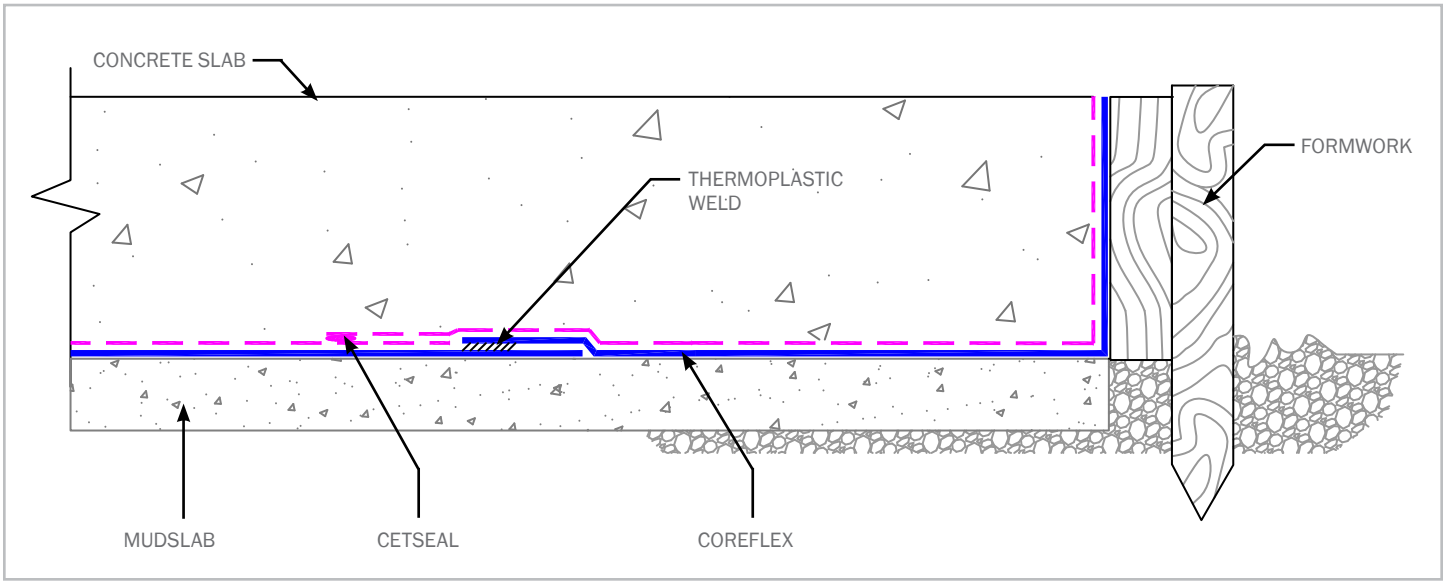

2.7.3A SLAB TO WALL TRANSITION – ALTERNATIVE METHOD SEQUENCING



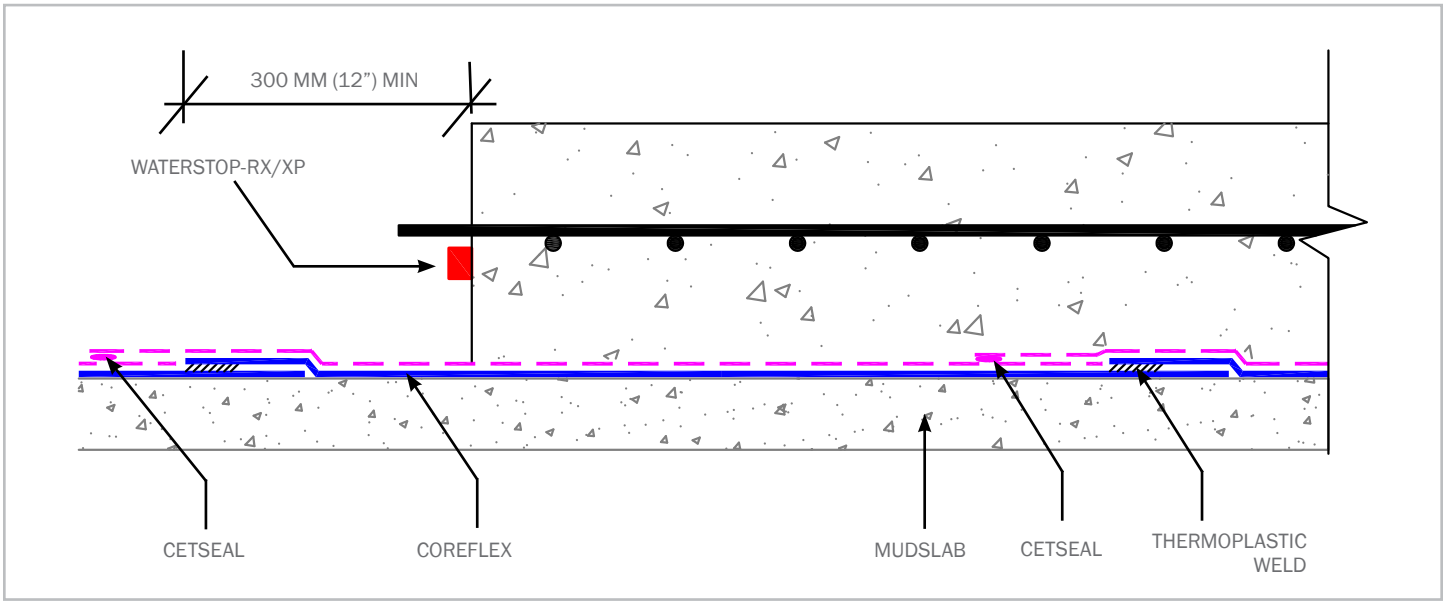

2.7.3B SLAB TO WALL TRANSITION – ALTERNATIVE COMPOSITE

## 2.8 BACK FILLED WALL – EDGE OF SLAB

When the installation reaches the edge of the slab, extend the COREFLEX sheet out the top of the form a minimum of 300 mm (12”). At the slab edge, COREFLEX should remain in contact with the substrate and the inside surface of the concrete form conforming tightly to the change in plane. After concrete placement, position COREFLEX membrane to top of footing and secure with washer headed fasteners maximum 200 mm (8”) on center. Damaged material outside the form should be patched or cut off and disposed. Install SEAL-X XP cant at wall-to-footing transition prior to installing COREFLEX wall waterproofing overlapping the secured COREFLEX edge on top of the footing a minimum 100 mm (4”); secure with a continuous thermoplastic weld.




2.8.1 PERIMETER SLAB EDGE




2.8.2 SLAB SECTION TIE-IN

# COREFLEX®
## THERMOPLASTIC WATERPROOFING WITH AN ACTIVE LAYER

# SECTION 3
# UNDERSLAB INSTALLATION METHODS

## 3.1 GENERAL

Best practice is to install COREFLEX on a smooth concrete mud slab with a float finish to provide a planar surface; without sharp angular depressions, voids or raised features. The COREFLEX system is intended for use under reinforced concrete slabs 150 mm (6") thick or greater with a mud slab substrate. COREFLEX can be used under reinforced concrete slabs 100 mm (4") thick or greater with a compacted earth/gravel substrate. For installation over compacted earth or gravel substrates, consult CETCO for additional steps required for the field fabrication of welded overlap seams. For hydrostatic conditions, install COREFLEX under footings and grade beams. For non-hydrostatic conditions, COREFLEX should be installed around footings and grade beams and completed with a termination bar and a tooled bead of CETSEAL.

Prior to installing COREFLEX the substrate must be properly prepared. Complete all required elevator pit, sump pit, cistern, grade beam and piling work prior to installing COREFLEX under the slab area. These areas shall be correctly tied into the underslab COREFLEX to form a monolithic system. How these items are formed, poured and finished are critical to proper detailing. Penetrations should be placed and secured in their final position prior to installing COREFLEX membrane so that they may be properly detailed. All corrective actions required to provide a suitable substrate must be completed prior to the installation of the COREFLEX waterproofing membrane and components.

## 3.2 SUBSTRATE PREPARATION

The preferred substrate is a working mud slab, but may also be compacted earth, sand, or crushed stone. Earth and sand substrates should be compacted to a minimum 85% Modified Proctor density. Crushed stone should be no larger than 19 mm (3/4") in size. Substrate should be smooth and without sharp deflections or pockets. Substrates other than a working mud slab require additional steps and components to properly complete the welded overlap assembly (See Section 1 Membrane Welding Procedures for detailed instructions). Earth formed elevator pits, grade beams and footers require soils that are stable enough to support the COREFLEX membrane and provide for adequate confinement. For piles, detailing is required prior to pouring the pile caps. When earth formed, the topmost 200 mm (8") minimum of the pile should be formed with a round cardboard tube type form to provide a smooth concrete surface for detailing.

## 3.3 GRADE BEAMS, FOOTINGS AND ELEVATOR PITS

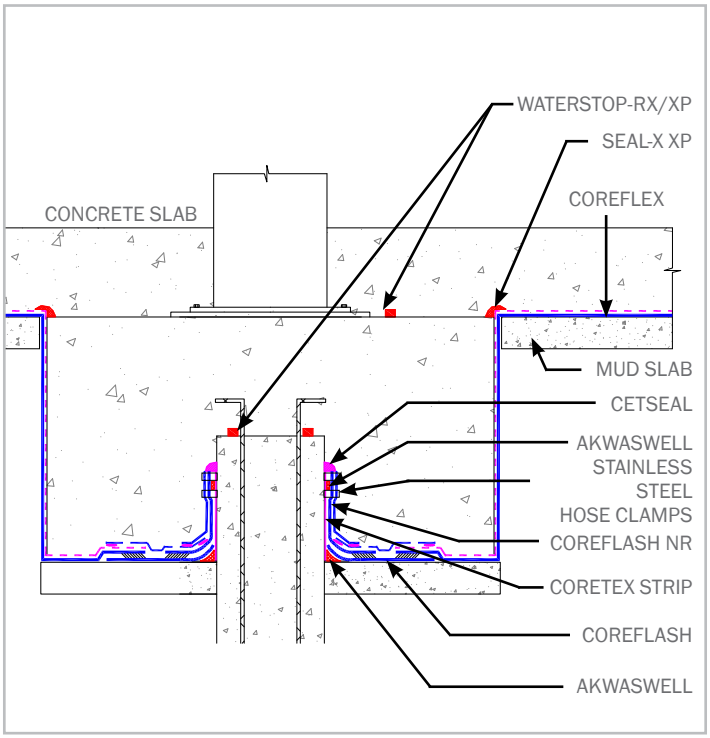
Grade beams, footings and elevator pits are typically lined and poured prior to pouring the working mud slab. Any unstable or non-compatible soils should be contained with a retaining wall. COREFLEX should be installed on the vertical surfaces and on the substrate below the slab to form a continuous envelope around the grade beam or elevator pit. Install COREFLEX membrane directly against the retaining wall. Substrate requirements for grade beams, footings and elevator pits are identical to the requirements for suitable substrate for all other surfaces to receive COREFLEX membrane waterproofing. The surface must be smooth and planar, and ridged enough to provide for proper confinement. The substrate must also provide adequate fastening grip, to support the membrane. Place the membrane into the grade beam, footing or elevator pit so that the active layer is facing the installer. In corners, apply the waterproofing using CoreFlash and Coretex separately then adhering them together with CETSEAL after welding the CoreFlash. This will allow for tighter conformity of the waterproofing to the changes in plane. It will also provide for easier welding, negating the need to peel the active layer from the thermoplastic membrane. Alternately, pre-fabricating a COREFLEX membrane liner, off-site or on-site but on a slab or other ridged planar substrate should be considered. Prefabricated pieces should then be placed and assembled in the grade beam, footing or elevator pit, greatly reducing the number of welds made on a compacted fill, sand or gravel surface requiring the use of a metal or wood track to accommodate the welding equipment.

Field prefabrication can be accomplished by building a mockup of the same dimensions of the grade beam, footing or elevator pit and constructing it so that the COREFLEX is placed on the outside of the mockup allowing the welding to be completed on the yellow thermoplastic side of the membrane. The prefabricated piece then can be pulled off the mockup and placed into the grade beam, footing or elevator pit. When transitioning to a mud slab, allow a long enough membrane (tails) to extend out onto the mud slab and tie into the underslab COREFLEX membrane; typically 300 mm (12").

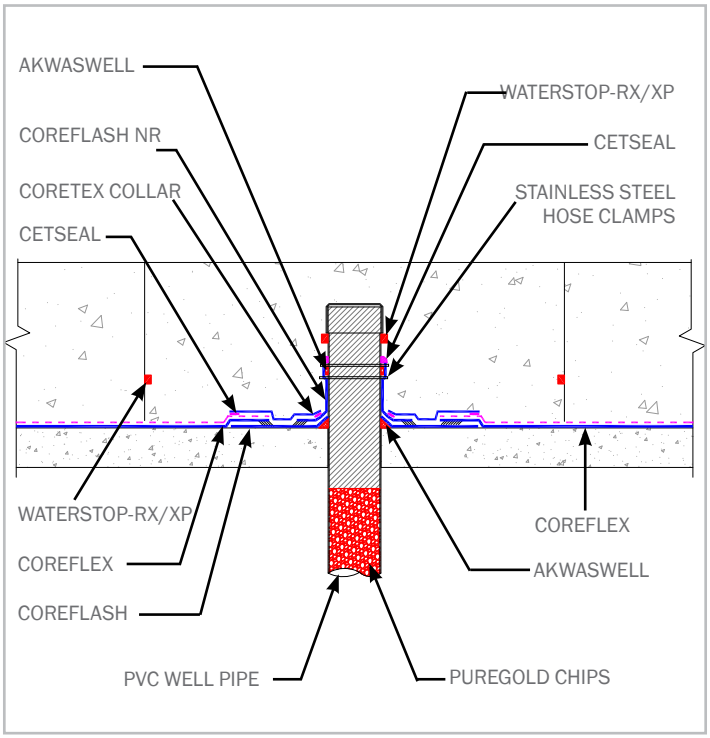
When tying into a column from a grade beam, it is necessary to wrap the COREFLEX membrane coming up the sides of the grade beam and onto the top of the grade beam bringing the COREFLEX membrane up to and cut tight to the column. Flash the corners per the site specific detail at the juncture of the grade beam to the column. A secondary (upside down) flashing at the corners needs to be placed prior to pouring the mud slab in order to flash the underslab COREFLEX membrane to the column flashing membrane. Due to various elevator piston plunger designs, consult CETCO for specific installation and detailing recommendations for piston plungers that penetrate the pit slab.

## 3.4 PILE CAPS

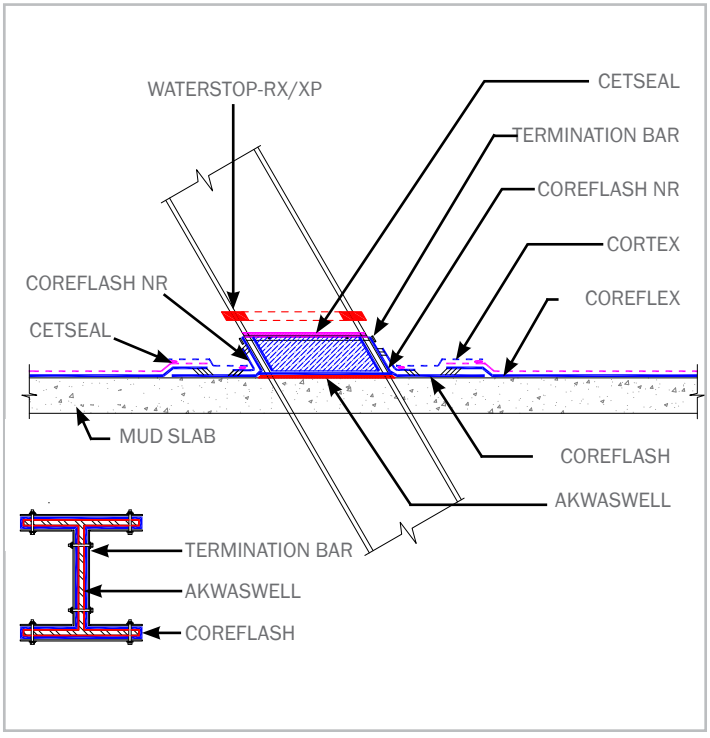
The pile portion of a pile cap is typically earth formed and may not provide a suitable smooth substrate to install the flashing components. When earth formed, the top 200 mm (8") minimum portion of the pile should be formed with a round cardboard tube form in order to provide a smooth substrate for detailing. This top, smooth portion of the pile is then detailed as a round or square penatration per section 2.



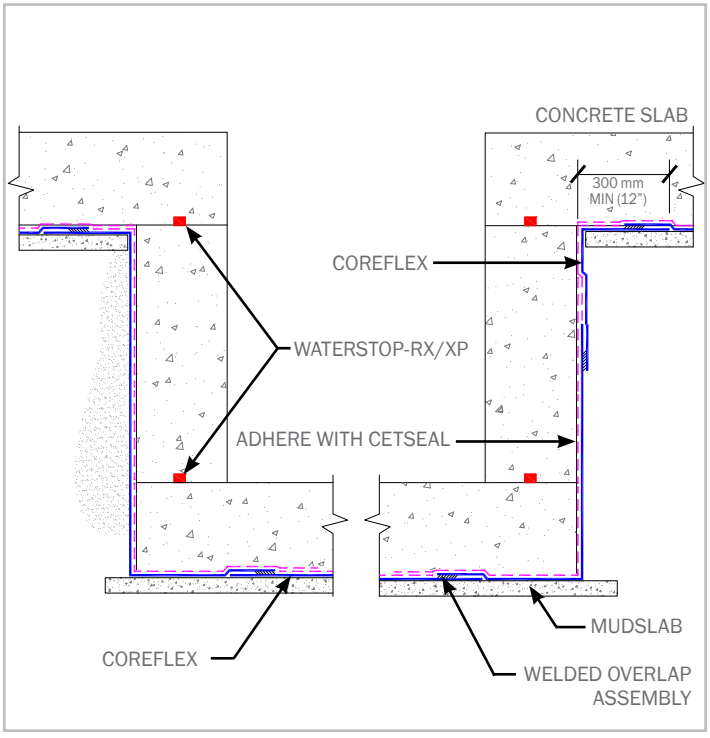

3.1.1 UNDERSLAB GENERAL – PILE CAP




3.1.2 UNDERSLAB GENERAL – WELLPOINT BOX OUT




3.1.3 UNDERSLAB GENERAL – RAKER




3.3.4 UNDERSLAB GENERAL – ELEVATOR PIT

# COREFLEX®
## THERMOPLASTIC WATERPROOFING WITH AN ACTIVE LAYER

# SECTION 4
# PROPERTY LINE CONSTRUCTION

## 4.1 GENERAL

The use of construction techniques described in this section allow the exterior building dimensions to coincide with a shoring wall at the property line, thereby maximizing use of available land for building. COREFLEX has been proven to be one of the most effective means for waterproofing property line construction. Property line construction methods include soldier pile & lagging, metal sheet piling, earth formed shotcrete retention walls, and auger cast caisson walls.

For all property line construction methods, install COREFLEX with the APC/XP layer (active layer) side oriented inward (facing the installer) so that the concrete will be poured against the active layer side.
Aquadrain sheet and 100BD base drain composite system should be connected to an operative water discharge system (sump pump or gravity to daylight discharge).

Protect waterproofing products from damage before material is contained with concrete or backfill. After any precipitation, standing water should be pumped off of the waterproofing as soon as possible.

## 4.2 SHORING WALL PREPARATIONS

Excavation work should provide a shoring wall in good condition to receive waterproofing system. Appropriate preparation can vary per shoring wall type. Verify the substrate preparation work has been completed for the applicable shoring wall system. Then install COREFLEX following the “Property Line Wall Installation” Guidelines in Section 4.3.

### 4.2.1 SOLDIER PILE & LAGGING SHORING WALL

Gaps between wood lagging timbers should be no wider than 25 mm (1”). If the gaps between lagging timbers are in excess of 25 mm (1”), the gaps should be completely filled with cementitious grout, wood, extruded polystyrene 0.138 MPa (20 psi) min. spray foam or compacted soil. If water is flowing through the lagging, thin polyethylene sheeting can be installed over the area before COREFLEX is installed.

In areas with large gaps of up to 63 mm (2–1/2”) between lagging, Aquadrain sheet drainage composite can be installed over the lagging to provide a uniform surface to mount COREFLEX. Securely fasten Aquadrain to the lagging surface with washer-head fasteners before installing COREFLEX. Gaps larger than 63 mm (2–1/2”) between lagging should be completely filled with grout, wood, extruded polystyrene 0.138 MPa (20 psi) minimum spray foam or compacted soil even if Aquadrain is installed prior to COREFLEX. Do not use plywood or other surface treatment over large lagging gaps that leave the cavity void. Wood lagging shoring should extend to the lowest level of the waterproofing installation without any voids or cavities exterior of or underneath the lagging filled with compacted soil or cementitious grout. Voids or cavities at tie-backs should be filled with grout or compacted soil prior to COREFLEX installation.

***SOLDIER PILE STRIPPING:*** Install a protective material strip of CoreFlash over all soldier piles with raised lagging hanger bolts, form tie rods, or other irregular surfaces to provide a suitable substrate that will not puncture the COREFLEX. The CoreFlash strip should extend a minimum 100 mm (4”) to both sides of the piling.

***CEMENTITIOUS BOARD:*** Prior to installing membrane to Grade Termination detail at finished grade, install 12 mm (1/2”) thick cementitious wall board centered over steel soldier pile from finished grade elevation to past thespecified depth that the top of steel soldier pile and wood lagging will be removed.

### 4.2.2 METAL SHEET PILING SHORING WALL

PLYWOOD OR CEMENTITIOUS WALL BOARD METHOD (RECOMMENDED METHOD)
Use 12 mm (1/2”) plywood or cementitious wall board fastened to the sheet piling to create a flat surface upon which COREFLEX can be installed. All void spaces between the plywood/cement board and sheet piling must be filled with compacted earth or concrete.

Installation of COREFLEX directly to and contouring the sheet metal piling requires special knurled powder-actuated fasteners to secure COREFLEX to the metal sheet piling. All fasteners must be positioned to be outside of all thermoplastic welds.

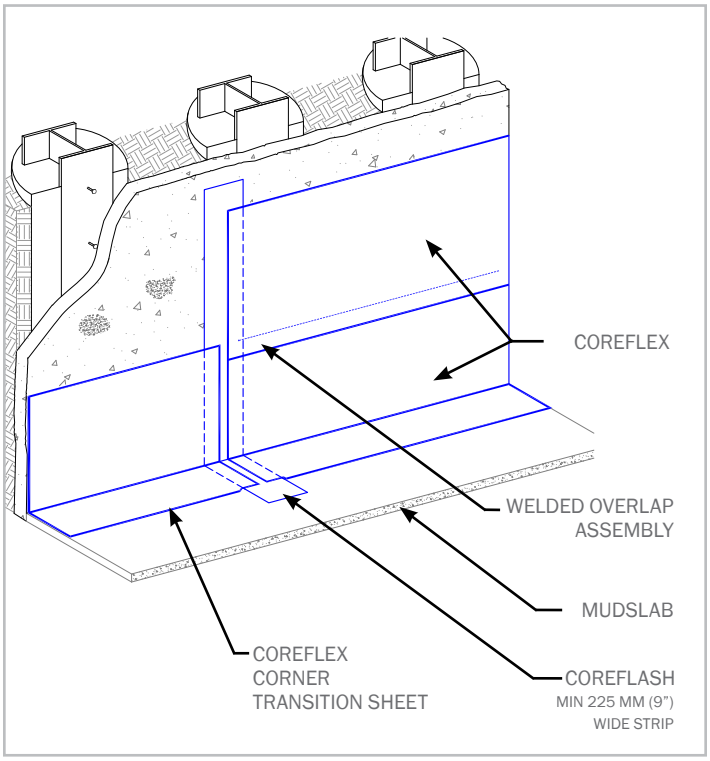
Fill voids or cavities at tieback plates with cementitious grout or compacted soils. If excessive water is penetrating the sheet piling knuckles, Bentogrout can be injected to the outside of the knuckle to stop water flow. Consult CETCO for Bentogrout application and installation guidelines.

For metal sheet pile shoring wall place a continuous band of cementitious board at the point where the sheet pile and or piles are to be burned off. The cementitious board should extend a minimum 450 mm (18”) below the point where the sheet pile and or piles are to be burned off.

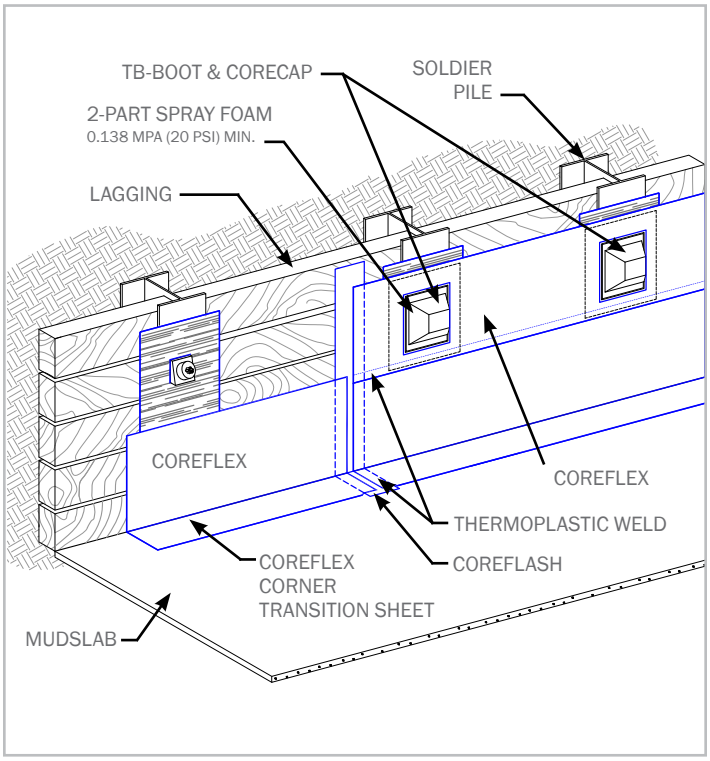
### 4.2.3 EARTH-FORMED DIAPHRAGM SHORING WALL

The surface of the earth-formed diaphragm wall must be sufficiently planar to provide an adequately smooth surface to apply COREFLEX. COREFLEX can be applied over large, relatively shallow indentations. The surface should not contain voids or sharp protrusions in excess of 25 mm (1”). Fill all voids with cementitious grout or shotcrete and remove protrusions prior to installing COREFLEX.

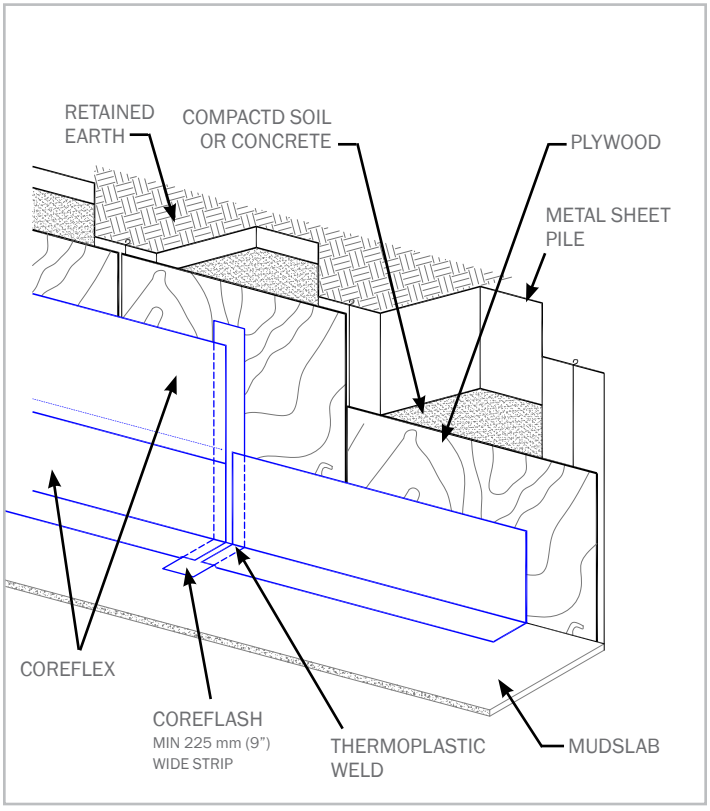
Shotcrete must be well consolidated and contain no honeycombed areas or voids. These types of defects must be corrected prior to installing the COREFLEX membrane.



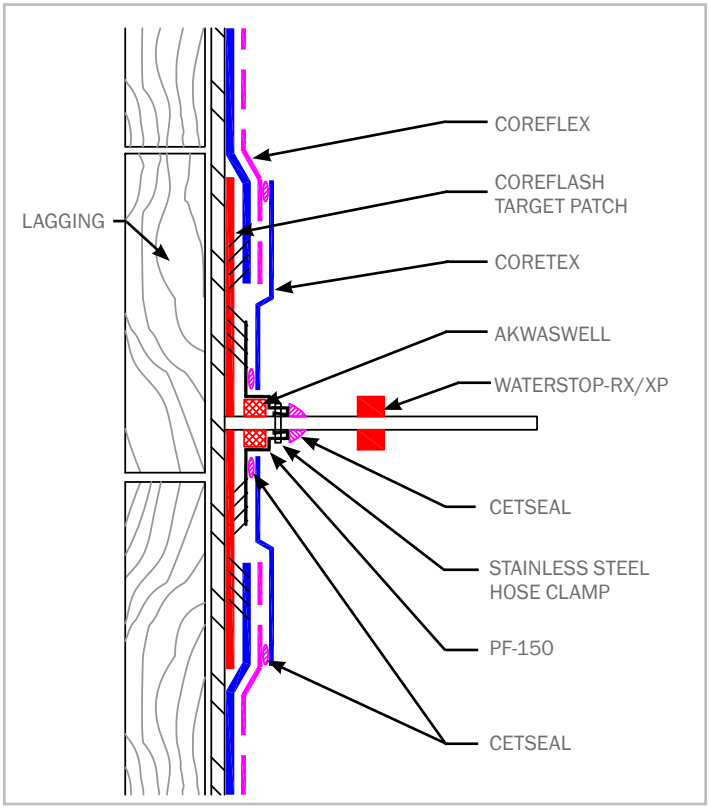

4.2.4 PROPERTY LINE WALL – AUGER CAST CAISSON




4.2.4 PROPERTY LINE WALL – SOLDIER PILE & LAGGING




4.2.4 PROPERTY LINE WALL – SHEET PILE




4.2.4 PROPERTY LINE WALL – NELSON STUD FLASHING

# COREFLEX®
## THERMOPLASTIC WATERPROOFING WITH AN ACTIVE LAYER

### 4.2.4 AUGER CAST CAISSON AND CUT ROCK EXCAVATION SHORING WALLS

The surface of auger cast caisson and cut rock excavation walls must be sufficiently planar to provide a proper substrate surface to apply COREFLEX. Auger cast caisson and cut rock excavation walls typically require shotcrete or grout work to provide planar surface to install COREFLEX. COREFLEX can be applied over large, relatively shallow indentations in plane where it can conform tight against the surface. The surface should not contain sharp surface depressions or protrusions in excess of 25 mm (1”). Fill all large recesses between caissons or cut rock with cementitious grout or shotcrete prior to installing COREFLEX.

An alternative substrate correction method is to construct a planar substrate surface such as a plywood wall erected over irregular caisson or cut rock walls. Any erected walls shall be approved by project engineer and meet all safety and building code requirements. Any void space between the erected substrate wall and the caisson or cut rock excavation wall shall be completely filled with compacted backfill, concrete, or engineered fill per project requirements.

Employ construction methods to stop water from flowing through the shoring wall prior to waterproofing installation. If only water seepage, install thin polyethylene sheeting over the seepage area prior to installing COREFLEX. Polyethylene sheeting should extend from seepage elevation to base of wall to protect entire waterproofing installation at that area.

## 4.3 PROPERTY LINE WALL INSTALLATION

At base of the shoring wall, install a COREFLEX corner transition sheet horizontally oriented and placed at the corner transition from underslab to shoring wall with the PVC thermoplastic membrane offset edge placed on the shoring wall (active layer inward, facing installer; yellow side toward shoring wall), or install in place corner transition with COREFLASH and Coretex. Position the bottom PVC membrane edge extending out onto the horizontal substrate a minimum 300 mm (12”). Approximately 25 mm (1”) down from the top edge, secure the thermoplastic membrane offset to the shoring wall with washer-head mechanical fasteners spaced a maximum of 900 mm (36”) on center; refrain from placing a fastener within 150 mm (6”) of each roll end. Install adjacent membrane sheets with both the thermoplastic membrane and active layers overlapped a minimum 100 mm (4”). Assemble and weld laps, secure any loose active layer material with dabs of CETSEAL maximum 200 mm (8”) on center or a continuous bead of CETSEAL. When welding the PVC overlap seams on the corner transition sheet start the weld at the corner and work outward from the corner along both seams. Any T-Joints created require a welded CoreDisc or CoreFlash NR patch.

Once the corner transition sheet has been installed, COREFLEX sheets can be installed either vertically or horizontally oriented on the wall. Fasten the COREFLEX into position with washer-head fasteners maximum 900 mm (36”) on center; 25 mm (1”) from the top of the thermoplastic membrane selvedge edge. Overlap adjacent sheet edges a minimum 100 mm (4”). (Note: Shingle lap seams so that the bottom edge of the upper sheet is over and inward of the top fastened edge of the lower sheet to facitate welding that results with all fasteners positioned outside of the welds). Continue installation up wall until 300 mm (12”) below finished grade elevation. Terminate at grade detail as described in section 2.6 to complete the waterproofing membrane installation. This may require the removal of soldier piles and lagging after the concrete wall is poured, see section 4.2.1 or instructions for installing cementitious board, and grade termination detail installation instructions.

Apply COREFLEX membrane in standard roll size or longest workable cut length. Install COREFLEX sheets horizontally oriented with the thermoplastic membrane offset edge side up (active layer side inward facing installer; yellow side toward shoring wall). Approximately 25 mm (1”) down from the top edge, secure the thermoplastic membrane offset to the shoring wall with washer-head mechanical fasteners spaced maximum 900 mm (36”) on center; refrain from placing a fastener within 150 mm (6”) of each roll end. Install subsequent COREFLEX sheets in vertical sequence up wall with membrane roll ends matched to within 25 mm (1”); trim roll ends as applicable to meet the 25 mm (1”) alignment. Assemble and weld membrane overlap; secure any loose active layer material with bead of CETSEAL. Extend membrane installation minimum 300 mm (12”) above concrete pour joints to provide access.

Alternately, install COREFLEX sheets vertically oriented (active layer side inward facing installer; yellow side toward shoring wall). Approximately 25 mm (1”) from the edge, secure the thermoplastic membrane offset to the shoring wall with washer-head mechanical fasteners spaced maximum 900 mm (36”) on center; refrain from placing a fastener within 150 mm (6”) of each roll end. Install subsequent COREFLEX sheets in vertical sequence along wall. Trim roll ends as applicable to meet the 100 mm (4”) overlap onto the membrane selvedge edge of the horizontal transition sheet. Assemble and weld membrane overlaps; secure any loose active layer material with dabs of CETSEAL maximum of 200 mm (8”) on center or a continuous bead of CETSEAL. Extend membrane installation minimum 300 mm (12”) above concrete pour joints to provide access. Detail all T-Joints with a CoreDisc or CoreFlash NR welded patch. Secure any loose or peeled active layer material with continuous bead of CETSEAL. Continue membrane installation up shoring wall to project grade detail elevation. Secure top membrane edge with washer-head mechanical fasteners maximum 300 mm (12”) on center.

Inside and outside corner transitions can also be constructed using CoreFlash and Coretex rather than installing COREFLEX membrane through these changes in plane. Cut and install CoreFlash extending on both substrates of the corner a minimum 300 mm (12”); maintain a minimum 100 mm (4”) overlap of all adjacent PVC membrane sheets for proper welded seam. After welding all PVC seams install a cut sheet of Coretex that covers all the installed CoreFlash in the corner and extends a minimum 100 mm (4”) overlapping the active layer of all adjacent COREFLEX sheet. Adhere the cut Coretex sheet to both the CoreFlash and the adjacent active layers with continuous beads of CETSEAL placed throughout the area of installation to tightly secure the Coretex.

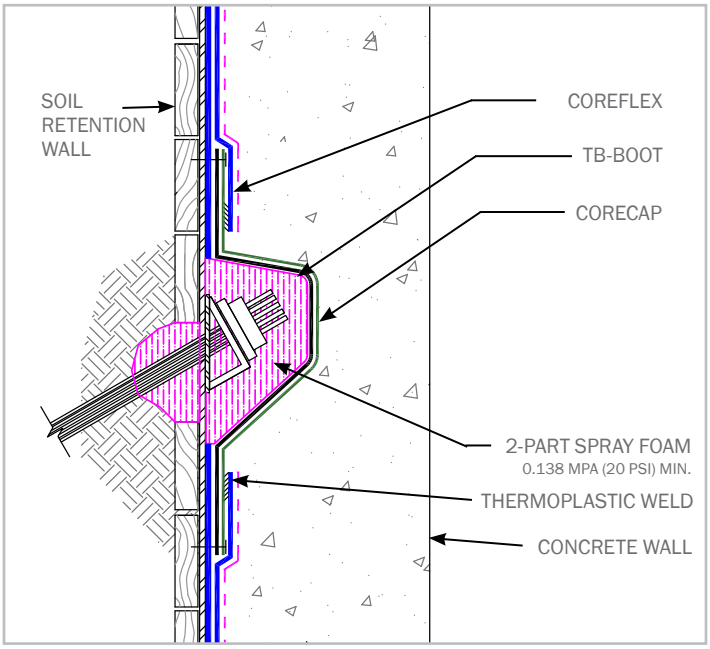
## 4.4 REBAR SUPPORTS

CETCO recommends non-penetrating reinforcement systems. When that is not possible use the TW-ANCHOR with weldable flange to support the rebar on concrete/shotcrete shoring walls or on sheet pile with a plywood facing that is backfilled with lean-mix concrete. The TW-ANCHOR can be installed prior to placement of the COREFLEX membrane. The TW-ANCHOR must be installed in sound substrates. Installation requires the drilling of a 28 mm (1 1/8") diameter by 225 mm (9") deep hole, appropriate clean out measures, and epoxying into place. Field verification with the site specific substrate is necessary to determine maximum allowable loads per each unique site condition. Drill a 28 mm (1–1/8") diameter by 225 mm (9") deep hole into the substrate. Care should be taken during the drilling process to eliminate lateral movement of the drill bit, as this will create an oversized hole which can reduce the pull-out load capacity of the installed TW-ANCHOR. Clean out the hole with a long reach air gun to blow debris out of, and away from, the hole. Brush the inside of the hole with 32 mm (1–1/4") stiff bristled pipe brush. After brushing in the hole, repeat blowing out debris with air gun a second time. Repeat this process, as needed, until all dust and debris has been removed from the hole. Starting at the bottom/back of the hole, fill 125 mm (5") of the hole with CETCO approved epoxy. Insert the TW-ANCHOR; twist the anchor into place rather than pushing straight into the hole; back pressure can prevent full insertion if air gets trapped behind the threads. Twisting the TW-ANCHOR during installation also promotes full epoxy coverage around the TW-ANCHOR and hole perimeter. The TW-ANCHOR MUST BE FULLY EMBEDDED; back surface of the rigid flange must be flush against substrate.

Secure the TW-ANCHOR in place until epoxy reaches its initial set. Once the TW-ANCHOR is in place allow for the epoxy to set for the recommended cure time (typically 24 hours, consult epoxy manufacturer if hot, cold or wet conditions exist as this will affect cure time). Thread allthread rod (M16 x 20) into the rigid PVC sleeve until full threaded depth of 196 mm (7 3/4") is achieved. Install COREFLEX waterproofing membrane by cutting around the rigid PVC sleeve base; take care to not cut the flexible TW-ANCHOR membrane flange. With a hot-air hand welder and a 20 mm (3/4") tip, weld the COREFLEX membrane (yellow thermoplastic side) to the TW-ANCHOR flexible membrane flange. Complete the entire weld and test for continuity with a mechanical probing device (blunt tip screwdriver or similar). Cut a round 500 mm (20") patch of Coretex with a 16 mm (5/8") hole in the center and place over the all-thread rod. Use dabs of CETSEAL maximum of 200 mm (8") on center or a continuous bead of CETSEAL adhere the Coretex in place.

## 4.5 TIE-BACKS

Select the appropriate size TB-Boot and CoreCap weldable thermoplastic flange to fit over tieback plate and allow proper concrete coverage per project requirements.The TB-Boot is a rigid backing piece (white) and the CoreCap is a flexible, weldable PVC component (black). TB-Boot should fit entirely over tie-back head without the tie-back plate or cables in direct contact with the TB-Boot. Prior to TB-Boot installation, fill voids in retention wall substrate and tie-back head assembly



4.5 TIE-BACK BOOT

with spray foam, 0.138 MPa (20 psi) minimum or non-shrink grout. Fill pre-formed shape of the rigid TB Boot with 2-part urethane foam 0.138 MPa (20 psi) minimum and place over the tie-back head before foam sets up. Overlay the CoreCap weldable PVC component over the TB-Boot. With the CoreCap PVC component nested over the TB-Boot, secure both components to the soil retention wall using washer head fasteners along the outside edge of the flat flange base. Begin by placing two fasteners at the top two corners. Then fasten the two bottom corners and follow up by placing a fastener at each midpoint of the 4 edges. All fasteners should be placed a within 75 mm (3") of the TB-BOOT perimeter edge. Once the TB Boot and CoreCap are secured to the soil retention wall cut a window in COREFLEX membrane so that it overlaps the CoreCap weldable flange 100 mm (4") on all four sides. Weld the COREFLEX to the CoreCap on the flat flange with a continuous thermoplastic weld around the tie-back head; all fasteners shall be located outside of the weld. Weld should be verified for continuity to ensure a complete continuous weld. For soil nail rod and plate assemblies, install applicable TB-Boot & CoreCap (typically the TB-Boot 6SN & CoreCap 6) over assembly and fasten to shoring wall and install COREFLEX per TB-Boot & CoreCap installation guidelines herein.

**NOTE:**
For irregular or oversize tie-back heads, site specific field fabricated stainless steel CoreClad covers may be required in lieu of TB-BOOTs and CORECAPS. CoreClad field fabricated covers per project design will need to be used over large tie-back heads and where irregular (non-planar) shoring wall conditions exist. Consult CETCO for alternate detail for specific project condition(s).

# COREFLEX®
## THERMOPLASTIC WATERPROOFING WITH AN ACTIVE LAYER

# SECTION 5
# BACKFILLED WALLS

## 5.1 SURFACE PREPARATION

The wall surface must be properly prepared before COREFLEX is installed. Cast-in-place concrete to receive waterproofing shall be of sound structural grade with a smooth finish, free of debris, oil, grease, laitance, dirt, dust, or other foreign matter which will impair the performance of the waterproofing. Form fins, ridges, and other protrusions over 6 mm (1/4") shall be made level and smooth with concrete surface. Honeycombing, aggregate pockets, tie-rod holes and other voids shall be completely filled with non-shrink cementitious grout and level with concrete surface. Concrete work should include completely filling taper-tie holes with non-shrink cementitious grout and a piece of WATERSTOP-RX/XP centered in the wall. Apply CETSEAL or Bentoseal over exterior grouted surface of all form tie holes.

Footings should be swept clean of dirt, rocks and debris to provide COREFLEX with direct contact to the concrete.

## 5.2 INSTALLATION

### 5.2.1 FOOTING TO WALL CORNER TRANSITION

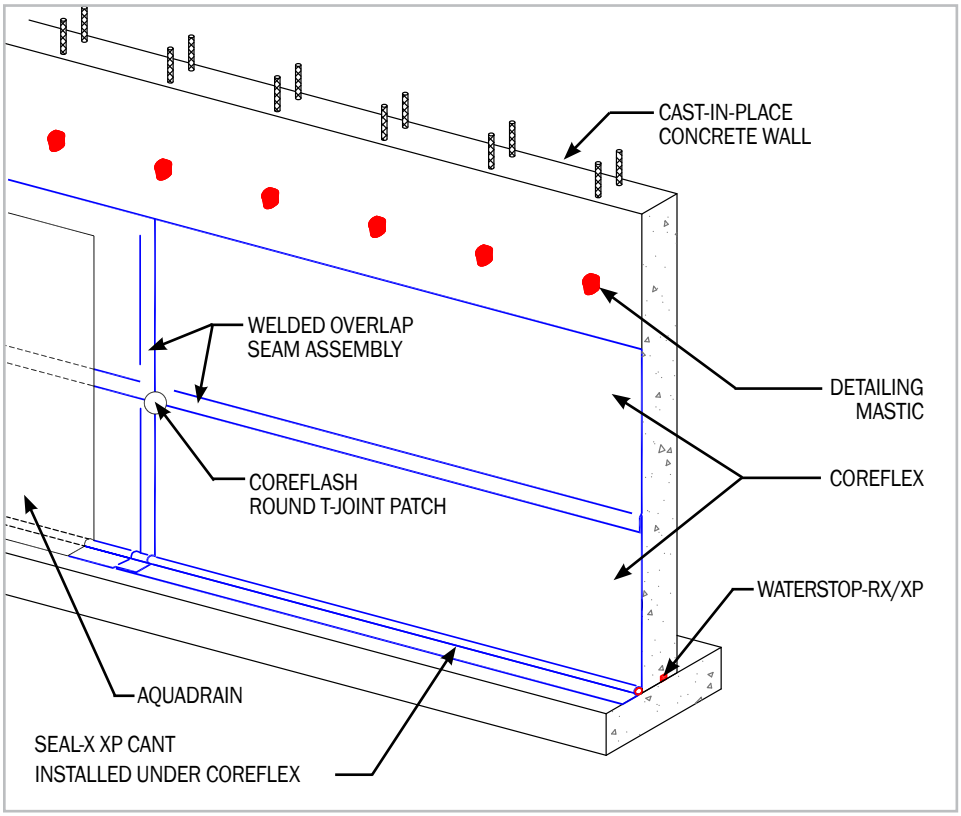
At the wall/footing intersection, install continuous line of SEAL-X XP cant prior to the placement of the COREFLEX membrane. At any vertical inside corners, apply a 19 mm (3/4") cant of SEAL-X XP prior to the placement of the COREFLEX membrane. Apply COREFLEX membrane in standard roll size or longest workable cut length. Install membrane in a flat, relaxed position avoiding wrinkles and stretching. Install bottom course of COREFLEX membrane horizontally oriented (active layer side against concrete; yellow side facing installer); with the active layer selvedge edge at the top and with the bottom edge extending out onto the footing minimum 200 mm (8") or further as required to overlap leading edge of COREFLEX membrane previously installed under the footing as part of underslab work a minimum 100 mm (4") or to allow for membrane termination detail. Approximately 25 mm (1") down from the top edge of the yellow thermoplastic membrane mechanically attach membrane to the concrete wall with washer-head fasteners spaced maximum 900 mm (36") on center; refrain from placing a fastener within 150 mm (6") of each roll end. 75 mm – 100 mm (3"– 4") intermittent dabs of CETSEAL may be used to adhere the 150 mm (6") active layer selvedge edge to the concrete. Install subsequent COREFLEX sheets in horizontal orientation sequenced up wall with membrane roll ends matched to within 25 mm (1"); trim roll ends as applicable to meet the 25 mm (1") alignment. Assemble and weld membrane overlaps and secure any loose active layer material with bead of CETSEAL.

### ALTERNATE MEMBRANE INSTALLATION:

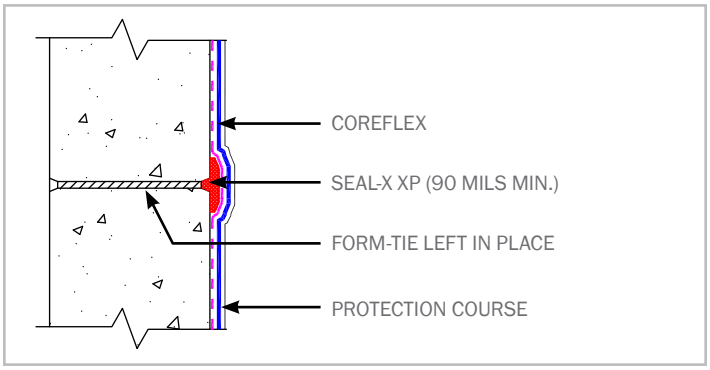
Install COREFLEX membrane sheets vertically oriented. Approximately 25 mm (1") from the edge, secure the thermoplastic membrane offset to the concrete wall with washer-head mechanical fasteners spaced maximum 900 mm (36") on center; refrain from placing a fastener within 150 mm (6") of each roll end. Install subsequent COREFLEX sheets in vertical sequence along wall. Trim roll ends to meet the 100 mm (4") overlap onto the PVC membrane of the horizontal oriented corner transition sheet. As applicable, install a minimum 450 mm (9") wide strip of Coretex extending a minimum 100 mm (4") over the active layer on the horizontal corner transition sheet active layer selvedge edge and behind the trimmed vertical courses of COREFLEX on the wall. Install adjacent COREFLEX membrane sheets overlapping Coretex strip with rolls ends closely matched to 25 mm (1") of adjacent COREFLEX roll end. Install minimum 450 mm (9") wide strip of CoreFlash centered over Coretex strip detail (yellow side facing installer). The bottom of the vertically oriented CoreFlash strip should overlap 100 mm (4") the horizontally oriented corner transition sheet and extend 100 mm (4") on the ends of the vertically oriented rolls of COREFLEX that continue up the wall. Hot-air weld the termination strip of CoreFlash to the COREFLEX; both continuous welds must be outside of all fasteners (no exposed fasteners). Finish CoreFlash strip by hot-air welding a CoreDisc or CoreFlash NR patch over all T-Joints. Assemble and weld all COREFLEX overlaps and secure any loose active layer material with bead of CETSEAL. Continue membrane installation up concrete wall to project grade detail elevation.



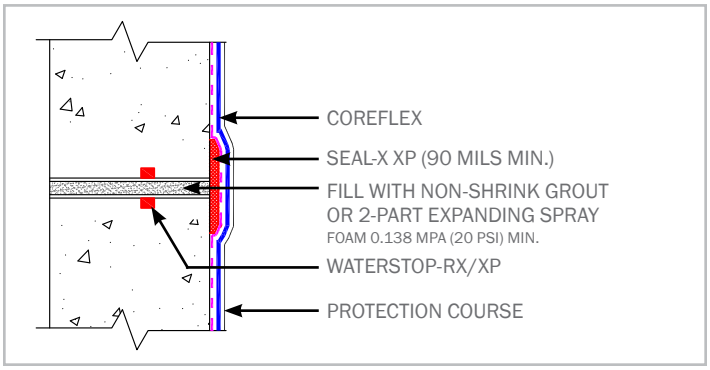
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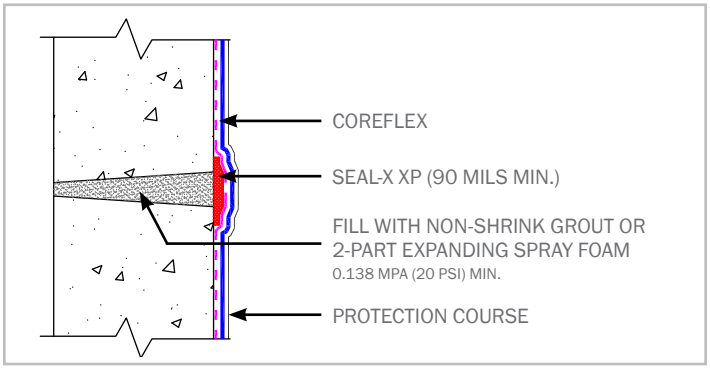

5.2.1 GENERAL INSTALLATION LAYOUT



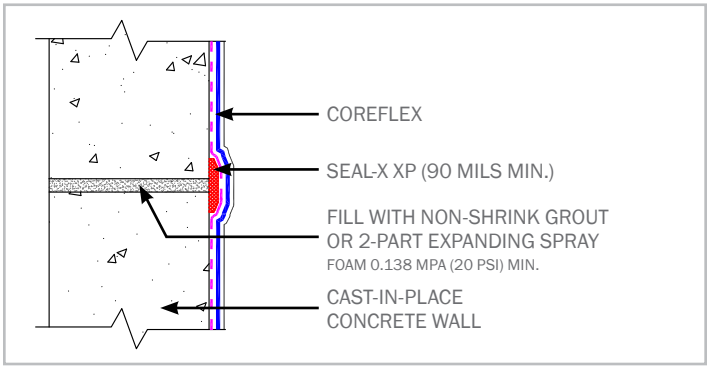

SNAP TIE




PVC SLEEVE



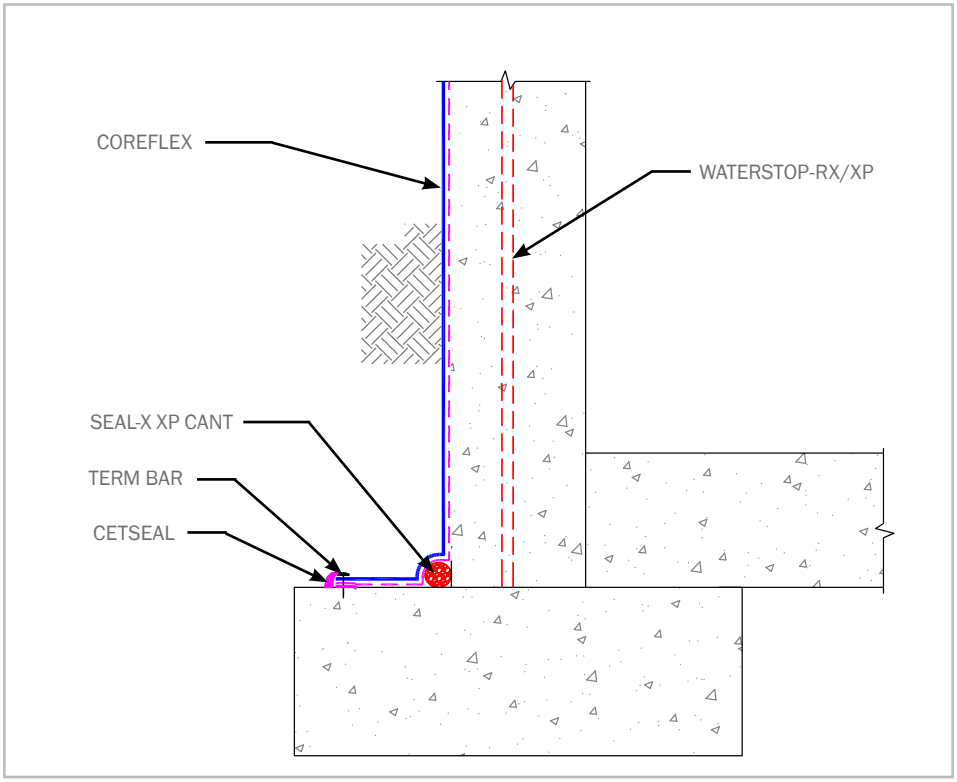

TAPER TIE



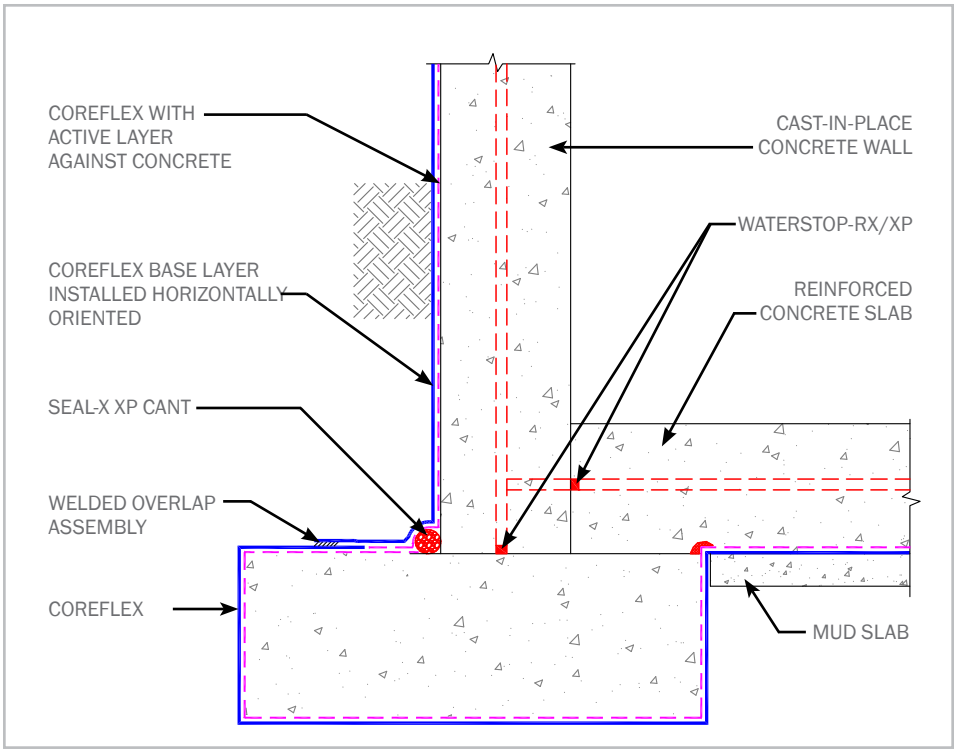

ALL-THREAD ROD

# COREFLEX®
## THERMOPLASTIC WATERPROOFING WITH AN ACTIVE LAYER

### 5.2.2 GRADE TERMINATIONS
SEE SECTION 2.6 GRADE TERMINATIONS.




5.2.2 SLAB EDGE TERM AT FOOTER (NON-HYDROSTATIC CONDITION)




5.2.3 SLAB EDGE (HYDROSTATIC CONDITION)

# SECTION 6
# SPECIAL CONDITIONS

## 6.1 PRECAST CONCRETE CONSTRUCTION

Consult CETCO regarding recommended products and special installation guidelines for precast concrete plank decks, precast earth covered roofs, and precast wall construction.

## 6.2 CONTAMINATED CONDITIONS

For compatibility testing, provide two (2) liter sample of site groundwater in a clean, unbreakable container. Ship water sample to: CETCO 2870 Forbs Avenue, Hoffman Estates, IL 60192, ATTN: BMG Field Services. Upon analysis, CETCO will provide a written report evaluating the water's compatibility with COREFLEX.

## 6.3 HYDROSTATIC/ NON-HYDROSTATIC CONDITIONS

Hydrostatic conditions exist when the elevation of the below-grade foundation is lower than the project site ground water level or historical high water table. Hydrostatic conditions are typically continual but may be intermittent with the fluctuation of the natural ground water table.

Non-hydrostatic conditions exist when site soil testing has determined that no ground water table exists or the elevation of the below-grade foundation is above the expected historical high water table elevation. Intermediate temporary hydrostatic pressure conditions may exist after precipitation or irrigation but is not a continual or prolonged condition.

## 6.4 EXPANSION JOINTS

COREFLEX membrane is not designed for waterproof expansion joints. Consult with CETCO regarding all expansion joint applications and limitations.

## 6.5 MISCELLANEOUS

Use CoreFlASH UV where membrane will be exposed to prolonged direct sunlight at grade terminations. Plywood or cementitious wall board may be used to provide a flat surface mount for installation of the COREFLEX membrane. For underslab or on property line shoring walls, install COREFLEX so that the active layer side is in direct contact with the concrete to be waterproofed. Use WATERSTOP-RX/XP at all (horizontal and vertical) cold concrete joints.

## 6.6 IMPORTANT NOTICE

FOR PRECAST CONCRETE, AND OTHER APPLICATIONS NOT COVERED IN THIS MANUAL, CONTACT CETCO FOR TECHNICAL ASSISTANCE AND INSTALLATION GUIDELINES.



www.cetco.com

www.cetco.com | contact@cetco.com

UPDATED: SEPTEMBER 2015

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FORM: PM_COREFLEX_AM_EN_201509_V2

CETCO

# HYDRO·SHIELD™

QUALITY ASSURANCE PROGRAM

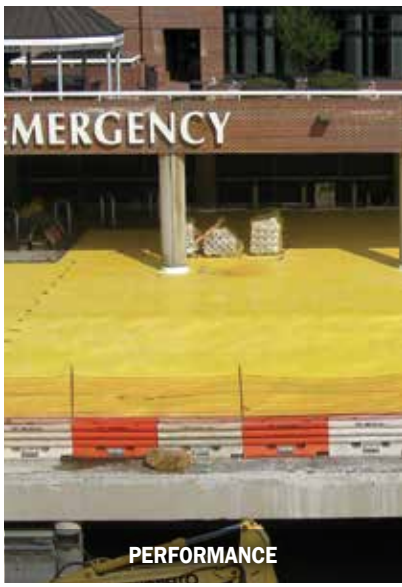
# QUALITY ASSURANCE PROGRAM

## IF IT'S WORTH BUILDING, IT'S WORTH PROTECTING


DESIGN ASSISTANCE


APPLICATOR PROGRAM


INDEPENDENT INSPECTION



PERFORMANCE

MINERALS TECHNOLOGIES

CETCO®

## IT'S OUR BUSINESS TO PROTECT YOUR STRUCTURE



Nothing threatens the structural integrity and interior environmental quality of a building like water ingress. That's why waterproofing is so important in protecting the structure and the valuable assets inside—people, furnishings, equipment, and inventory. With the pervasiveness of today's construction litigation, rely on CETCO and the HydroShield™ Quality Assurance Warranty Program to protect your structure from water ingress with sound guidance, quality waterproofing products, and proper installation, overseen by a certified independent inspection program.

## SYSTEM APPROACH PROVIDES COMPREHENSIVE PROTECTION

CETCO's systematic approach to managing water protection has proven to be an effective means for providing design assistance and quality installation, which are the hallmarks of a dry structure. CETCO's waterproofing systems are known for providing superior long-term performance and installation versatility at an outstanding value. With a proven track record that exceeds 50 years, CETCO has demonstrated the dependability of its products and its commitment to quality.

## THE HYDROSHIELD QUALITY ASSURANCE PROGRAM PROVIDES

***Design Assistance:*** System support and specification recommendations to your design team regarding what type of waterproofing system is best suited to your project's site conditions and construction methodology.

***System Review:*** CETCO's technical staff can provide a thorough review of the specification and waterproofing details for constructability and completeness.

***Complete Product Offering:*** Including membranes, waterstops, drainage products and detailing accessories.

***Project-Specific CAD Details:*** CAD-generated details to minimize field decisions and ensure both design and construction teams have the same understanding.

***Quality Assurance:*** Mandatory pre-construction meeting for review of waterproofing installation with all involved parties.

***Material Installation by Experienced Approved Applicator:*** For assurance on proper material installation, within manufacturer's guidelines, by professionally trained waterproofing applicators.

***Independent Inspection:*** Verification of proper installation and materials free of damage prior to coverage.

***Contractual Accountability:*** The warranty is a direct contract between building owner and CETCO manufacturer. There is no second or third-party involvement.

***Financial Assurance:*** HydroShield Quality Assurance Program is backed by the strongest insurance in the industry.

## OUR COMMITMENT TO QUALITY

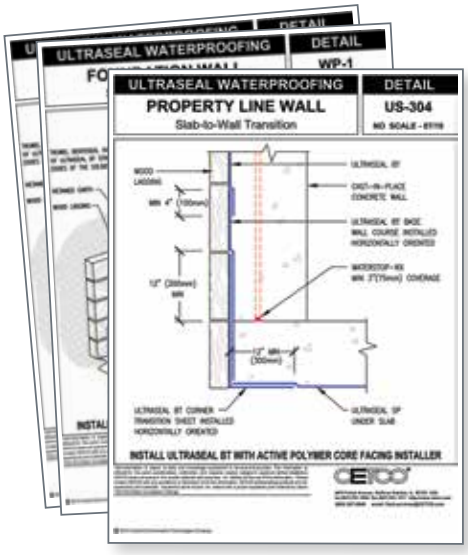
Successful waterproofing installations are the result of solid design, quality products, proper installation, and on-site inspection. As a part of your team, CETCO makes it easier for you to achieve the long-term performance you expect from your waterproofing system by providing:

1. ***World-Class Research and Development***
2. ***Design Assistance***
3. ***Experienced Approved Applicators***
4. ***Independent Inspection Services***
5. ***Labor and Material Warranty***
6. ***Recurrent Training Programs***



# DESIGN ASSISTANCE

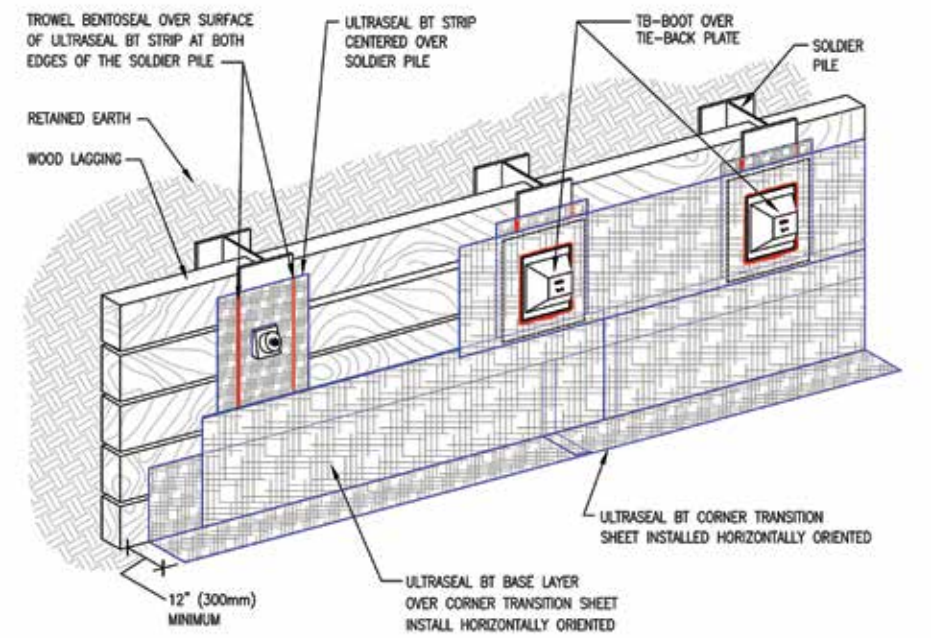
CETCO provides a wide range of value-added assistance and technical expertise to your design team.




*Our staff can provide quality AutoCAD®drawings based on your project design and field conditions.*

## LET US WORK FOR YOU

As an industry leader, we have the resources and take the time to focus on your specific project needs. We offer extensive experience with knowledge in material selection and application, specification preparation, and reliable solutions for your project. Our professionals will work with you hand in hand to ensure your project's success from pre-design through completion of construction. CETCO's application manuals provide sound fundamental installation details for hydrostatic or non-hydrostatic conditions from the most basic to stringent projects. Another value-added service our staff offers is to efficiently provide quality AutoCAD®drawings based on your project design and field conditions to help your design team create their project specification.





# APPLICATOR PROGRAM

To ensure the best results for a successful project, the best solution is to have a trained, experienced applicator install a properly designed waterproofing system.

## APPROVED APPLICATOR PROGRAM EXPERIENCED, PROFESSIONAL CRAFTSMANSHIP

Since 1981, CETCO has maintained and managed an Approved Applicator program wherein experienced, professional contractors have the ability to perform quality installations. This long term commitment to applicator quality cannot be matched by any other prominent waterproofing manufacturer. Today, after decades of success, CETCO remains fully committed to its preeminent applicator program, working with the most highly skilled professionals to protect your assets, providing you with installation confidence and peace of mind.

## APPLICATOR PROGRAM ADVANTAGES

- Ensures installation quality for maximum performance
- Experienced professionals who are knowledgeable about waterproofing applications install the materials
- Only installations by CETCO Approved Applicators are eligible for the HydroShield Quality Assurance Program
- Minimizes risk of moisture damage and long-term repair costs









# INDEPENDENT INSPECTION

Be sure what you specify is what you get. Third-party independent inspection.

## WATER INGRESS IS EXPENSIVE AND DIFFICULT TO RESOLVE

When it comes to waterproofing, problems can be difficult and expensive to resolve. The materials usually are difficult to access. In many cases, repair costs can quickly escalate to many times the cost of the initial installation. The substantial repair costs do not include interior finish repair, lost revenues due to decreased building space use, or in some circumstances, litigation. One cannot overemphasize the value of getting it done right the first time. Be sure what you specify is what you get.

## THIRD-PARTY INDEPENDENT INSPECTION

Waterproofing in new construction is typically one percent or less of the building cost, yet water intrusion is the leading cause for construction defect litigation.

Statistics reveal that the top causes of water intrusion are construction errors, inappropriate product application, and damaged materials—even the best efforts can have an off day. Historically, the integrity of foundation waterproofing has been left up to field construction personnel. Even with well-intended efforts and good design, construction flaws and damages have sometimes not been detected or corrected. Effective waterproofing inspections require a well-coordinated field effort and direct communication amongst the construction and design team members. Compliance with project requirements during installation and subsequent work by other trades can be monitored by third-party independent inspection hired by the owner. With this quality control measure in place, the HydroShield™ Quality Assurance Program affords a true performance warranty.

### Most water ingress occurs not because the materials were defective, but because of these primary causes*



***Poorly Prepared Substrates:***
One cannot expect a waterproofing membrane to perform correctly when applied to an improperly prepared substrate.



***Improper Installation and Detailing:*** Ingress often results from human errors in installation and detailing. Even a minor mistake can lead to significant damage.



***Damage after Installation:***
Waterproofing is routinely damaged by subsequent construction traffic, operations and weather.



***"Field" Solutions to Specific Jobsite Needs:***
Incomplete or faulty installations to keep the project on schedule and keep the initial expense down can raise questions about quality.

CETCO HYDRO-SHIELD QUALITY ASSURANCE PROGRAM

*The HydroShield program is designed to eliminate the primary causes of water ingress through pre-installation planning, experienced craftsmanship, and on-site inspection, resulting in superior waterproofing performance.*

** Construction Waterproofing Handbook, Michael T. Kubal, Copyright 2000.*



# LONG-TERM PERFORMANCE

Four “fine-print” factors to consider when evaluating a warranty program.

## WHAT DOES THE FINE PRINT REALLY MEAN?

After all, it’s what’s in the fine print that often matters most. Knowing that your investment in waterproofing is protected by an extensive warranty program can bring great peace of mind. But warranties can be very different in what they cover. For example, warranties for our waterproofing systems are performance warranties covering both materials and labor—not merely product warranties like other manufacturers provide.

Warranty documents often contain restrictive provisions that significantly limit the warrantor’s liability and owner’s remedies in the event that problems develop. The warranty document may also contain other restrictions and limitations, such as a prohibition against assignment or transfer of the warranty. Be sure to consider and compare these factors when evaluating a warranty offer:

### *Length of Coverage*

This is the main feature that most warranties tout, and what many owners don’t look beyond. Though important, length of coverage should not be the primary criterion in the selection of a waterproofing system. The selection should be based on the product’s qualities and suitability for the prospective project. A long-term warranty may be of little value to an owner if the waterproofing does not perform satisfactorily. Don’t let the warranty fail you too.

### *Financial Coverage*

Combined with the length of coverage, this attribute defines a warranty’s true strength. What’s the maximum financial limit allowed to correct problems? A warranty may offer a lengthy period of coverage but minimal allowances for actual cost. Many warranties limit the manufacturer’s monetary responsibility. CETCO’s HydroShield Quality Assurance Program provides a “**NO FINANCIAL LIMIT**” warranty, which has NO limitations on monetary responsibility.

Some warranties are pro-rated, meaning the coverage is reduced proportionately depending on how many years it has been since installation. CETCO stands behind its waterproofing systems with a 100 percent non-prorated warranty. You get full protection for the full term of the warranty.

### *Terms of Coverage*

What claims does the warranty offer to correct? Merely more of the same product that failed? Material and labor for replacement? CETCO’s warranty covers both labor and material. Fully understanding what a warranty covers helps owners make the right decision—*HydroShield Quality Assurance Program from CETCO.*

### *Source of Coverage*

A warranty is only as good as the company that stands behind it. It helps little to have “lifetime” coverage from a company that’s dissolved two years later. CETCO is a financially stable company that has built a solid reputation in the industry since 1963. CETCO is backed by the assets of its parent company, Minerals Technologies, trading on the NYSE under the symbol MTX.

CETCO

# HYDRO·SHIELD™

QUALITY ASSURANCE PROGRAM

## QUALITY PRODUCTS—PROVEN PERFORMANCE

Since 1963, more than a billion square feet of CETCO waterproofing products have been installed around the world, becoming the standard by which all other waterproofing membranes are measured.

By specifying CETCO products, you are assured of optimum waterproofing performance from products specifically engineered to be integrated and installed as a complete waterproofing system. CETCO manufactures a complete line of quality waterproofing membranes, waterstops, and drainage composites as well as a complete line of installation accessories—everything you need from the bottom of the excavation up to your green roof.

## SINGLE-SOURCE WATERPROOFING

Our broad product range of waterproofing systems provides installation versatility, allowing you to work with a single manufacturer to cover all of your waterproofing needs. From zero-lot property line construction to backfilled foundation walls to under-slab, green roof and plaza deck applications, CETCO is the complete waterproofing solution.

MINERALS TECHNOLOGIES®

CETCO®

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UPDATED: MAY 2017

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FORM: APP_HYDROSHIELD_AM_EN_201705_V4

# CETCO HYDROSHIELD WARRANTY

**W -** 9089

**Project Owner:**
Biomed Realty

**Project Name:**
Dexter Yard

**Project Address:**
700 Dexter Avenue N, Seattle WA 98109

**Warranty Start Date:**
01/11/2022

**Approved Applicator:**
Sound Waterproofers, Inc

**Independent Inspection Firm:**
OAC Services

**HydroShield Warranty:** Colloid Environmental Technologies Company, LLC. (CETCO) warrants to Owner that its CETCO Waterproofing System (defined as CETCO interrelated products and accessories), installed by the Approved Applicator per CETCO installation guidelines, as incorporated into the Project's contract documents and specifications, including relevant scopes of work ("Project Specifications") on the above referenced construction Project is free from defects in material components and product construction ("Defects"), and has been installed to specification, as confirmed by CETCO Certified Inspection process ("Installation") for a Warranty Period of 15-Fifteen years from the above referenced Warranty Start Date. Subject to the following terms and conditions, CETCO agrees to remediate the portion(s) of the CETCO Waterproofing System during the Warranty Period determined by CETCO after reasonable investigation to be caused by Defects or defective Installation and covered within this warranty.

**Limitations:** THE FOREGOING WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES NOT EXPRESSLY SET FORTH HEREIN, WHETHER EXPRESSED OR IMPLIED BY OPERATION OF LAW OR OTHERWISE, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS.

This warranty is void if subsequent work is done on the CETCO Waterproofing System without CETCO's prior written approval of the methods and materials used. In addition, as a condition to this warranty, Waterstop-RX must be installed in all areas applicable per Project Specifications. Independent third party inspection services in accordance with CETCO Warranty Program must be obtained by Owner for regular, complete inspections of the CETCO Waterproofing System during all phases of installation.

CETCO SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL LOSSES, DAMAGES OR EXPENSES, DIRECTLY OR INDIRECTLY ARISING FROM THE SALE, HANDLING OR USE OF THE CETCO WATERPROOFING SYSTEM OR FROM, OR IN CONNECTION WITH, ANY FAILURE OR INGRESS, OR FROM ANY OTHER CAUSE RELATING THERETO WHETHER SUCH CLAIM IS BASED ON BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, STRICT ABILITY IN TORT OR ANY OTHER LEGAL THEORY. CETCO SHALL NOT BE LIABLE FOR LOSSES, DAMAGES, OR EXPENSES DIRECTLY OR INDIRECTLY ARISING FROM ACTIVITIES OF OTHER TRADES THAT AFFECT THE PERFORMANCE OF THE CETCO WATERPROOFING SYSTEM. CETCO shall have no liability for damage to other components of the Project or contents therein. CETCO shall have no liability for any and all components of the CETCO Waterproofing System where it is determined the CETCO Waterproofing System was not installed in accordance with the Project Specifications. CETCO's liability hereunder in any case is expressly limited to the cost of repair of any affected area determined by CETCO to be the fault of the CETCO Waterproofing System. The foregoing states the sole and exclusive liability of CETCO and the sole and exclusive remedy of the Owner.

**Claims:** Any claim by Owner for any claimed defects hereunder for any cause shall be deemed waived by Owner unless submitted to CETCO in writing within thirty (30) days from the date Owner discovered, or should have discovered, any claimed defect. Owner must provide CETCO full and reasonable opportunity to investigate and determine whether any water ingress is covered under this Warranty and, if so, to undertake remedial activities prior to taking any action against CETCO. Owner shall permit CETCO to conduct reasonable destructive or non-destructive testing in carrying out its investigation.

**Coverage:** CETCO's warranty shall not cover, and CETCO shall not be obligated to repair, any affected area caused by events beyond its control, including but not limited to structural defects, cracks in excess of one-sixteenth of an inch, incomplete construction including but not limited to substandard and unconsolidated concrete, building alterations, damage to the installation by subcontractors or others, the failure of or improper preparation or application of any material or component underlying or adjacent to the CETCO Waterproofing System, explosions, earthquakes or other natural phenomena or acts of God.

**Access:** Any Defect covered by this warranty may at CETCO's discretion be repaired from the inside of the structure base and the Owner of the Project shall be responsible for removing any equipment, furniture or non-structural interior construction from the area which would hinder the remedial operations at Owner's sole expense. Owner shall give CETCO, its agents and employees reasonable access to the waterproofed area during business hours during the term of this warranty.


CETCO | 2870 Forbs Avenue, Hoffman Estates, IL 60192
cetco@mineralstech.com | cetco.com | 800.527.9948

CETCO Field Services - field.services@mineralstech.com

March 30, 2022

CETCO – Field Services
2870 Forbes Ave.
Hoffman Estates, IL 60192

Attn: Field Services

Re: 700 Dexter – Hydroshield Warranty No. **W-9089**

To Whom It May Concern:

As Owner's 3rd party, independent certified inspector, I hereby confirm that all work observed and inspected under the W-9089 Hydroshield Warranty (Coreflex system) has been completed. All work is compliant with CETCO's detail standards and all inspection reports have been submitted to Field Services. There are no outstanding action items or issues on site.

Sincerely,

Kerry May, AIA
Sr. Director – Building Enclosure Design
kmay@oacsvcs.com
206.276.0832

Project Address: 700 Dexter Ave N, Seattle, WA 98109

# APPENDIX G

# SURVEY DATA

| Point Number | Northing | Easting | Elevation | Description | Notes |
|---|---|---|---|---|---|
| 2001 | 231779.07 | 1268590.74 | 47.38 | MW A14C14 RIM | |
| 2002 | 231778.51 | 1268590.50 | 46.96 | MW A14C14 WEST | |
| 2003 | 231778.70 | 1268590.90 | 46.71 | MW A14C14 EAST | |
| 2004 | 231779.96 | 1268578.96 | 47.75 | MW B24D24 RIM | Could not open, one bolt was damaged/bent |
| 2005 | 231781.32 | 1268565.75 | 48.18 | MW A15C15 RIM | |
| 2006 | 231780.94 | 1268565.88 | 47.85 | MW A15C15 EAST | |
| 2007 | 231780.83 | 1268565.58 | 47.83 | MW A15C15 WEST | |
| 2008 | 231800.32 | 1268632.09 | 45.99 | MW B12D12 RIM | |
| 2009 | 231799.71 | 1268631.94 | 45.41 | MW B12D12 WEST | |
| 2010 | 231799.68 | 1268632.17 | 45.48 | MW B12D12 EAST | |
| 2011 | 231795.48 | 1268618.11 | 46.37 | MW A13C13 RIM | |
| 2012 | 231795.17 | 1268617.98 | 45.82 | MW A13C13 NORTH | |
| 2013 | 231794.95 | 1268617.89 | 45.84 | MW A13C13 SOUTH | |
| 2014 | 231795.98 | 1268607.78 | 46.98 | MW B13D13 RIM | |
| 2015 | 231795.78 | 1268607.53 | 46.61 | MW B13D13 NORTH | |
| 2016 | 231795.60 | 1268607.67 | 46.60 | MW B13D13 SOUTH | |
| 2017 | 231794.41 | 1268600.24 | 47.26 | MW B14 RIM | |
| 2018 | 231794.08 | 1268600.23 | 46.73 | MW B14 | |
| 2019 | 231795.13 | 1268591.16 | 47.58 | MW D14R RIM | |
| 2020 | 231794.73 | 1268591.07 | 46.64 | MW D14R SOUTH | |
| 2021 | 231794.81 | 1268591.21 | 46.06 | MW D14R NORTH | |
| 2022 | 231795.61 | 1268557.87 | 48.93 | MW B15D15 RIM | |
| 2023 | 231795.03 | 1268557.73 | 48.24 | MW B15D15 SOUTH | |
| 2024 | 231795.36 | 1268557.90 | 48.30 | MW B15D15 NORTH | |
| 2025 | 231796.00 | 1268545.07 | 49.49 | MW A16 C16 RIM | |
| 2026 | 231795.59 | 1268544.99 | 48.97 | MW A16 C16 SOUTH | |
| 2027 | 231795.88 | 1268545.05 | 49.02 | MW A16 C16 NORTH | |
| 2028 | 231795.83 | 1268531.25 | 50.08 | MW B16D16 RIM | |
| 2029 | 231795.20 | 1268531.34 | 49.78 | MW B16D16 SOUTH | |
| 2030 | 231795.58 | 1268531.28 | 49.71 | MW B16D16 NORTH | |
| 2031 | 231796.83 | 1268516.87 | 50.72 | MW A17C17 RIM | |
| 2032 | 231796.36 | 1268516.56 | 50.02 | MW A17C17 WEST | |
| 2033 | 231796.40 | 1268516.90 | 50.01 | MW A17C17 EAST | |
| 2034 | 231800.15 | 1268508.97 | 51.17 | MW B17D17 RIM | |
| 2035 | 231799.56 | 1268509.05 | 50.45 | MW B17D17 SOUTH | |
| 2036 | 231799.79 | 1268508.92 | 50.45 | MW B17D17 NORTH | |
| 2037 | 231800.99 | 1268498.55 | 51.64 | MW A18C18 RIM | |

RIM = Point taken @ Northern most point on outer rim of monitoring well

Direction noted in description is related to which pipe was shot. Example North would mean the Northerly most pipe

| Point Number | Northing | Easting | Elevation | Description | Notes |
|---|---|---|---|---|---|
| 2038 | 231800.59 | 1268498.60 | 50.80 | MW A18C18 SOUTH | |
| 2039 | 231800.75 | 1268498.39 | 50.80 | MW A18C18 NORTH | |
| | | | | | |
| 2040 | 231802.30 | 1268476.26 | 52.51 | MW B18 RIM | |
| 2041 | 231798.81 | 1268485.30 | 51.75 | MW B18 NORTH | |
| 2042 | 231798.99 | 1268485.45 | 51.66 | MW B18 SOUTH | |
| | | | | | |
| 2043 | 231800.93 | 1268470.75 | 52.71 | MW D18R RIM | |
| 2044 | 231800.53 | 1268470.56 | 51.99 | MW D18R | |
| | | | | | |
| 2045 | 231798.29 | 1268461.82 | 52.94 | MW A19C19 RIM | |
| 2046 | 231797.93 | 1268461.75 | 52.42 | MW A19C19 WEST | |
| 2047 | 231797.89 | 1268461.98 | 52.40 | MW A19C19 EAST | |
| | | | | | |
| 2048 | 231798.32 | 1268453.12 | 53.36 | MW B19 RIM | |
| 2049 | 231797.79 | 1268452.90 | 52.78 | MW B19 WEST | |
| 2050 | 231797.85 | 1268453.22 | 52.79 | MW B19 EAST | |
| | | | | | |
| 2051 | 231800.99 | 1268449.25 | 53.60 | MW B19R RIM | |
| 2052 | 231800.62 | 1268449.12 | 52.72 | MW B19R | |
| | | | | | |
| 2053 | 231811.49 | 1268634.11 | 45.78 | MW A12C12 RIM | |
| 2054 | 231811.00 | 1268633.94 | 45.19 | MW A12C12 WEST | |
| 2055 | 231811.07 | 1268634.20 | 45.25 | MW A12C12 EAST | |
| 2056 | 231819.02 | 1268635.34 | 45.30 | MW B11D11 RIM | |
| 2057 | 231818.54 | 1268635.17 | 44.89 | MW B11D11 WEST | |
| 2058 | 231818.49 | 1268635.43 | 45.02 | MW B11D11 EAST | |
| | | | | | |
| 2059 | 231827.51 | 1268635.64 | 44.97 | MW A11C11 RIM | |
| 2060 | 231826.77 | 1268635.51 | 44.32 | MW A11C11 WEST | |
| 2061 | 231826.62 | 1268635.67 | 44.33 | MW A11C11 EAST | |
| | | | | | |
| 2062 | 231843.26 | 1268636.22 | 43.87 | MW B10D10 RIM | |
| 2063 | 231842.73 | 1268636.07 | 43.40 | MW B10D10 WEST | |
| 2064 | 231842.77 | 1268636.38 | 43.44 | MW B10D10 EAST | |
| | | | | | |
| 2065 | 231851.80 | 1268636.36 | 43.73 | MW A10C10 RIM | |
| 2066 | 231851.23 | 1268636.34 | 43.28 | MW A10C10 SOUTH | |
| 2067 | 231851.56 | 1268636.44 | 43.15 | MW A10C10 NORTH | |
| | | | | | |
| 2068 | 231859.68 | 1268636.09 | 43.60 | MW B9D9 RIM | |
| 2069 | 231859.34 | 1268636.03 | 42.98 | MW B9D9 WEST | |
| 2070 | 231859.23 | 1268636.29 | 43.04 | MW B9D9 EAST | |
| | | | | | |
| 2071 | 231875.20 | 1268637.02 | 43.34 | MW A9C9 RIM | |
| 2072 | 231874.81 | 1268637.26 | 42.67 | MW A9C9 EAST | |
| 2073 | 231874.85 | 1268637.04 | 42.68 | MW A9C9 WEST | |
| | | | | | |
| 2074 | 231882.14 | 1268637.20 | 43.22 | MW B8D8 RIM | |

| Point Number | Northing | Easting | Elevation | Description | Notes |
|---|---|---|---|---|---|
| 2075 | 231881.67 | 1268637.05 | 42.81 | MW B8D8 WEST | |
| 2076 | 231881.78 | 1268637.26 | 42.83 | MW B8D8 EAST | |
| | | | | | |
| 2077 | 231891.45 | 1268637.38 | 43.03 | MW A8C8 RIM | |
| 2078 | 231890.77 | 1268637.30 | 42.63 | MW A8C8 WEST | |
| 2079 | 231890.83 | 1268637.57 | 42.47 | MW A8C8 EAST | |
| | | | | | |
| 2080 | 231899.16 | 1268637.44 | 42.92 | MW B7D7 RIM | |
| 2081 | 231898.79 | 1268637.29 | 42.54 | MW B7D7 WEST | |
| 2082 | 231898.74 | 1268637.58 | 42.41 | MW B7D7 EAST | |
| | | | | | |
| 2083 | 231913.71 | 1268638.03 | 42.67 | MW A7C7 RIM | |
| 2084 | 231913.40 | 1268637.85 | 42.44 | MW A7C7 WEST | |
| 2085 | 231913.24 | 1268638.14 | 42.30 | MW A7C7 EAST | |
| | | | | | |
| 2086 | 231922.57 | 1268638.04 | 42.56 | MW B6D6 RIM | |
| 2087 | 231922.31 | 1268638.08 | 42.27 | MW B6D6 NORTH | |
| 2088 | 231922.09 | 1268638.15 | 42.27 | MW B6D6 SOUTH | |
| | | | | | |
| 2089 | 231930.39 | 1268638.59 | 42.51 | MW A6C6 RIM | |
| 2090 | 231930.22 | 1268638.56 | 42.22 | MW A6C6 NORTH | |
| 2091 | 231929.98 | 1268638.38 | 42.23 | MW A6C6 SOUTH | |
| | | | | | |
| 2093 | 231938.12 | 1268638.35 | 42.44 | MWB5D5 RIM | |
| 2094 | 231937.58 | 1268638.28 | 42.18 | MW B5D5 WEST | |
| 2095 | 231937.63 | 1268638.59 | 42.16 | MW B5D5 EAST | |
| | | | | | |
| 2096 | 231953.02 | 1268638.94 | 42.33 | MW A5C5 RIM | |
| 2097 | 231952.65 | 1268638.90 | 41.97 | MW A5C5 NORTH | |
| 2098 | 231952.48 | 1268639.06 | 41.98 | MW A5C5 SOUTH | |
| | | | | | |
| 2099 | 231960.31 | 1268639.19 | 42.30 | MW B4D4 RIM | |
| 2100 | 231959.86 | 1268639.05 | 41.88 | MW B4D4 WEST | |
| 2101 | 231959.97 | 1268639.25 | 41.89 | MW B4D4 EAST | |
| | | | | | |
| 2102 | 231974.56 | 1268639.15 | 42.16 | MW A4C4 RIM | |
| 2103 | 231974.18 | 1268639.12 | 41.66 | MW A4C4 WEST | |
| 2104 | 231974.07 | 1268639.39 | 41.71 | MW A4C4 EAST | |
| | | | | | |
| 2107 | 231982.42 | 1268639.91 | 42.15 | MW B3D3 RIM | |
| 2108 | 231982.14 | 1268639.77 | 41.57 | MW B3D3 WEST | |
| 2109 | 231982.03 | 1268640.08 | 41.62 | MW B3D3 EAST | |
| | | | | | |
| 2110 | 231989.58 | 1268639.89 | 42.07 | MW A3C3 RIM | |
| 2111 | 231989.09 | 1268639.82 | 41.60 | MW A3C3 WEST | |
| 2112 | 231988.98 | 1268640.06 | 41.58 | MW A3C3 EAST | |
| | | | | | |
| 2113 | 232005.49 | 1268640.52 | 41.91 | MW B2D2 RIM | |
| 2114 | 232005.09 | 1268640.42 | 41.51 | MW B2D2 WEST | |
| 2115 | 232004.92 | 1268640.66 | 41.41 | MW B2D2 EAST | |

| Point Number | Northing | Easting | Elevation | Description | Notes |
|---|---|---|---|---|---|
| 2116 | 232012.62 | 1268640.33 | 41.87 | MW A2C2 RIM | |
| 2117 | 232012.24 | 1268640.35 | 41.33 | MW A2C2 WEST | |
| 2118 | 232012.27 | 1268640.62 | 41.38 | MW A2C2 EAST | |
| 2119 | 231825.59 | 1268622.21 | 45.09 | MW R-MW6 RIM | |
| 2120 | 231825.30 | 1268622.15 | 44.52 | MW R-MW6 | |
| 2121 | 231827.77 | 1268626.70 | 45.02 | MW W-MW-01 RIM | |
| 2122 | 231827.34 | 1268626.60 | 44.50 | MW W-MW-01 | |
| 2123 | 231868.27 | 1268623.41 | 43.98 | MW MW-161 RIM | |
| 2124 | 231868.01 | 1268623.37 | 43.84 | MW MW-161 | |
| 2125 | 231886.07 | 1268626.18 | 43.66 | MW MW107 RIM | |
| 2126 | 231885.72 | 1268626.16 | 43.01 | MW MW107 | |
| 2127 | 231912.73 | 1268626.69 | 43.24 | MW W-MW-02 RIM | |
| 2128 | 231912.53 | 1268626.65 | 42.89 | MW W-MW-02 | |
| 2129 | 231969.74 | 1268626.26 | 42.71 | MW MW-160 RIM | |
| 2130 | 231969.39 | 1268626.37 | 42.03 | MW MW-160 | |
| 2133 | 231785.08 | 1268372.75 | 56.50 | MW B23D23 RIM | |
| 2134 | 231784.71 | 1268373.00 | 56.21 | MW B23D23 NORTH | |
| 2135 | 231784.39 | 1268372.81 | 56.20 | MW B23D23 SOUTH | |
| 2136 | 231798.54 | 1268440.47 | 53.87 | MW A20C20 RIM | |
| 2137 | 231797.93 | 1268440.55 | 53.23 | MW A20C20 SOUTH | |
| 2138 | 231798.24 | 1268440.50 | 53.22 | MW A20C20 NORTH | |
| 2139 | 231798.76 | 1268432.77 | 54.23 | MW B20D20 RIM | |
| 2140 | 231798.54 | 1268432.77 | 53.56 | MW B20D20 NORTH | |
| 2141 | 231798.29 | 1268432.92 | 53.56 | MW B20D20 SOUTH | |
| 2142 | 231799.07 | 1268418.26 | 54.76 | MW A21C21 RIM | |
| 2143 | 231798.78 | 1268418.24 | 54.21 | MW A21C21 NORTH | |
| 2144 | 231798.56 | 1268418.38 | 54.20 | MW A21C21 SOUTH | |
| 2145 | 231803.37 | 1268407.76 | 55.29 | MW B21D21 RIM | |
| 2146 | 231803.17 | 1268407.74 | 54.99 | MW B21D21 NORTH | |
| 2147 | 231802.92 | 1268407.61 | 54.98 | MW B21D21 SOUTH | |
| 2148 | 231804.07 | 1268396.40 | 55.76 | MW A22C22 RIM | |
| 2149 | 231803.69 | 1268396.31 | 55.24 | MW A22C22 NORTH | |
| 2150 | 231803.45 | 1268396.44 | 55.14 | MW A22C22 SOUTH | |
| 2151 | 231802.90 | 1268388.81 | 56.05 | MW B22D22 RIM | |
| 2152 | 231802.59 | 1268388.65 | 55.52 | MW B22D22 WEST | |
| 2153 | 231802.50 | 1268388.90 | 55.45 | MW B22D22 EAST | |

| Point Number | Northing | Easting | Elevation | Description | Notes |
|---|---|---|---|---|---|
| 2154 | 231803.16 | 1268382.04 | 56.29 | MW A23B23 RIM | |
| 2155 | 231802.64 | 1268381.82 | 55.76 | MW A23B23 WEST | |
| 2156 | 231802.59 | 1268382.06 | 55.77 | MW A23B23 EAST | |
| 2157 | 231905.38 | 1268351.40 | 57.33 | MW MW-302 RIM | |
| 2158 | 231905.07 | 1268351.30 | 56.90 | MW MW-302 | |
| 2159 | 231961.84 | 1268352.82 | 57.63 | MW MW-304 RIM | |
| 2160 | 231961.51 | 1268352.77 | 57.08 | MW MW-304 | |
| 2161 | 231967.97 | 1268353.07 | 57.64 | MW MW-303 RIM | |
| 2162 | 231967.63 | 1268353.08 | 57.27 | MW MW-303 | |
| 2165 | 232026.91 | 1268640.63 | 42.45 | MW B1D1 RIM | |
| 2166 | 232026.60 | 1268640.81 | 41.64 | MW B1D1 EAST | |
| 2167 | 232026.54 | 1268640.58 | 41.66 | MW B1D1 WEST | Point taken on top of pipe cap, could not remove cap |
| 2168 | 232033.54 | 1268633.54 | 42.76 | MW A1C1 RIM | |
| 2169 | 232033.28 | 1268633.41 | 42.43 | MW A1C1 NORTH | |
| 2170 | 232033.07 | 1268633.57 | 42.41 | MW A1C1 SOUTH | |
| 2171 | 232058.18 | 1268529.46 | 48.38 | MW MW-189 RIM | |
| 2172 | 232057.82 | 1268529.33 | 47.99 | MW MW-189 | |
| 2173 | 232058.63 | 1268514.03 | 49.54 | MW MW-190 RIM | |
| 2174 | 232058.25 | 1268513.97 | 48.95 | MW MW-190 | |
| 2175 | 232059.13 | 1268505.05 | 49.97 | MW MW102 RIM | |
| 2176 | 232058.75 | 1268505.06 | 49.66 | MW MW102 | |
| 2177 | 232058.63 | 1268387.43 | 57.25 | MW MW124 RIM | |
| 2178 | 232058.30 | 1268387.40 | 56.74 | MW MW124 | |

| CA Well ID | ID | Easting | Northing | Elevation | |
|---|---|---|---|---|---|
| CA-A1 | 25 | 1268407.7789 | 231973.4813 | 13.6090 | No 17 or 63 |
| CA-A10 | 43 | 1268492.3997 | 231990.3897 | 13.6610 | |
| CA-A11 | 39 | 1268492.0927 | 231970.5961 | 13.6330 | |
| CA-A12 | 35 | 1268491.5837 | 231950.6496 | 13.6630 | |
| CA-A13 | 31 | 1268490.9914 | 231931.0833 | 13.6270 | |
| CA-A14 | 48 | 1268490.3858 | 231911.1123 | 13.6140 | |
| CA-A15 | 51 | 1268489.9381 | 231891.1792 | 13.6070 | |
| CA-A16 | 72 | 1268559.6445 | 231998.6583 | 13.6490 | |
| CA-A17 | 64 | 1268560.1655 | 231978.8935 | 13.5200 | |
| CA-A18 | 66 | 1268559.9067 | 231959.2247 | 13.6050 | |
| CA-A19 | 57 | 1268530.3429 | 231830.7536 | 13.6230 | |
| CA-A2 | 22 | 1268406.9901 | 231954.2472 | 13.6160 | |
| CA-A20 | 59 | 1268550.1482 | 231830.0422 | 13.6640 | |
| CA-A21 | 61 | 1268565.4413 | 231829.7715 | 13.6130 | |
| CA-A3 | 19 | 1268406.9406 | 231938.9604 | 13.7930 | |
| CA-A4 | 14 | 1268406.7021 | 231918.5608 | 13.6030 | |
| CA-A5 | 10 | 1268405.7663 | 231898.7073 | 13.6090 | |
| CA-A6 | 6 | 1268405.1839 | 231878.4325 | 13.4700 | |
| CA-A7 | 86 | 1268404.6266 | 231853.5917 | 13.6080 | |
| CA-A8 | 83 | 1268404.0672 | 231833.6305 | 13.6450 | |
| CA-A9 | ?? | 1268404.0672 | 231833.6305 | 13.6500 | missing from initial set- measurement provided later by Bill Sherman (Turner). Unsure of Turner ref # |
| CA-B1 | 24 | 1268407.6333 | 231968.4613 | 13.5870 | |
| CA-B10 | 42 | 1268492.4338 | 231986.0974 | 13.6010 | |
| CA-B11 | 38 | 1268492.0446 | 231965.9458 | 13.5920 | |
| CA-B12 | 34 | 1268491.6204 | 231946.1482 | 13.6320 | |
| CA-B13 | 30 | 1268490.9008 | 231925.7109 | 13.6470 | |
| CA-B14 | 49 | 1268490.1412 | 231905.9389 | 13.6150 | |
| CA-B15 | 52 | 1268489.4697 | 231886.2096 | 13.6060 | |
| CA-B16 | 73 | 1268559.5654 | 231993.6567 | 13.5960 | |
| CA-B17 | 65 | 1268560.0430 | 231974.3071 | 13.5980 | |
| CA-B18 | 67 | 1268559.5608 | 231953.5307 | 13.6310 | |
| CA-B19 | 58 | 1268535.4887 | 231830.3647 | 13.6090 | |
| CA-B2 | 21 | 1268407.4166 | 231948.5984 | 13.5830 | |
| CA-B20 | 60 | 1268555.4820 | 231830.0056 | 13.6270 | |
| CA-B21 | 62 | 1268575.2969 | 231829.0438 | 13.6290 | |
| CA-B3 | 18 | 1268407.0698 | 231933.5793 | 13.6590 | |
| CA-B4 | 13 | 1268406.2681 | 231913.6453 | 13.5980 | |
| CA-B5 | 9 | 1268405.7996 | 231893.2516 | 13.6010 | |
| CA-B6 | 5 | 1268405.1649 | 231873.4354 | 13.6480 | |
| CA-B7 | 85 | 1268404.4919 | 231849.1177 | 13.6470 | |
| CA-B8 | 82 | 1268404.0263 | 231828.6359 | 13.5780 | |
| CA-B9 | 45 | 1268492.6044 | 232005.8775 | 13.6320 | |
| CA-C1 | 23 | 1268407.5695 | 231963.3523 | 13.6100 | |
| CA-C10 | 37 | 1268491.6869 | 231961.0413 | 13.5620 | |
| CA-C11 | 33 | 1268490.9308 | 231940.9401 | 13.6790 | |

No 17 or 63

| CA Well ID | ID | Easting | Northing | Elevation | Survey Elevation Minus 0.025 |
|---|---|---|---|---|---|
| CA-C12 | 46 | 1268490.5194 | 231921.2482 | 13.5260 | |
| CA-C13 | 50 | 1268490.1098 | 231900.8870 | 13.5900 | |
| CA-C2 | 20 | 1268404.0620 | 231943.6197 | 13.6660 | |
| CA-C3 | 16 | 1268406.7216 | 231928.6176 | 13.6350 | |
| CA-C4 | 12 | 1268405.9552 | 231908.5417 | 13.5490 | |
| CA-C5 | 8 | 1268405.5890 | 231888.3094 | 13.6080 | |
| CA-C6 | 88 | 1268404.9296 | 231868.2707 | 13.6340 | |
| CA-C7 | 84 | 1268404.0285 | 231843.4427 | 13.6190 | |
| CA-C8 | 44 | 1268492.7245 | 232000.7658 | 13.6000 | |
| CA-C9 | 41 | 1268492.1989 | 231980.7567 | 13.5950 | |
| CA-D1 | 15 | 1268406.7449 | 231923.4733 | 13.6210 | |
| CA-D2 | 11 | 1268406.0036 | 231903.9079 | 13.6390 | |
| CA-D3 | 7 | 1268405.7766 | 231883.3730 | 13.5970 | |
| CA-D4 | 87 | 1268404.6746 | 231863.5897 | 13.6710 | |
| CA-D5 | 40 | 1268492.0582 | 231976.0067 | 13.5750 | |
| CA-D6 | 36 | 1268491.5813 | 231955.3972 | 13.6470 | |
| CA-D7 | 32 | 1268491.1921 | 231935.8728 | 13.5910 | |
| CA-D8 | 47 | 1268490.4091 | 231915.6922 | 13.6550 | |
| MW-165 | 68 | 1268581.9420 | 231970.3950 | 13.6050 | 13.580 |
| MW-166 | 69 | 1268587.1399 | 231970.3239 | 13.6090 | 13.584 |
| MW-167 | 71 | 1268581.9737 | 231965.1485 | 13.6070 | 13.582 |
| MW-168 | 70 | 1268586.8925 | 231964.7294 | 13.5780 | 13.553 |
| MW-169 | 28 | 1268461.8247 | 231922.8376 | 13.5710 | 13.546 |
| MW-170 | 29 | 1268466.6953 | 231922.9539 | 13.5830 | 13.558 |
| MW-171 | 27 | 1268461.5907 | 231917.6479 | 13.5160 | 13.491 |
| MW-172 | 26 | 1268467.3104 | 231917.8735 | 13.5630 | 13.538 |
| MW-173 | 77 | 1268584.4204 | 231917.8593 | 13.5890 | 13.564 |
| MW-174 | 76 | 1268584.4995 | 231913.4498 | 13.5930 | 13.568 |
| MW-175 | 75 | 1268584.4171 | 231908.0092 | 13.5850 | 13.560 |
| MW-176 | 74 | 1268583.9765 | 231902.7587 | 13.5730 | 13.548 |
| MW-177 | 4 | 1268393.1785 | 231887.1229 | 13.6340 | 13.609 |
| MW-178 | 3 | 1268397.5624 | 231887.2946 | 13.6300 | 13.605 |
| MW-179 | 1 | 1268393.1693 | 231882.0004 | 13.6450 | 13.620 |
| MW-180 | 2 | 1268397.4891 | 231882.4029 | 13.6330 | 13.608 |
| MW-181 | 80 | 1268430.9954 | 231834.4641 | 13.6100 | 13.585 |
| MW-182 | 79 | 1268435.6533 | 231834.6349 | 13.6110 | 13.586 |
| MW-183 | 81 | 1268430.7127 | 231829.3247 | 13.5740 | 13.549 |
| MW-184 | 78 | 1268435.3508 | 231829.3899 | 13.6020 | 13.577 |
| MW-185 | 53 | 1268522.1026 | 231840.3348 | 13.6220 | 13.597 |
| MW-186 | 56 | 1268527.2613 | 231840.7648 | 13.5990 | 13.574 |
| MW-187 | 54 | 1268521.7364 | 231835.5686 | 13.5840 | 13.559 |
| MW-188 | 55 | 1268527.2438 | 231835.5146 | 13.6130 | 13.588 |

| PNT # | NORTHING | EASTING | ELEVATION | DESSCRIPTION |
|---|---|---|---|---|
| 1000 | 231666.39 | 1268530.61 | 52.30 | WMW IWS-03 RIM (NORTHERN EDGE) |
| 1001 | 231666.01 | 1268530.61 | 51.96 | WMW IWS-03 INNER MONUMENT RIM |
| 1002 | 231642.72 | 1268530.59 | 53.18 | WMW IWS-07 RIM (NORTHERN EDGE) |
| 1003 | 231642.38 | 1268530.60 | 52.77 | WMW IWS-07 INNER MONUMENT RIM |
| 1004 | 231619.35 | 1268528.73 | 54.28 | WMW IWS-10 RIM (NORTHERN EDGE) |
| 1005 | 231619.07 | 1268528.72 | 53.93 | WMW IWS-10 INNER MONUMENT RIM |
| 1006 | 231602.81 | 1268506.69 | 54.97 | WMW IWS-09 RIM (NORTHERN EDGE) |
| 1007 | 231602.50 | 1268506.72 | 54.55 | WMW IWS-09 INNER MONUMENT RIM |
| 1008 | 231628.15 | 1268506.08 | 54.22 | WMW IWS-06 RIM (NORTHERN EDGE) |
| 1009 | 231627.84 | 1268506.07 | 53.87 | WMW IWS-06 INNER MONUMENT RIM |
| 1010 | 231650.35 | 1268507.90 | 53.29 | WMW IWS-02 RIM (NORTHERN EDGE) |
| 1011 | 231650.00 | 1268507.89 | 52.91 | WMW IWS-02 INNER MONUMENT RIM |
| 1012 | 231621.83 | 1268486.69 | 54.69 | WMW IWS-05 RIM (NORTHERN EDGE) |
| 1013 | 231621.53 | 1268486.71 | 54.24 | WMW IWS-05 INNER MONUMENT RIM |
| 1014 | 231621.18 | 1268465.13 | 55.65 | WMW IWS-01 RIM (NORTHERN EDGE) |
| 1015 | 231620.87 | 1268465.10 | 55.38 | WMW IWS-01 INNER MONUMENT RIM |
| 1016 | 231602.87 | 1268469.61 | 55.70 | WMW IWS-04 RIM (NORTHERN EDGE) |
| 1017 | 231602.58 | 1268469.61 | 55.38 | WMW IWS-04 INNER MONUMENT RIM |
| 1018 | 231588.09 | 1268483.40 | 55.79 | WMW IWS-08 RIM (NORTHERN EDGE) |
| 1019 | 231587.80 | 1268483.37 | 55.48 | WMW IWS-08 INNER MONUMENT RIM |

# APPENDIX H

# PERIMETER INJECTION WELL GROUNDWATER DATA

# Table H-1
## Perimeter Injection Wells - Groundwater Volatile Organic Compounds
## American Linen Supply Co.–Dexter Avenue Site
## 700 Dexter Avenue North, Seattle, Washington

| Sample Location | Area Location | Sample Date | Analytical Results (micrograms per liter) | | | |
|---|---|---|---|---|---|---|
| | | | PCE | TCE | cDCE | VC |
| | **Proposed Cleanup Levels** | | **5.0** | **4** | **16** | **0.29** |
| **Perimeter Injection Zone A** | | | | | | |
| PRB-A1 | 8th Ave N ROW | 09/15/20 | **24.6** | **25.6** | **649** | **45.2** |
| PRB-A5 | 8th Ave N ROW | 09/17/20 | **0.056 J** | **0.0990** | **523** | **299** |
| PRB-A11 | 8th Ave N ROW | 09/16/20 | **446** | **336** | **2,030** | **237** |
| (duplicate) | | 09/16/20 | **454** | **320** | **2,000** | **234** |
| PRB-A14 | Roy St ROW | 09/17/20 | **0.522** | **2.51** | **577** | **262** |
| PRB-A17 | Roy St ROW | 09/15/20 | 0.700 U | **2.46** | **1,400** | **1,270** |
| PRB-A19 | Roy St ROW | 09/14/20 | **59.2** | **24.2** | **1,100** | **3,360** |
| PRB-A23 | Roy St ROW | 09/14/20 | **0.225** | **0.110** | **1.04** | **2.48** |
| **Perimeter Injection Zone B** | | | | | | |
| PRB-B1 | 8th Ave N ROW | 09/15/20 | **1,070** | **827** | **1,440** | **7.17** |
| PRB-B4 | 8th Ave N ROW | 09/17/20 | **0.128** | **2.48** | **853** | **723** |
| PRB-B11 | 8th Ave N ROW | 09/16/20 | **0.818** | **35.9** | **465** | **344** |
| PRB-B14 | Roy St ROW | 09/14/20 | 0.0280 U | **0.116** | **16.6** | **291** |
| PRB-B17 | Roy St ROW | 09/15/20 | **0.158** | **0.312** | **5.03** | **30.6 J** |
| PRB-B19 | Roy St ROW | 09/18/20 | 0.0280 U | **0.500 J** | **16.8** | **446** |
| PRB-B23 | Roy St ROW | 09/18/20 | 0.0280 U | 0.0160 U | **0.646** | **15.6** |
| **Perimeter Injection Zone C** | | | | | | |
| PRB-C1 | 8th Ave N ROW | 09/15/20 | **0.0900 J** | **0.191** | **0.381** | **5.77** |
| PRB-C5 | 8th Ave N ROW | 09/17/20 | **0.068 J** | **0.141** | **217** | **350** |
| PRB-C11 | 8th Ave N ROW | 09/16/20 | **0.477** | **0.268** | **5.97** | **24.7** |
| PRB-C14 | Roy St ROW | 09/17/20 | 0.0280 U | **0.0814** | **0.127** | **0.575** |
| PRB-C17 | Roy St ROW | 09/15/20 | **0.187** | **0.252** | **9.92** | **7.99 J** |
| PRB-C19 | Roy St ROW | 09/14/20 | 0.0280 U | 0.0160 U | **0.301** | **0.61** |
| PRB-C23 | Roy St ROW | 09/14/20 | 0.0280 U | 0.0160 U | 0.0276 U | 0.0273 U |
| **Perimeter Injection Zone D** | | | | | | |
| PRB-D1 | 8th Ave N ROW | 09/15/20 | **0.045 J** | **0.141** | **7.96** | **22.6** |
| PRB-D4 | 8th Ave N ROW | 09/17/20 | **0.0870 J** | **0.447** | **480** | **530** |
| PRB-D11 | 8th Ave N ROW | 09/16/20 | 0.0280 U | 0.0160 U | **6.63** | **6.73** |
| PRB-D13 | Roy St ROW | 09/18/20 | **0.178** | **0.078** | **0.869** | **3.27** |
| PRB-D17 | Roy St ROW | 09/21/20 | **0.0750 J** | **0.086** | **100** | **476** |
| PRB-D20 | Roy St ROW | 09/18/20 | **14.1** | **22.3** | **1,010** | **813** |
| PRB-D23 | Roy St ROW | 09/18/20 | 0.0280 U | 0.0160 U | **0.113** | 0.0273 U |
| (duplicate) | | 09/18/20 | 0.0280 U | 0.0160 U | 0.0276 U | 0.0273 U |

Notes:

Petroleum hydrocarbons analyzed by NWTPH-Gx.

VOCs analyzed by EPA Method 8260D.

PCE = perchloroethylene (tetrachloroethene)

TCE = trichloroethene

tDCE = trans-1,2-dichloroethene

cDCE = cis-1,2-dichloroethene

VC = vinyl chloride

Approximate well screen elevations are indicated by treatment zones.

U = not detected at or above the laboratory method detection limit (MDL).

Detected results shown in **bold**, detections above the screening level highlighted in gray.

J = the identification of the analyte is acceptable; the reported value is an estimate.

(duplicate) = field duplicate.

# Table H-2

## Perimeter Injection Wells - Groundwater Natural Attenuation Parameters
## American Linen Supply Co Dexter Ave Site
## 700 Dexter Avenue North, Seattle, Washington

| Sample Location | Location Description | Sample Date | Alkalinity (mg $CaCO_3$/L) | Chloride (mg/L) | Nitrate (mg/L) | Sulfate (mg/L) | TOC (mg/L) | Iron (mg/L) | | | Total Manganese (mg/L) | Dissolved Gases (µg/L) | | | Natural Attenuation Score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Ferrous | Ferric | | Methane | Ethane | Ethene | |
| **Perimeter Injection Zone A** | | | | | | | | | | | | | | | |
| PRB-A1 | 8th Ave N ROW, W side | 09/15/20 | **373** | **27.6** | 0.0480 U | **63.4** | **8.92** | **12.7** | **2.0** | **11** | **1.65** | **2,350** | **26.4** | **17.1** | 23 |
| PRB-A5 | 8th Ave N ROW, W side | 09/17/20 | **543** | **20** | 0.0480 U | **75.4** | **14.2** | **9.04** | **3.8** | **5.2** | **2.09** | **12,900** | **65.6** | **70.3** | 22 |
| PRB-A11 | 8th Ave N ROW, W side | 09/16/20 | **271** | **30.5** | 0.0480 U | **37.4 J** | **5.62** | **7.35 J** | – | – | **0.905** | **1,170 J** | **56.2 J** | **27.6 J** | 21 |
| (dup) | | 09/16/20 | **252** | **31.1** | 0.0480 U | **34.2 J** | **5.67** | **4.79 J** | **1.8** | **3.0** | **0.823** | **1,710 J** | **69.7 J** | **37.1 J** | 21 |
| PRB-A14 | Roy Street ROW, N side | 09/17/20 | **234** | **26.2** | 0.0480 U | **201** | **2.48** | **2.63** | – | – | **0.565** | **419** | 0.296 U | **27.6** | 13 |
| PRB-A17 | Roy St ROW, N side | 09/15/20 | **284** | **26.5** | 0.0480 U | **57.6** | **2.37** | **5.32** | **2.6** | **2.7** | **2.12** | **3,010** | 0.296 U | **69.9** | 18 |
| PRB-A19 | Roy St ROW, N side | 09/14/20 | **236** | **26.4** | 0.0480 U | **34.2** | **2.06** | **5.21** | **3.5** | **1.7** | **0.735** | **6,380** | 0.296 U | 0.422 U | 17 |
| PRB-A23 | Roy St ROW, N side | 09/14/20 | **382** | **28.9** | 0.0480 U | **4.31 J** | **29.7** | **13.3** | **3.2** | **10** | **2.33** | **25,400** | **589** | **259** | 25 |
| **Perimeter Injection Zone B** | | | | | | | | | | | | | | | |
| PRB-B1 | 8th Ave N ROW, W side | 09/15/20 | **245** | **21** | 0.0480 U | **90.7** | **8.30** | **5.14** | **1.4** | **3.7** | **1.74** | **558** | **7.5** | 0.422 U | 19 |
| PRB-B4 | 8th Ave N ROW, W side | 09/17/20 | **696** | **58.7** | 0.0480 U | **44.3** | **30.7** | **22.2** | **5.5** | **17** | **1.91** | **29,100** | **609** | **671** | 26 |
| PRB-B11 | 8th Ave N ROW, W side | 09/16/20 | **450** | **53.8** | 0.0480 U | **189** | **4.77** | **5.40** | **1.8** | **3.6** | **0.812** | **1,480** | **277** | **211** | 20 |
| PRB-B14 | Roy St ROW, N side | 09/14/20 | **408** | **67.1** | 0.0480 U | **61.3** | **7.36** | **2.44** | **0.6** | **1.8** | **0.723** | **5,080** | **65** | **650** | 20 |
| PRB-B17 | Roy St ROW, N side | 09/15/20 | **144** | **99.5** | 0.0480 U | **79.4** | **6.39** | **2.11** | **0.0** | **2.1** | **0.462** | **906** | 0.296 U | 0.422 U | 14 |
| PRB-B19 | Roy St ROW, N side | 09/18/20 | **255** | **30.9** | 0.0480 U | **26.6** | **5.33** | **4.26** | **0.4** | **3.9** | **0.680** | **54.7** | 0.296 U | 0.422 U | 10 |
| PRB-B23 | Roy St ROW, N side | 09/18/20 | **433** | **45.3** | 0.0480 U | **62.0** | **37.0** | **4.45** | **0.4** | **4.1** | **0.416** | **10,800** | 0.296 U | **2,010** | 17 |
| **Perimeter Injection Zone C** | | | | | | | | | | | | | | | |
| PRB-C1 | 8th Ave N ROW, W side | 09/15/20 | **271** | **31.9** | 0.0480 U | **6.28** | **3.10** | **2.84** | **0.0** | **2.8** | **0.299** | **855** | 0.296 U | **8.18** | 15 |
| PRB-C5 | 8th Ave N ROW, W side | 09/17/20 | **590** | **31.1** | 0.0480 U | **60.5** | **16.0** | **4.92** | **1.6** | **3.3** | **0.778** | **11,200** | **58.1** | **112** | 23 |
| PRB-C11 | 8th Ave N ROW, W side | 09/16/20 | **235** | **23** | 0.0480 U | **45.2** | **1.99** | **13.6** | **0.4** | **13** | **0.545** | **763** | **3.36** | **7.63** | 13 |
| PRB-C14 | Roy Street ROW, N side | 09/17/20 | **227** | **47.2** | 0.0480 U | **88.3** | **3.06** | **6.24** | **0.4** | **5.8** | **0.240** | **266** | 0.296 U | **8.29** | 10 |
| PRB-C17 | Roy St ROW, N side | 09/15/20 | **95.7** | **92.4** | 0.0480 U | **85.8** | **18.1** | **15.4** | **0.4** | **15** | **1.07** | **1,260** | 0.296 U | **8.21** | 11 |

# Table H-2

## Perimeter Injection Wells - Groundwater Natural Attenuation Parameters
## American Linen Supply Co Dexter Ave Site
## 700 Dexter Avenue North, Seattle, Washington

| Sample Location | Location Description | Sample Date | Alkalinity (mg $CaCO_3$/L) | Chloride (mg/L) | Nitrate (mg/L) | Sulfate (mg/L) | TOC (mg/L) | Iron (mg/L) | | | Total Manganese (mg/L) | Dissolved Gases (µg/L) | | | Natural Attenuation Score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Ferrous | Ferric | | Methane | Ethane | Ethene | |
| PRB-C19 | Roy St ROW, N side | 09/14/20 | **184** | **16.3** | 0.0480 U | **18.5** | **1.30** | **2.37** | **0.0** | **2.4** | **0.219** | **319** | 0.296 U | 0.422 U | 13 |
| PRB-C23 | Roy St ROW, N side | 09/14/20 | **266** | **33.6** | 0.0480 U | **71.9** | **5.19** | **4.14** | **0.6** | **3.5** | **0.378** | **2,980** | 0.296 U | 0.422 U | 10 |
| **Perimeter Injection Zone D** | | | | | | | | | | | | | | | |
| PRB-D1 | 8th Ave N ROW, W side | 09/15/20 | **277** | **22.5** | 0.0480 U | **26.0** | **2.49** | **5.26** | **0.0** | **5.3** | **0.493** | **835** | 0.296 U | 0.422 U | 14 |
| PRB-D4 | 8th Ave N ROW, W side | 09/17/20 | **713** | **56.7** | 0.0480 U | **48.0** | **32.7** | **19.1** | **5.0** | **14** | **1.96** | **19,800** | **343** | **468** | 26 |
| PRB-D11 | 8th Ave N ROW, W side | 09/16/20 | **238** | **24.7** | 0.0480 U | **112** | **3.97** | **2.80** | – | – | **0.749** | **2,350** | 0.296 U | **15.2** | 13 |
| PRB-D13 | Roy St ROW, N side | 09/18/20 | **200** | **22.8** | 0.0480 U | **149** | **2.11** | **15.3** | – | – | **0.756** | **453** | 0.296 U | 0.422 U | 10 |
| PRB-D17 | Roy St ROW, N side | 09/21/20 | **261** | **39** | 0.0480 UJ | **20.0** | **6.53** | **8.34** | **1.1** | **7.2** | **1.06** | **10,500** | **9.58** | **671** | 19 |
| PRB-D20 | Roy St ROW, N side | 09/18/20 | **230** | **25.7** | 0.0480 U | **25.7** | **4.98** | **4.41** | **0.4** | **4.0** | **1.41** | **420** | 0.296 U | 0.422 U | 10 |
| PRB-D23 | Roy St ROW, N side | 09/18/20 | **173** | **27.9** | **0.0503 J** | **6.65** | **2.53** | **17.4 J** | – | – | **0.395** | **48.4** | 0.296 U | 0.422 U | 12 |
| (dup) | | 09/18/20 | **176** | **28.5** | 0.0480 U | **6.43** | **2.96** | **9.58 J** | – | – | **0.268** | 2.87 U | **16.3** | **170** | 13 |

**Notes:**
Alkalinity analyzed by EPA Method 2320.
Anions analyzed by EPA Method 9056A.
Total Organic Carbon (TOC) analyzed by EPA Method 9060A.
Metals Analyzed by EPA Method 6020B.
Ferrous Iron measured during field sampling using a Hach field kit.
Dissolved gases analyzed by EPA Method RSK175.
Ferric iron = total iron minus ferrous iron; if total iron < ferrous iron, ferric iron is reported as zero ("0").
mg$CaCO_3$/L= milligrams of calcium carbonate per liter.
mg/L = milligrams per liter.
ug/L = micrograms per liter.
U = Not detected at or above the laboratory method detection limit (MDL).
Detected results shown in bold.
J = The identification of the analyte is accetable; the reported value is an estimate.
– = Not sampled or results not available.
(dup) = field duplicate.
Evaluation of total screening score:

| | | | |
|---|---|---|---|
| 0 - 5 | Inadequate evidence for anaerobic biodegradation of CVOCs. | 15 - 20 | Adequate evidence for anaerobic biodegradation of CVOCs. |
| 6 - 14 | Limited evidence for anaerobic biodegradation of CVOCs. | >20 | Strong evidence for anaerobic biodegradation of CVOCs. |

# Table H-3

## Perimeter Injection Wells - Groundwater Field Parameters
## American Linen Supply Co Dexter Ave Site
## 700 Dexter Avenue North, Seattle, Washington

| Sample Location | Property | Sample Date | pH | Specific Conductance (µS/cm) | Temperature (°C) | Turbidity (NTUs) | Dissolved Oxygen (mg/L) | ORP (mV) | Ferrous Iron (mg/L) |
|---|---|---|---|---|---|---|---|---|---|
| **Treatment Zone A Perimeter Injection Wells** | | | | | | | | | |
| PRB-A1 | 8th Ave N ROW, W side | 09/15/20 | 6.89 | 886 | 19.3 | 112 | 0.28 | -40 | 2.0 |
| PRB-A5 | 8th Ave N ROW, W side | 09/17/20 | 6.67 | 1,167 | 12.1 | 234 | 0.28 | 129 | 3.8 |
| PRB-A11 | 8th Ave N ROW, W side | 09/16/20 | 6.90 | 640 | 17.6 | 66 | 0.30 | 196 | 1.8 |
| PRB-A14 | Roy Street ROW, N side | 09/17/20 | 7.21 | 865 | 19.0 | 60 | 0.51 | 33 | – |
| PRB-A17 | Roy St ROW, N side | 09/15/20 | 7.00 | 694 | 19.5 | 44 | 0.54 | 128 | 2.6 |
| PRB-A19 | Roy St ROW, N side | 09/14/20 | 7.13 | 601 | 19.3 | 83 | 0.53 | 31 | 3.5 |
| PRB-A23 | Roy St ROW, N side | 09/14/20 | 6.80 | 808 | 18.3 | 652 | 0.26 | 140 | 3.2 |
| **Treatment Zone B Perimeter Injection Wells** | | | | | | | | | |
| PRB-B1 | 8th Ave N ROW, W side | 09/15/20 | 6.70 | 686 | 19.4 | 21 | 0.31 | 709 | 1.4 |
| PRB-B4 | 8th Ave N ROW, W side | 09/17/20 | 6.94 | 1,480 | 21.3 | 49 | 0.25 | -87 | 5.5 |
| PRB-B11 | 8th Ave N ROW, W side | 09/16/20 | 7.13 | 1,245 | 17.6 | 19 | 0.58 | 140 | 1.8 |
| PRB-B14 | Roy St ROW, N side | 09/14/20 | 7.93 | 1,029 | 18.1 | 41 | 0.35 | 143 | 0.6 |
| PRB-B17 | Roy St ROW, N side | 09/15/20 | 8.36 | 745 | 22.3 | 20 | 0.56 | -14 | 0.0 |
| PRB-B19 | Roy St ROW, N side | 09/18/20 | 7.74 | 612 | 19.7 | 135 | 0.89 | 141 | 0.4 |
| PRB-B23 | Roy St ROW, N side | 09/18/20 | 7.96 | 1,023 | 19.2 | 203 | 0.74 | 148 | 0.4 |
| **Treatment Zone C Perimeter Injection Wells** | | | | | | | | | |
| PRB-C1 | 8th Ave N ROW, W side | 09/15/20 | 7.68 | 606 | 19.2 | 63 | 0.71 | 134 | 0.0 |
| PRB-C5 | 8th Ave N ROW, W side | 09/17/20 | 7.09 | 1,264 | 21.1 | 367 | 0.26 | 132 | 1.6 |
| PRB-C11 | 8th Ave N ROW, W side | 09/16/20 | 7.37 | 571 | 18.4 | 687 | 0.64 | 135 | 0.4 |
| PRB-C14 | Roy Street ROW, N side | 09/17/20 | 7.95 | 721 | 18.7 | 467 | 0.87 | 752 | 0.4 |
| PRB-C17 | Roy St ROW, N side | 09/15/20 | 9.50 | 631 | 22.7 | 1,000 | 0.65 | 124 | 0.4 |
| PRB-C19 | Roy St ROW, N side | 09/14/20 | 7.73 | 442 | 19.1 | 155 | 0.38 | 133 | 0.0 |
| PRB-C23 | Roy St ROW, N side | 09/14/20 | 8.20 | 728 | 19.0 | 1,000 | 0.42 | 298 | 0.6 |
| **Treatment Zone D Perimeter Injection Wells** | | | | | | | | | |
| PRB-D1 | 8th Ave N ROW, W side | 09/15/20 | 7.64 | 630 | 21.0 | 100 | 0.66 | -20 | 0.0 |
| PRB-D4 | 8th Ave N ROW, W side | 09/17/20 | 6.98 | 1,512 | 23.1 | 98 | 0.48 | -30 | 5.0 |
| PRB-D11 | 8th Ave N ROW, W side | 09/16/20 | 7.67 | 701 | 17.6 | 21 | 0.55 | 925 | 0.6 |
| PRB-D13 | Roy St ROW, N side | 09/18/20 | 7.41 | 717 | 19.1 | 232 | 0.63 | 66 | – |
| PRB-D17 | Roy St ROW, N side | 09/21/20 | 6.55 | 669 | 19.1 | 121 | 0.60 | 171 | 1.1 |
| PRB-D20 | Roy St ROW, N side | 09/18/20 | 7.02 | 547 | 19.5 | 351 | 0.57 | 120 | 0.4 |
| PRB-D23 | Roy St ROW, N side | 09/18/20 | 7.91 | 441 | 19.0 | 228 | 0.45 | 0 | – |

**Notes:**

µS/cm = microSiemens per centimeter.

°C = Degrees Celsius.

NTUs = Nephelometric Turbidity Units.

mg/L = Milligrams per liter.

mV = millivolts.

– = Not measured.

# APPENDIX I

# LABORATORY DATA (PROVIDED ON A USB FLASH DRIVE)

# ANALYTICAL REPORT

November 14, 2022



## PES Environmental, Inc.- WA

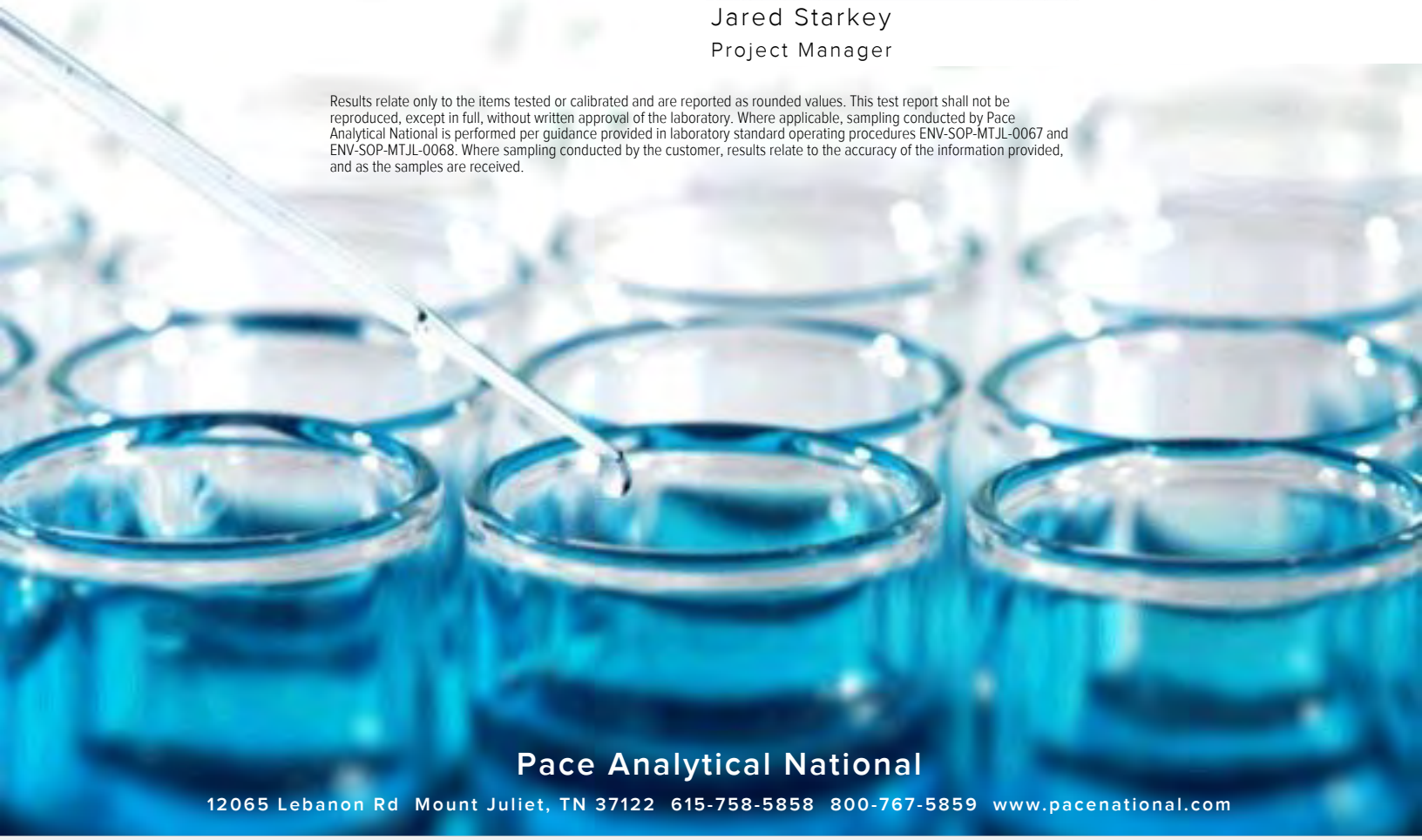
| | |
|---|---|
| Sample Delivery Group: | L1550357 |
| Samples Received: | 10/26/2022 |
| Project Number: | 1413.001.10.701.02 |
| Description: | American Linen |

Report To: Brian O'Neal/Bill Haldeman
2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## MW-181-102522 L1550357-01 GW

Collected by: Natalie Wisdom | Collected date/time: 10/25/22 10:06 | Received date/time: 10/26/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1953731 | 1 | 11/07/22 10:05 | 11/07/22 10:05 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1949105 | 1 | 10/26/22 19:07 | 10/26/22 19:07 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1954494 | 1 | 11/05/22 10:30 | 11/05/22 10:30 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1956346 | 1 | 11/09/22 11:26 | 11/11/22 20:45 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1949742 | 1 | 10/27/22 14:02 | 10/27/22 14:02 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1949953 | 10 | 10/28/22 11:42 | 10/28/22 11:42 | CMS | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1949984 | 200 | 10/29/22 03:04 | 10/29/22 03:04 | JAH | Mt. Juliet, TN |

## MW-182-102522 L1550357-02 GW

Collected by: Natalie Wisdom | Collected date/time: 10/25/22 11:50 | Received date/time: 10/26/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1953731 | 1 | 11/07/22 10:09 | 11/07/22 10:09 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1949105 | 1 | 10/26/22 19:57 | 10/26/22 19:57 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1949105 | 5 | 10/26/22 20:12 | 10/26/22 20:12 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1954494 | 1 | 11/05/22 10:49 | 11/05/22 10:49 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1956346 | 1 | 11/09/22 11:26 | 11/11/22 20:49 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1949742 | 1 | 10/27/22 14:13 | 10/27/22 14:13 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1949953 | 10 | 10/28/22 11:45 | 10/28/22 11:45 | CMS | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1949984 | 1000 | 10/29/22 03:25 | 10/29/22 03:25 | JAH | Mt. Juliet, TN |

## MW-178-102522 L1550357-03 GW

Collected by: Natalie Wisdom | Collected date/time: 10/25/22 13:52 | Received date/time: 10/26/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1953739 | 1 | 11/07/22 08:18 | 11/07/22 08:18 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1949105 | 1 | 10/26/22 20:57 | 10/26/22 20:57 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1954494 | 1 | 11/05/22 11:08 | 11/05/22 11:08 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1956346 | 1 | 11/09/22 11:26 | 11/11/22 20:52 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1949742 | 1 | 10/27/22 14:20 | 10/27/22 14:20 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1949953 | 10 | 10/28/22 11:51 | 10/28/22 11:51 | CMS | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1949984 | 200 | 10/29/22 03:46 | 10/29/22 03:46 | JAH | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 553000 | | 8450 | 20000 | 1 | 11/07/2022 10:05 | WG1953731 |

Sample Narrative:

L1550357-01 WG1953731: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 95700 | | 379 | 1000 | 1 | 10/26/2022 19:07 | WG1949105 |
| Nitrate | 234 | P1 | 48.0 | 100 | 1 | 10/26/2022 19:07 | WG1949105 |
| Sulfate | 1360 | J P1 | 594 | 5000 | 1 | 10/26/2022 19:07 | WG1949105 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 28800 | | 102 | 1000 | 1 | 11/05/2022 10:30 | WG1954494 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 12100 | | 28.1 | 100 | 1 | 11/11/2022 20:45 | WG1956346 |
| Manganese | 1660 | | 0.704 | 5.00 | 1 | 11/11/2022 20:45 | WG1956346 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 25300 | | 2.87 | 6.78 | 10 | 10/28/2022 11:42 | WG1949953 |
| Ethane | 282 | | 0.296 | 1.29 | 1 | 10/27/2022 14:02 | WG1949742 |
| Ethene | 3550 | | 0.422 | 1.27 | 1 | 10/27/2022 14:02 | WG1949742 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 110 | 200 | 200 | 10/29/2022 03:04 | WG1949984 |
| Acrylonitrile | U | | 15.2 | 100 | 200 | 10/29/2022 03:04 | WG1949984 |
| Benzene | 6.60 | J | 3.20 | 8.00 | 200 | 10/29/2022 03:04 | WG1949984 |
| Bromobenzene | U | | 8.40 | 100 | 200 | 10/29/2022 03:04 | WG1949984 |
| Bromodichloromethane | U | | 6.30 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Bromoform | U | | 47.8 | 200 | 200 | 10/29/2022 03:04 | WG1949984 |
| Bromomethane | U | | 29.6 | 100 | 200 | 10/29/2022 03:04 | WG1949984 |
| n-Butylbenzene | U | | 30.6 | 100 | 200 | 10/29/2022 03:04 | WG1949984 |
| sec-Butylbenzene | U | | 20.2 | 100 | 200 | 10/29/2022 03:04 | WG1949984 |
| tert-Butylbenzene | U | | 12.4 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Carbon tetrachloride | U | | 8.64 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Chlorobenzene | U | | 4.58 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Chlorodibromomethane | U | | 3.60 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Chloroethane | U | | 8.64 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Chloroform | U | | 3.32 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Chloromethane | U | | 11.1 | 100 | 200 | 10/29/2022 03:04 | WG1949984 |
| 2-Chlorotoluene | U | | 7.36 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 4-Chlorotoluene | U | | 9.04 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,2-Dibromo-3-Chloropropane | U | | 40.8 | 200 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,2-Dibromoethane | U | | 4.20 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 8.00 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,2-Dichlorobenzene | U | | 11.6 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,3-Dichlorobenzene | U | | 13.6 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,4-Dichlorobenzene | U | | 15.8 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Dichlorodifluoromethane | U | | 6.54 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,1-Dichloroethane | U | | 4.60 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,2-Dichloroethane | U | | 3.80 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,1-Dichloroethene | 24.0 | | 4.00 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| cis-1,2-Dichloroethene | 5150 | | 5.52 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| trans-1,2-Dichloroethene | 31.0 | J | 11.4 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,2-Dichloropropane | U | | 10.2 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,1-Dichloropropene | U | | 5.60 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,3-Dichloropropane | U | | 14.0 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| cis-1,3-Dichloropropene | U | | 5.42 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| trans-1,3-Dichloropropene | U | | 12.2 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 2,2-Dichloropropane | U | | 6.34 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Di-isopropyl ether | U | | 2.80 | 8.00 | 200 | 10/29/2022 03:04 | WG1949984 |
| Ethylbenzene | U | | 4.24 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | 102 | 200 | 200 | 10/29/2022 03:04 | WG1949984 |
| Isopropylbenzene | U | J4 | 6.90 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| p-Isopropyltoluene | U | | 18.6 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 2-Butanone (MEK) | U | | 100 | 200 | 200 | 10/29/2022 03:04 | WG1949984 |
| Methylene Chloride | U | | 53.0 | 200 | 200 | 10/29/2022 03:04 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | 80.0 | 200 | 200 | 10/29/2022 03:04 | WG1949984 |
| Methyl tert-butyl ether | U | | 2.36 | 8.00 | 200 | 10/29/2022 03:04 | WG1949984 |
| Naphthalene | U | | 24.8 | 100 | 200 | 10/29/2022 03:04 | WG1949984 |
| n-Propylbenzene | U | | 9.44 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Styrene | U | | 21.8 | 100 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | J4 | 4.00 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | 3.12 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | 5.40 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Tetrachloroethene | U | | 5.60 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Toluene | 40.2 | | 10.0 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | 5.00 | 100 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | 38.6 | 100 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,1,1-Trichloroethane | U | | 2.20 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,1,2-Trichloroethane | U | | 7.06 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Trichloroethene | U | | 3.20 | 8.00 | 200 | 10/29/2022 03:04 | WG1949984 |
| Trichlorofluoromethane | U | | 4.00 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,2,3-Trichloropropane | U | | 40.8 | 100 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,2,4-Trimethylbenzene | U | | 9.28 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | 9.20 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | 8.64 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Vinyl chloride | 12200 | | 5.46 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Xylenes, Total | U | | 38.2 | 52.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Ethyl Ether | U | | 3.40 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Tetrahydrofuran | U | | 18.0 | 100 | 200 | 10/29/2022 03:04 | WG1949984 |
| Iodomethane | U | | 48.4 | 100 | 200 | 10/29/2022 03:04 | WG1949984 |
| Allyl chloride | U | | 116 | 200 | 200 | 10/29/2022 03:04 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | 11.2 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| *(S) Toluene-d8* | *115* | | | *75.0-131* | | *10/29/2022 03:04* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *116* | | | *67.0-138* | | *10/29/2022 03:04* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *94.4* | | | *70.0-130* | | *10/29/2022 03:04* | WG1949984 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 632000 | | 8450 | 20000 | 1 | 11/07/2022 10:09 | WG1953731 |

Sample Narrative:

L1550357-02 WG1953731: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 345000 | | 1900 | 5000 | 5 | 10/26/2022 20:12 | WG1949105 |
| Nitrate | 300 | | 48.0 | 100 | 1 | 10/26/2022 19:57 | WG1949105 |
| Sulfate | 2340 | J | 594 | 5000 | 1 | 10/26/2022 19:57 | WG1949105 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 47900 | | 102 | 1000 | 1 | 11/05/2022 10:49 | WG1954494 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 20500 | | 28.1 | 100 | 1 | 11/11/2022 20:49 | WG1956346 |
| Manganese | 3270 | | 0.704 | 5.00 | 1 | 11/11/2022 20:49 | WG1956346 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 31200 | | 2.87 | 6.78 | 10 | 10/28/2022 11:45 | WG1949953 |
| Ethane | 282 | | 0.296 | 1.29 | 1 | 10/27/2022 14:13 | WG1949742 |
| Ethene | 5090 | | 0.422 | 1.27 | 1 | 10/27/2022 14:13 | WG1949742 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 548 | 1000 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Acrylonitrile | U | | 76.0 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Benzene | U | | 16.0 | 40.0 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Bromobenzene | U | | 42.0 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Bromodichloromethane | U | | 31.5 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Bromoform | U | | 239 | 1000 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Bromomethane | U | | 148 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| n-Butylbenzene | U | | 153 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| sec-Butylbenzene | U | | 101 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| tert-Butylbenzene | U | | 62.0 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Carbon tetrachloride | U | | 43.2 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Chlorobenzene | U | | 22.9 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Chlorodibromomethane | U | | 18.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Chloroethane | U | | 43.2 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Chloroform | U | | 16.6 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Chloromethane | U | | 55.6 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 2-Chlorotoluene | U | | 36.8 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 4-Chlorotoluene | U | | 45.2 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,2-Dibromo-3-Chloropropane | U | | 204 | 1000 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,2-Dibromoethane | U | | 21.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 40.0 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,2-Dichlorobenzene | U | | 58.0 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,3-Dichlorobenzene | U | | 68.0 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,4-Dichlorobenzene | U | | 78.8 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Dichlorodifluoromethane | U | | 32.7 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,1-Dichloroethane | U | | 23.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,2-Dichloroethane | U | | 19.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,1-Dichloroethene | U | | 20.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| cis-1,2-Dichloroethene | 36600 | | 27.6 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| trans-1,2-Dichloroethene | 81.0 | J | 57.2 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,2-Dichloropropane | U | | 50.8 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,1-Dichloropropene | U | | 28.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,3-Dichloropropane | U | | 70.0 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| cis-1,3-Dichloropropene | U | | 27.1 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| trans-1,3-Dichloropropene | U | | 61.2 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 2,2-Dichloropropane | U | | 31.7 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Di-isopropyl ether | U | | 14.0 | 40.0 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Ethylbenzene | U | | 21.2 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | 508 | 1000 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Isopropylbenzene | U | J4 | 34.5 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| p-Isopropyltoluene | U | | 93.2 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 2-Butanone (MEK) | U | | 500 | 1000 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Methylene Chloride | U | | 265 | 1000 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | 400 | 1000 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Methyl tert-butyl ether | U | | 11.8 | 40.0 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Naphthalene | U | | 124 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| n-Propylbenzene | U | | 47.2 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Styrene | U | | 109 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | J4 | 20.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | 15.6 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | 27.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Tetrachloroethene | 155 | C5 | 28.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Toluene | 197 | J | 50.0 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | 25.0 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | 193 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,1,1-Trichloroethane | U | | 11.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,1,2-Trichloroethane | U | | 35.3 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Trichloroethene | 180 | | 16.0 | 40.0 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Trichlorofluoromethane | U | | 20.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,2,3-Trichloropropane | U | | 204 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,2,4-Trimethylbenzene | U | | 46.4 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | 46.0 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | 43.2 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Vinyl chloride | 24200 | | 27.3 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Xylenes, Total | U | | 191 | 260 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Ethyl Ether | U | | 17.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Tetrahydrofuran | U | | 90.0 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Iodomethane | U | | 242 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Allyl chloride | U | | 580 | 1000 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | 56.0 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| *(S) Toluene-d8* | *118* | | | *75.0-131* | | *10/29/2022 03:25* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *116* | | | *67.0-138* | | *10/29/2022 03:25* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *94.4* | | | *70.0-130* | | *10/29/2022 03:25* | WG1949984 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 754000 | | 8450 | 20000 | 1 | 11/07/2022 08:18 | WG1953739 |

Sample Narrative:

L1550357-03 WG1953739: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 134000 | | 379 | 1000 | 1 | 10/26/2022 20:57 | WG1949105 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/26/2022 20:57 | WG1949105 |
| Sulfate | 3920 | J | 594 | 5000 | 1 | 10/26/2022 20:57 | WG1949105 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 20100 | | 102 | 1000 | 1 | 11/05/2022 11:08 | WG1954494 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 16200 | | 28.1 | 100 | 1 | 11/11/2022 20:52 | WG1956346 |
| Manganese | 2820 | | 0.704 | 5.00 | 1 | 11/11/2022 20:52 | WG1956346 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 20200 | | 2.87 | 6.78 | 10 | 10/28/2022 11:51 | WG1949953 |
| Ethane | 472 | | 0.296 | 1.29 | 1 | 10/27/2022 14:20 | WG1949742 |
| Ethene | 1220 | | 0.422 | 1.27 | 1 | 10/27/2022 14:20 | WG1949742 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 110 | 200 | 200 | 10/29/2022 03:46 | WG1949984 |
| Acrylonitrile | U | | 15.2 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| Benzene | U | | 3.20 | 8.00 | 200 | 10/29/2022 03:46 | WG1949984 |
| Bromobenzene | U | | 8.40 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| Bromodichloromethane | U | | 6.30 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Bromoform | U | | 47.8 | 200 | 200 | 10/29/2022 03:46 | WG1949984 |
| Bromomethane | U | | 29.6 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| n-Butylbenzene | U | | 30.6 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| sec-Butylbenzene | U | | 20.2 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| tert-Butylbenzene | U | | 12.4 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Carbon tetrachloride | U | | 8.64 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Chlorobenzene | U | | 4.58 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Chlorodibromomethane | U | | 3.60 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Chloroethane | U | | 8.64 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Chloroform | U | | 3.32 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Chloromethane | U | | 11.1 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| 2-Chlorotoluene | U | | 7.36 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 4-Chlorotoluene | U | | 9.04 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,2-Dibromo-3-Chloropropane | U | | 40.8 | 200 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,2-Dibromoethane | U | | 4.20 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 8.00 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,2-Dichlorobenzene | U | | 11.6 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,3-Dichlorobenzene | U | | 13.6 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,4-Dichlorobenzene | U | | 15.8 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Dichlorodifluoromethane | U | | 6.54 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,1-Dichloroethane | U | | 4.60 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,2-Dichloroethane | U | | 3.80 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,1-Dichloroethene | U | | 4.00 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| cis-1,2-Dichloroethene | 9440 | | 5.52 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| trans-1,2-Dichloroethene | 66.4 | | 11.4 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,2-Dichloropropane | U | | 10.2 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,1-Dichloropropene | U | | 5.60 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,3-Dichloropropane | U | | 14.0 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| cis-1,3-Dichloropropene | U | | 5.42 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| trans-1,3-Dichloropropene | U | | 12.2 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 2,2-Dichloropropane | U | | 6.34 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Di-isopropyl ether | U | | 2.80 | 8.00 | 200 | 10/29/2022 03:46 | WG1949984 |
| Ethylbenzene | U | | 4.24 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | 102 | 200 | 200 | 10/29/2022 03:46 | WG1949984 |
| Isopropylbenzene | U | J4 | 6.90 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| p-Isopropyltoluene | U | | 18.6 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 2-Butanone (MEK) | U | | 100 | 200 | 200 | 10/29/2022 03:46 | WG1949984 |
| Methylene Chloride | U | | 53.0 | 200 | 200 | 10/29/2022 03:46 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | 80.0 | 200 | 200 | 10/29/2022 03:46 | WG1949984 |
| Methyl tert-butyl ether | U | | 2.36 | 8.00 | 200 | 10/29/2022 03:46 | WG1949984 |
| Naphthalene | U | | 24.8 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| n-Propylbenzene | U | | 9.44 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Styrene | U | | 21.8 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | J4 | 4.00 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | 3.12 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | 5.40 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Tetrachloroethene | U | | 5.60 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Toluene | 43.8 | | 10.0 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | 5.00 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | 38.6 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,1,1-Trichloroethane | U | | 2.20 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,1,2-Trichloroethane | U | | 7.06 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Trichloroethene | U | | 3.20 | 8.00 | 200 | 10/29/2022 03:46 | WG1949984 |
| Trichlorofluoromethane | U | | 4.00 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,2,3-Trichloropropane | U | | 40.8 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,2,4-Trimethylbenzene | U | | 9.28 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | 9.20 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | 8.64 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Vinyl chloride | 5850 | | 5.46 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Xylenes, Total | U | | 38.2 | 52.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Ethyl Ether | U | | 3.40 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Tetrahydrofuran | U | | 18.0 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| Iodomethane | U | | 48.4 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| Allyl chloride | U | | 116 | 200 | 200 | 10/29/2022 03:46 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | 11.2 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| *(S) Toluene-d8* | *117* | | | *75.0-131* | | *10/29/2022 03:46* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *117* | | | *67.0-138* | | *10/29/2022 03:46* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *94.9* | | | *70.0-130* | | *10/29/2022 03:46* | WG1949984 |

## Method Blank (MB)

(MB) R3857732-2 11/07/22 08:00

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1549867-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1549867-05 11/07/22 08:09 • (DUP) R3857732-3 11/07/22 08:13

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 85700 | 86600 | 1 | 0.956 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

## L1550276-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1550276-01 11/07/22 09:07 • (DUP) R3857732-4 11/07/22 09:12

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 318000 | 321000 | 1 | 1.05 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3857732-1 11/07/22 07:54

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 99400 | 99.4 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3857733-2 11/07/22 08:04

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1550567-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1550567-01 11/07/22 09:22 • (DUP) R3857733-4 11/07/22 09:28

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 498000 | 498000 | 1 | 0.125 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

## L1551100-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1551100-01 11/07/22 10:06 • (DUP) R3857733-6 11/07/22 10:12

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 243000 | 242000 | 1 | 0.198 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3857733-1 11/07/22 07:57

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 98800 | 98.8 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3855655-1 10/26/22 10:58

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1550276-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1550276-01 10/26/22 12:08 • (DUP) R3855655-3 10/26/22 12:23

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Nitrate | 4500 | 4500 | 1 | 0.00222 | | 15 |
| Sulfate | 193000 | 193000 | 1 | 0.0426 | | 15 |

## L1550276-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1550276-01 10/26/22 13:22 • (DUP) R3855655-4 10/26/22 12:38

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 265000 | 265000 | 5 | 0.291 | | 15 |

## L1550357-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1550357-01 10/26/22 19:07 • (DUP) R3855655-7 10/26/22 19:27

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 95700 | 95200 | 1 | 0.488 | | 15 |
| Nitrate | 234 | 356 | 1 | 41.2 | P1 | 15 |
| Sulfate | 1360 | 1600 | 1 | 16.5 | J P1 | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3855655-2 10/26/22 11:28

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 40300 | 101 | 80.0-120 | |
| Nitrate | 8000 | 7830 | 97.9 | 80.0-120 | |
| Sulfate | 40000 | 41400 | 103 | 80.0-120 | |

## L1550276-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1550276-01 10/26/22 12:08 • (MS) R3855655-5 10/26/22 12:53 • (MSD) R3855655-6 10/26/22 13:08

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 261000 | 298000 | 298000 | 74.8 | 75.2 | 1 | 80.0-120 | E V | E V | 0.0592 | 15 |
| Nitrate | 5000 | 4500 | 9090 | 9120 | 91.8 | 92.3 | 1 | 80.0-120 | | | 0.259 | 15 |
| Sulfate | 50000 | 193000 | 236000 | 236000 | 85.9 | 86.3 | 1 | 80.0-120 | E | E | 0.0965 | 15 |

## L1550357-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1550357-01 10/26/22 19:07 • (MS) R3855655-8 10/26/22 19:42

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 95700 | 141000 | 90.7 | 1 | 80.0-120 | |
| Nitrate | 5000 | 234 | 5320 | 102 | 1 | 80.0-120 | |
| Sulfate | 50000 | 1360 | 52600 | 102 | 1 | 80.0-120 | |

# QUALITY CONTROL SUMMARY

L1550357-01,02,03

## Method Blank (MB)

(MB) R3857435-2 11/05/22 07:49

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 191 | J | 102 | 1000 |

## L1550365-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1550365-15 11/05/22 11:39 • (DUP) R3857435-3 11/05/22 11:57

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 573 | 525 | 1 | 8.85 | J | 20 |

## L1550408-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1550408-01 11/05/22 14:56 • (DUP) R3857435-4 11/05/22 15:11

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 3670 | 3520 | 1 | 4.20 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3857435-1 11/05/22 07:34

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 73500 | 98.0 | 85.0-115 | |

## L1550519-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1550519-01 11/05/22 16:25 • (MS) R3857435-5 11/05/22 16:45 • (MSD) R3857435-6 11/05/22 17:09

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 1690 | 59000 | 54400 | 115 | 105 | 1 | 80.0-120 | | | 8.10 | 20 |

## L1550592-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1550592-01 11/05/22 17:24 • (MS) R3857435-7 11/05/22 17:49 • (MSD) R3857435-8 11/05/22 18:13

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 634 | 61000 | 60300 | 121 | 119 | 1 | 80.0-120 | J5 | | 1.19 | 20 |

## Method Blank (MB)

(MB) R3860192-1 11/11/22 19:33

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3860192-2 11/11/22 19:37

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Iron | 5000 | 5620 | 112 | 80.0-120 | |
| Manganese | 50.0 | 56.9 | 114 | 80.0-120 | |

## L1550592-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1550592-10 11/11/22 19:40 • (MS) R3860192-4 11/11/22 19:47 • (MSD) R3860192-5 11/11/22 19:50

| Analyte | Spike Amount ug/l | Original Result | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iron | 5000 | | 16200 | 16200 | 107 | 106 | 1 | 75.0-125 | | | 0.305 | 20 |
| Manganese | 50.0 | | 3070 | 3070 | 122 | 117 | 1 | 75.0-125 | | | 0.0897 | 20 |

## Method Blank (MB)

(MB) R3853844-2 10/27/22 11:27

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1550276-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1550276-01 10/27/22 12:46 • (DUP) R3853844-3 10/27/22 12:59

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1550276-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1550276-04 10/27/22 13:02 • (DUP) R3853844-4 10/27/22 14:58

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3853844-1 10/27/22 11:24 • (LCSD) R3853844-7 10/27/22 15:06

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Ethane | 129 | 117 | 113 | 90.7 | 87.6 | 85.0-115 | | | 3.48 | 20 |
| Ethene | 127 | 119 | 114 | 93.7 | 89.8 | 85.0-115 | | | 4.29 | 20 |

## L1550276-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1550276-01 10/27/22 12:46 • (MS) R3853844-5 10/27/22 15:01 • (MSD) R3853844-6 10/27/22 15:04

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ethane | 129 | U | 125 | 151 | 96.9 | 117 | 1 | 85.0-115 | | J5 | 18.8 | 20 |
| Ethene | 127 | U | 125 | 151 | 98.4 | 119 | 1 | 85.0-115 | | J5 | 18.8 | 20 |

## Method Blank (MB)

(MB) R3854272-2 10/28/22 11:19

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |

## L1550493-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1550493-01 10/28/22 12:07 • (DUP) R3854272-3 10/28/22 12:23

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |

## L1550645-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1550645-16 10/28/22 13:57 • (DUP) R3854272-4 10/28/22 14:00

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 1900 | 1880 | 1 | 1.06 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3854272-1 10/28/22 11:16 • (LCSD) R3854272-5 10/28/22 14:07

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 70.7 | 67.4 | 104 | 99.4 | 85.0-115 | | | 4.78 | 20 |

## Method Blank (MB)

(MB) R3856636-3 10/29/22 00:54

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3856636-3 10/29/22 00:54

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *117* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *112* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *93.9* | | | *70.0-130* |

# QUALITY CONTROL SUMMARY

L1550357-01,02,03

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3856636-1 10/28/22 23:29 • (LCSD) R3856636-2 10/28/22 23:49

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 22.3 | 21.7 | 89.2 | 86.8 | 10.0-160 | | | 2.73 | 31 |
| Acrylonitrile | 25.0 | 26.9 | 25.8 | 108 | 103 | 45.0-153 | | | 4.17 | 22 |
| Benzene | 5.00 | 4.98 | 4.59 | 99.6 | 91.8 | 70.0-123 | | | 8.15 | 20 |
| Bromobenzene | 5.00 | 4.81 | 4.69 | 96.2 | 93.8 | 73.0-121 | | | 2.53 | 20 |
| Bromodichloromethane | 5.00 | 4.72 | 4.46 | 94.4 | 89.2 | 73.0-121 | | | 5.66 | 20 |
| Bromoform | 5.00 | 4.80 | 5.04 | 96.0 | 101 | 64.0-132 | | | 4.88 | 20 |
| Bromomethane | 5.00 | 5.21 | 4.84 | 104 | 96.8 | 56.0-147 | | | 7.36 | 20 |
| n-Butylbenzene | 5.00 | 6.11 | 5.55 | 122 | 111 | 68.0-135 | | | 9.61 | 20 |
| sec-Butylbenzene | 5.00 | 5.54 | 5.09 | 111 | 102 | 74.0-130 | | | 8.47 | 20 |
| tert-Butylbenzene | 5.00 | 4.82 | 4.58 | 96.4 | 91.6 | 75.0-127 | | | 5.11 | 20 |
| Carbon tetrachloride | 5.00 | 5.19 | 5.02 | 104 | 100 | 66.0-128 | | | 3.33 | 20 |
| Chlorobenzene | 5.00 | 5.27 | 5.03 | 105 | 101 | 76.0-128 | | | 4.66 | 20 |
| Chlorodibromomethane | 5.00 | 4.98 | 4.99 | 99.6 | 99.8 | 74.0-127 | | | 0.201 | 20 |
| Chloroethane | 5.00 | 5.13 | 5.04 | 103 | 101 | 61.0-134 | | | 1.77 | 20 |
| Chloroform | 5.00 | 5.09 | 4.76 | 102 | 95.2 | 72.0-123 | | | 6.70 | 20 |
| Chloromethane | 5.00 | 5.12 | 4.80 | 102 | 96.0 | 51.0-138 | | | 6.45 | 20 |
| 2-Chlorotoluene | 5.00 | 4.91 | 4.58 | 98.2 | 91.6 | 75.0-124 | | | 6.95 | 20 |
| 4-Chlorotoluene | 5.00 | 4.97 | 5.00 | 99.4 | 100 | 75.0-124 | | | 0.602 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 5.06 | 5.21 | 101 | 104 | 59.0-130 | | | 2.92 | 20 |
| 1,2-Dibromoethane | 5.00 | 4.74 | 4.38 | 94.8 | 87.6 | 74.0-128 | | | 7.89 | 20 |
| Dibromomethane | 5.00 | 4.76 | 4.60 | 95.2 | 92.0 | 75.0-122 | | | 3.42 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 5.83 | 5.56 | 117 | 111 | 76.0-124 | | | 4.74 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 4.93 | 5.39 | 98.6 | 108 | 76.0-125 | | | 8.91 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 4.59 | 4.96 | 91.8 | 99.2 | 77.0-121 | | | 7.75 | 20 |
| Dichlorodifluoromethane | 5.00 | 4.59 | 4.52 | 91.8 | 90.4 | 43.0-156 | | | 1.54 | 20 |
| 1,1-Dichloroethane | 5.00 | 5.18 | 4.85 | 104 | 97.0 | 70.0-127 | | | 6.58 | 20 |
| 1,2-Dichloroethane | 5.00 | 5.03 | 4.80 | 101 | 96.0 | 65.0-131 | | | 4.68 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.25 | 4.95 | 105 | 99.0 | 65.0-131 | | | 5.88 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.29 | 4.96 | 106 | 99.2 | 73.0-125 | | | 6.44 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.07 | 4.49 | 101 | 89.8 | 71.0-125 | | | 12.1 | 20 |
| 1,2-Dichloropropane | 5.00 | 4.74 | 4.72 | 94.8 | 94.4 | 74.0-125 | | | 0.423 | 20 |
| 1,1-Dichloropropene | 5.00 | 4.96 | 4.82 | 99.2 | 96.4 | 73.0-125 | | | 2.86 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.11 | 4.65 | 102 | 93.0 | 80.0-125 | | | 9.43 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 4.69 | 4.29 | 93.8 | 85.8 | 76.0-127 | | | 8.91 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 4.98 | 4.63 | 99.6 | 92.6 | 73.0-127 | | | 7.28 | 20 |
| 2,2-Dichloropropane | 5.00 | 4.70 | 4.60 | 94.0 | 92.0 | 59.0-135 | | | 2.15 | 20 |
| Di-isopropyl ether | 5.00 | 5.28 | 4.96 | 106 | 99.2 | 60.0-136 | | | 6.25 | 20 |
| Ethylbenzene | 5.00 | 5.87 | 5.67 | 117 | 113 | 74.0-126 | | | 3.47 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 5.30 | 5.14 | 106 | 103 | 57.0-150 | | | 3.07 | 20 |
| Isopropylbenzene | 5.00 | 6.51 | 6.16 | 130 | 123 | 72.0-127 | J4 | | 5.52 | 20 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3856636-1 10/28/22 23:29 • (LCSD) R3856636-2 10/28/22 23:49

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.58 | 5.26 | 112 | 105 | 72.0-133 | | | 5.90 | 20 |
| 2-Butanone (MEK) | 25.0 | 23.0 | 21.8 | 92.0 | 87.2 | 30.0-160 | | | 5.36 | 24 |
| Methylene Chloride | 5.00 | 5.35 | 5.01 | 107 | 100 | 68.0-123 | | | 6.56 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 28.7 | 28.3 | 115 | 113 | 56.0-143 | | | 1.40 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.01 | 4.62 | 100 | 92.4 | 66.0-132 | | | 8.10 | 20 |
| Naphthalene | 5.00 | 6.35 | 6.12 | 127 | 122 | 59.0-130 | | | 3.69 | 20 |
| n-Propylbenzene | 5.00 | 6.23 | 5.78 | 125 | 116 | 74.0-126 | | | 7.49 | 20 |
| Styrene | 5.00 | 5.62 | 5.30 | 112 | 106 | 72.0-127 | | | 5.86 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 6.54 | 6.25 | 131 | 125 | 74.0-129 | J4 | | 4.53 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 5.65 | 5.32 | 113 | 106 | 68.0-128 | | | 6.02 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.07 | 4.78 | 101 | 95.6 | 61.0-139 | | | 5.89 | 20 |
| Tetrachloroethene | 5.00 | 6.18 | 5.84 | 124 | 117 | 70.0-136 | | | 5.66 | 20 |
| Toluene | 5.00 | 5.96 | 5.62 | 119 | 112 | 75.0-121 | | | 5.87 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 6.01 | 5.60 | 120 | 112 | 59.0-139 | | | 7.06 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 5.72 | 5.38 | 114 | 108 | 62.0-137 | | | 6.13 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.42 | 5.05 | 108 | 101 | 69.0-126 | | | 7.07 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.08 | 5.23 | 102 | 105 | 78.0-123 | | | 2.91 | 20 |
| Trichloroethene | 5.00 | 5.18 | 4.92 | 104 | 98.4 | 76.0-126 | | | 5.15 | 20 |
| Trichlorofluoromethane | 5.00 | 4.69 | 4.40 | 93.8 | 88.0 | 61.0-142 | | | 6.38 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 5.21 | 4.95 | 104 | 99.0 | 67.0-129 | | | 5.12 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.98 | 5.70 | 120 | 114 | 70.0-126 | | | 4.79 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.63 | 5.24 | 113 | 105 | 74.0-124 | | | 7.18 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.77 | 5.27 | 115 | 105 | 73.0-127 | | | 9.06 | 20 |
| Vinyl chloride | 5.00 | 5.24 | 5.00 | 105 | 100 | 63.0-134 | | | 4.69 | 20 |
| Xylenes, Total | 15.0 | 17.1 | 16.6 | 114 | 111 | 72.0-127 | | | 2.97 | 20 |
| Ethyl ether | 5.00 | 4.97 | 4.77 | 99.4 | 95.4 | 64.0-137 | | | 4.11 | 20 |
| Tetrahydrofuran | 5.00 | 4.65 | 4.28 | 93.0 | 85.6 | 37.0-146 | | | 8.29 | 24 |
| Iodomethane | 25.0 | 24.5 | 23.5 | 98.0 | 94.0 | 74.0-134 | | | 4.17 | 20 |
| Allyl chloride | 25.0 | 26.4 | 25.2 | 106 | 101 | 70.0-131 | | | 4.65 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 4.58 | 3.78 | 91.6 | 75.6 | 45.0-143 | | | 19.1 | 20 |
| *(S) Toluene-d8* | | | | *114* | *115* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *106* | *104* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *94.1* | *92.4* | *70.0-130* | | | | |

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| C5 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded high. Data is likely to show a high bias concerning the result. |
| E | The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL). |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J4 | The associated batch QC was outside the established quality control range for accuracy. |
| J5 | The sample matrix interfered with the ability to make any accurate determination; spike value is high. |
| P1 | RPD value not applicable for sample concentrations less than 5 times the reporting limit. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Billing Information:
Attn: Accounts Payable
2101 4th Avenue, Suite 1310
Seattle, WA 98121

Pres Chk

Report to:
**Brian O'Neal/Bill Haldeman**

Email To:
Shannon.McKernan@nv5.com;brian.oneal@nv5

Project Description:
**American Linen**

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: **206-529-3980**

Client Project #
1413.001.10.701.02

Lab Project #
**PESENVSWA-ALP**

Collected by (print):
N. Wisdom

Site/Facility ID #

P.O. # 1413001107010 2
~~443018-1413001.05.601~~

Collected by (signature):
Natalie Wisdom

Immediately Packed on Ice N ___ Y ✓

***Rush?*** (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | | | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-181-102522 | Grab | GW | — | 10/25/22 | 1006 | 9 | X | X | X | X | | X | X | X | | | | -01 |
| MW-182-102522 | ↓ | GW | — | ↓ | 1150 | ↓ | X | X | X | X | | X | X | X | | | | -02 |
| MW-178-102522 | ↓ | GW | — | ↓ | 1352 | ↓ | X | X | X | X | | X | X | X | | | | -03 |
| | | GW | | | | | | | NEW 10/25/22 | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1550357
**F204**

Acctnum: **PESENVSWA**
Template: **T218236**
Prelogin: **P957562**
PM: **546 - Jared Starkey**
PB: JJ 10/17/22
Shipped Via:

* Matrix:
**SS** - Soil **AIR** - Air **F** - Filter
**GW** - Groundwater **B** - Bioassay
**WW** - WasteWater
**DW** - Drinking Water
**OT** - Other_____

**Remarks:**

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: ✓Y __N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / (No) HCL / MeoH TBR | If preservation required by Login: Date/Time |
|---|---|---|---|---|---|
| Natalie Wisdom | 10-25-22 | 1555 | | 0 | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: 1.1 °C Bottles Received: 0.8-0.3=0.5 27 | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: 10/26/22 Time: 900 | Hold: / Condition: NCF / OK |

# ANALYTICAL REPORT

November 11, 2022



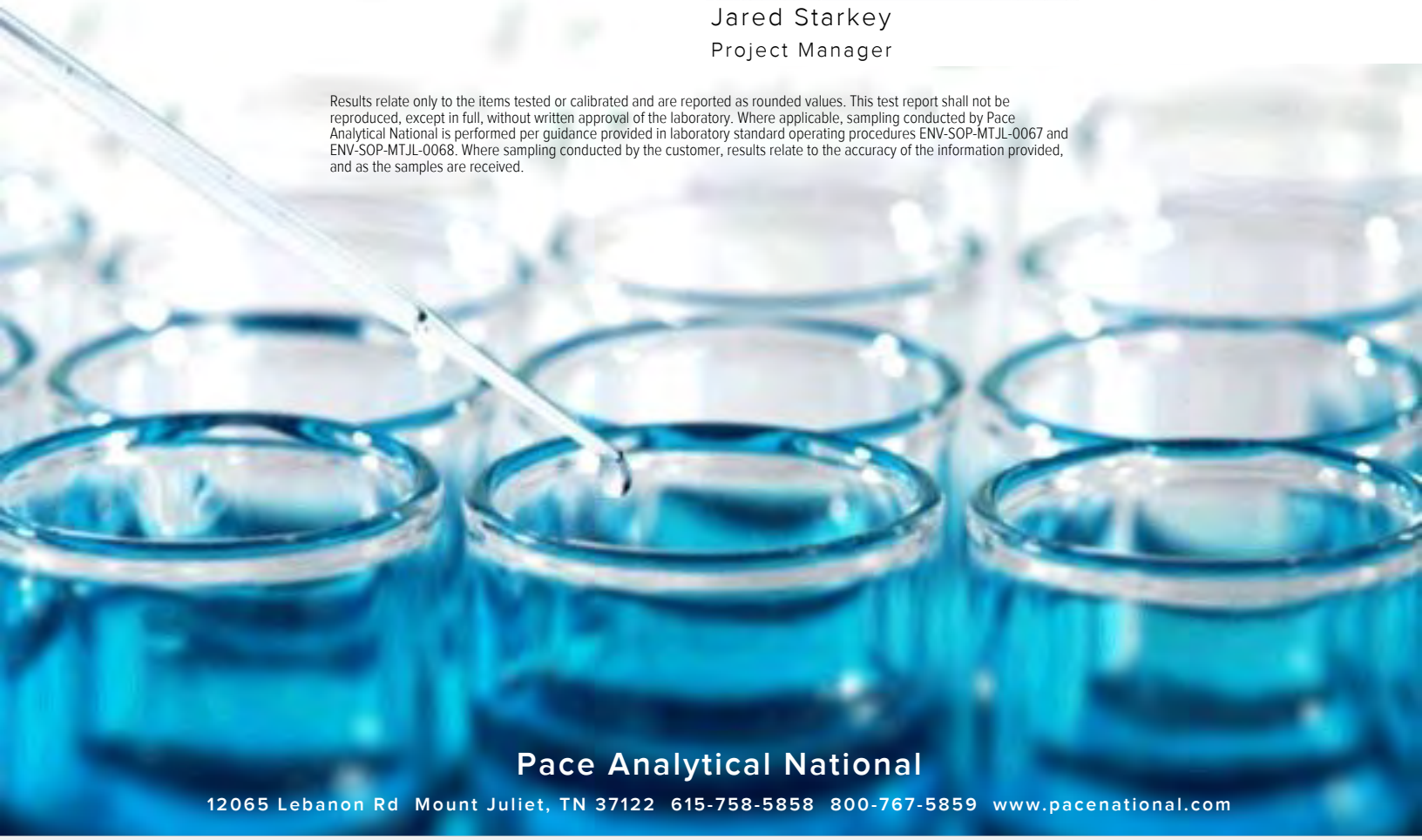
## PES Environmental, Inc.- WA

| | |
|---|---|
| Sample Delivery Group: | L1550366 |
| Samples Received: | 10/26/2022 |
| Project Number: | 1413.001.10.701.02 |
| Description: | American Linen |
| Report To: | Brian O'Neal/Bill Haldeman |
| | 2101 Fourth Ave., Suite 1310 |
| | Seattle, WA 98121 |

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## MW-183-102522 L1550366-01 GW

Collected by: Anthony Jemeraro
Collected date/time: 10/25/22 10:00
Received date/time: 10/26/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1953739 | 1 | 11/07/22 08:22 | 11/07/22 08:22 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1949105 | 1 | 10/26/22 21:12 | 10/26/22 21:12 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1954494 | 1 | 11/05/22 13:37 | 11/05/22 13:37 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1956348 | 1 | 11/09/22 21:42 | 11/10/22 19:07 | LD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1949742 | 1 | 10/27/22 14:26 | 10/27/22 14:26 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1949953 | 10 | 10/28/22 11:58 | 10/28/22 11:58 | CMS | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1949984 | 100 | 10/29/22 04:07 | 10/29/22 04:07 | JAH | Mt. Juliet, TN |

## MW-179-102522 L1550366-02 GW

Collected by: Anthony Jemeraro
Collected date/time: 10/25/22 12:27
Received date/time: 10/26/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1953739 | 1 | 11/07/22 08:28 | 11/07/22 08:28 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1949105 | 1 | 10/26/22 21:27 | 10/26/22 21:27 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1949105 | 5 | 10/26/22 21:41 | 10/26/22 21:41 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1954494 | 1 | 11/05/22 13:58 | 11/05/22 13:58 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1956348 | 1 | 11/09/22 21:42 | 11/10/22 19:10 | LD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1949742 | 1 | 10/27/22 14:32 | 10/27/22 14:32 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1949953 | 10 | 10/28/22 12:02 | 10/28/22 12:02 | CMS | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1949984 | 50 | 10/29/22 04:29 | 10/29/22 04:29 | JAH | Mt. Juliet, TN |

## MW-184-102522 L1550366-03 GW

Collected by: Anthony Jemeraro
Collected date/time: 10/25/22 13:24
Received date/time: 10/26/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1953739 | 1 | 11/07/22 08:32 | 11/07/22 08:32 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1949105 | 1 | 10/26/22 21:56 | 10/26/22 21:56 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1949105 | 1 | 11/01/22 16:21 | 11/01/22 16:21 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1954494 | 1 | 11/05/22 14:18 | 11/05/22 14:18 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1956348 | 1 | 11/09/22 21:42 | 11/10/22 19:13 | LD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1949742 | 1 | 10/27/22 14:41 | 10/27/22 14:41 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1949984 | 10 | 10/29/22 04:50 | 10/29/22 04:50 | JAH | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 345000 | | 8450 | 20000 | 1 | 11/07/2022 08:22 | WG1953739 |

Sample Narrative:

L1550366-01 WG1953739: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 95300 | | 379 | 1000 | 1 | 10/26/2022 21:12 | WG1949105 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/26/2022 21:12 | WG1949105 |
| Sulfate | 20100 | | 594 | 5000 | 1 | 10/26/2022 21:12 | WG1949105 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 9810 | | 102 | 1000 | 1 | 11/05/2022 13:37 | WG1954494 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 3490 | | 28.1 | 100 | 1 | 11/10/2022 19:07 | WG1956348 |
| Manganese | 1510 | | 0.704 | 5.00 | 1 | 11/10/2022 19:07 | WG1956348 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 29100 | | 2.87 | 6.78 | 10 | 10/28/2022 11:58 | WG1949953 |
| Ethane | 8.44 | | 0.296 | 1.29 | 1 | 10/27/2022 14:26 | WG1949742 |
| Ethene | 469 | | 0.422 | 1.27 | 1 | 10/27/2022 14:26 | WG1949742 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 54.8 | 100 | 100 | 10/29/2022 04:07 | WG1949984 |
| Acrylonitrile | U | | 7.60 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Benzene | U | | 1.60 | 4.00 | 100 | 10/29/2022 04:07 | WG1949984 |
| Bromobenzene | U | | 4.20 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Bromodichloromethane | U | | 3.15 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Bromoform | U | | 23.9 | 100 | 100 | 10/29/2022 04:07 | WG1949984 |
| Bromomethane | U | | 14.8 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| n-Butylbenzene | U | | 15.3 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| sec-Butylbenzene | U | | 10.1 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| tert-Butylbenzene | U | | 6.20 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Carbon tetrachloride | U | | 4.32 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Chlorobenzene | U | | 2.29 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Chlorodibromomethane | U | | 1.80 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Chloroethane | U | | 4.32 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Chloroform | U | | 1.66 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Chloromethane | U | | 5.56 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 2-Chlorotoluene | U | | 3.68 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 4-Chlorotoluene | U | | 4.52 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,2-Dibromo-3-Chloropropane | U | | 20.4 | 100 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,2-Dibromoethane | U | | 2.10 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Dibromomethane | U | | 4.00 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,2-Dichlorobenzene | U | | 5.80 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,3-Dichlorobenzene | U | | 6.80 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,4-Dichlorobenzene | U | | 7.88 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Dichlorodifluoromethane | U | | 3.27 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,1-Dichloroethane | U | | 2.30 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,2-Dichloroethane | U | | 1.90 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,1-Dichloroethene | 14.6 | | 2.00 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| cis-1,2-Dichloroethene | 3060 | | 2.76 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| trans-1,2-Dichloroethene | 9.90 | J | 5.72 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,2-Dichloropropane | U | | 5.08 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,1-Dichloropropene | U | | 2.80 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,3-Dichloropropane | U | | 7.00 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| cis-1,3-Dichloropropene | U | | 2.71 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| trans-1,3-Dichloropropene | U | | 6.12 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 2,2-Dichloropropane | U | | 3.17 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Di-isopropyl ether | U | | 1.40 | 4.00 | 100 | 10/29/2022 04:07 | WG1949984 |
| Ethylbenzene | U | | 2.12 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | 50.8 | 100 | 100 | 10/29/2022 04:07 | WG1949984 |
| Isopropylbenzene | U | J4 | 3.45 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| p-Isopropyltoluene | U | | 9.32 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 2-Butanone (MEK) | U | | 50.0 | 100 | 100 | 10/29/2022 04:07 | WG1949984 |
| Methylene Chloride | U | | 26.5 | 100 | 100 | 10/29/2022 04:07 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | 40.0 | 100 | 100 | 10/29/2022 04:07 | WG1949984 |
| Methyl tert-butyl ether | U | | 1.18 | 4.00 | 100 | 10/29/2022 04:07 | WG1949984 |
| Naphthalene | U | | 12.4 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| n-Propylbenzene | U | | 4.72 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Styrene | U | | 10.9 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | J4 | 2.00 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | 1.56 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | 2.70 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Tetrachloroethene | U | | 2.80 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Toluene | 17.8 | J | 5.00 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | 2.50 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | 19.3 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,1,1-Trichloroethane | U | | 1.10 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,1,2-Trichloroethane | U | | 3.53 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Trichloroethene | U | | 1.60 | 4.00 | 100 | 10/29/2022 04:07 | WG1949984 |
| Trichlorofluoromethane | U | | 2.00 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,2,3-Trichloropropane | U | | 20.4 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,2,4-Trimethylbenzene | U | | 4.64 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | 4.60 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | 4.32 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Vinyl chloride | 4350 | | 2.73 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Xylenes, Total | U | | 19.1 | 26.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Ethyl Ether | U | | 1.70 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Tetrahydrofuran | U | | 9.00 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Iodomethane | U | | 24.2 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Allyl chloride | U | | 58.0 | 100 | 100 | 10/29/2022 04:07 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | 5.60 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| *(S) Toluene-d8* | *120* | | | *75.0-131* | | *10/29/2022 04:07* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *120* | | | *67.0-138* | | *10/29/2022 04:07* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *95.6* | | | *70.0-130* | | *10/29/2022 04:07* | WG1949984 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 886000 | | 8450 | 20000 | 1 | 11/07/2022 08:28 | WG1953739 |

Sample Narrative:

L1550366-02 WG1953739: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 228000 | | 1900 | 5000 | 5 | 10/26/2022 21:41 | WG1949105 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/26/2022 21:27 | WG1949105 |
| Sulfate | 4200 | J | 594 | 5000 | 1 | 10/26/2022 21:27 | WG1949105 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 16800 | | 102 | 1000 | 1 | 11/05/2022 13:58 | WG1954494 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 28400 | | 28.1 | 100 | 1 | 11/10/2022 19:10 | WG1956348 |
| Manganese | 2980 | | 0.704 | 5.00 | 1 | 11/10/2022 19:10 | WG1956348 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 17300 | | 2.87 | 6.78 | 10 | 10/28/2022 12:02 | WG1949953 |
| Ethane | 16.0 | V | 0.296 | 1.29 | 1 | 10/27/2022 14:32 | WG1949742 |
| Ethene | 206 | | 0.422 | 1.27 | 1 | 10/27/2022 14:32 | WG1949742 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 27.4 | 50.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Acrylonitrile | U | | 3.80 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Benzene | U | | 0.800 | 2.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Bromobenzene | U | | 2.10 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Bromodichloromethane | U | | 1.58 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Bromoform | U | | 12.0 | 50.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Bromomethane | U | | 7.40 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| n-Butylbenzene | U | | 7.65 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| sec-Butylbenzene | U | | 5.05 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| tert-Butylbenzene | U | | 3.10 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Carbon tetrachloride | U | | 2.16 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Chlorobenzene | U | | 1.15 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Chlorodibromomethane | U | | 0.900 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Chloroethane | 36.0 | | 2.16 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Chloroform | U | | 0.830 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Chloromethane | U | | 2.78 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 2-Chlorotoluene | U | | 1.84 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| 4-Chlorotoluene | U | | 2.26 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,2-Dibromo-3-Chloropropane | U | | 10.2 | 50.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,2-Dibromoethane | U | | 1.05 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 2.00 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,2-Dichlorobenzene | U | | 2.90 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,3-Dichlorobenzene | U | | 3.40 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,4-Dichlorobenzene | U | | 3.94 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Dichlorodifluoromethane | U | | 1.64 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,1-Dichloroethane | U | | 1.15 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,2-Dichloroethane | U | | 0.950 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,1-Dichloroethene | U | | 1.00 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| cis-1,2-Dichloroethene | 1120 | | 1.38 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| trans-1,2-Dichloroethene | 5.75 | J | 2.86 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,2-Dichloropropane | U | | 2.54 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,1-Dichloropropene | U | | 1.40 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,3-Dichloropropane | U | | 3.50 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| cis-1,3-Dichloropropene | U | | 1.36 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| trans-1,3-Dichloropropene | U | | 3.06 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 2,2-Dichloropropane | U | | 1.59 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Di-isopropyl ether | U | | 0.700 | 2.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Ethylbenzene | U | | 1.06 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | 25.4 | 50.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Isopropylbenzene | U | J4 | 1.73 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| p-Isopropyltoluene | U | | 4.66 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 2-Butanone (MEK) | U | | 25.0 | 50.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Methylene Chloride | U | | 13.3 | 50.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | 20.0 | 50.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Methyl tert-butyl ether | U | | 0.590 | 2.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Naphthalene | U | | 6.20 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| n-Propylbenzene | U | | 2.36 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Styrene | U | | 5.45 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | J4 | 1.00 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | 0.780 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | 1.35 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Tetrachloroethene | 10.4 | C5 | 1.40 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Toluene | 8.20 | J | 2.50 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | 1.25 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | 9.65 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,1,1-Trichloroethane | U | | 0.550 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,1,2-Trichloroethane | U | | 1.77 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Trichloroethene | 5.10 | | 0.800 | 2.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Trichlorofluoromethane | U | | 1.00 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,2,3-Trichloropropane | U | | 10.2 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,2,4-Trimethylbenzene | U | | 2.32 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | 2.30 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | 2.16 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Vinyl chloride | 1620 | | 1.36 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Xylenes, Total | U | | 9.55 | 13.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Ethyl Ether | U | | 0.850 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Tetrahydrofuran | U | | 4.50 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Iodomethane | U | | 12.1 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Allyl chloride | U | | 29.0 | 50.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | 2.80 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| *(S) Toluene-d8* | *117* | | | *75.0-131* | | *10/29/2022 04:29* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *115* | | | *67.0-138* | | *10/29/2022 04:29* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *95.9* | | | *70.0-130* | | *10/29/2022 04:29* | WG1949984 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 303000 | | 8450 | 20000 | 1 | 11/07/2022 08:32 | WG1953739 |

Sample Narrative:

L1550366-03 WG1953739: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 23700 | | 379 | 1000 | 1 | 11/01/2022 16:21 | WG1949105 |
| Nitrate | 132 | | 48.0 | 100 | 1 | 10/26/2022 21:56 | WG1949105 |
| Sulfate | 29700 | | 594 | 5000 | 1 | 10/26/2022 21:56 | WG1949105 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 9490 | | 102 | 1000 | 1 | 11/05/2022 14:18 | WG1954494 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 1160 | | 28.1 | 100 | 1 | 11/10/2022 19:13 | WG1956348 |
| Manganese | 3720 | | 0.704 | 5.00 | 1 | 11/10/2022 19:13 | WG1956348 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 1720 | | 0.287 | 0.678 | 1 | 10/27/2022 14:41 | WG1949742 |
| Ethane | 7.45 | | 0.296 | 1.29 | 1 | 10/27/2022 14:41 | WG1949742 |
| Ethene | 6.31 | | 0.422 | 1.27 | 1 | 10/27/2022 14:41 | WG1949742 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 5.48 | 10.0 | 10 | 10/29/2022 04:50 | WG1949984 |
| Acrylonitrile | U | | 0.760 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Benzene | U | | 0.160 | 0.400 | 10 | 10/29/2022 04:50 | WG1949984 |
| Bromobenzene | U | | 0.420 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Bromodichloromethane | U | | 0.315 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Bromoform | U | | 2.39 | 10.0 | 10 | 10/29/2022 04:50 | WG1949984 |
| Bromomethane | U | | 1.48 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| n-Butylbenzene | U | | 1.53 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| sec-Butylbenzene | U | | 1.01 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| tert-Butylbenzene | U | | 0.620 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Carbon tetrachloride | U | | 0.432 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Chlorobenzene | U | | 0.229 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Chlorodibromomethane | U | | 0.180 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Chloroethane | 3.82 | | 0.432 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Chloroform | U | | 0.166 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Chloromethane | U | | 0.556 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 2-Chlorotoluene | U | | 0.368 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 4-Chlorotoluene | U | | 0.452 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,2-Dibromo-3-Chloropropane | U | | 2.04 | 10.0 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,2-Dibromoethane | U | | 0.210 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.400 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,2-Dichlorobenzene | U | | 0.580 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,3-Dichlorobenzene | U | | 0.680 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,4-Dichlorobenzene | U | | 0.788 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Dichlorodifluoromethane | U | | 0.327 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,1-Dichloroethane | U | | 0.230 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,2-Dichloroethane | U | | 0.190 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,1-Dichloroethene | 12.7 | | 0.200 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| cis-1,2-Dichloroethene | 251 | | 0.276 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| trans-1,2-Dichloroethene | 5.01 | | 0.572 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,2-Dichloropropane | U | | 0.508 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,1-Dichloropropene | U | | 0.280 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,3-Dichloropropane | U | | 0.700 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| cis-1,3-Dichloropropene | U | | 0.271 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| trans-1,3-Dichloropropene | U | | 0.612 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 2,2-Dichloropropane | U | | 0.317 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Di-isopropyl ether | U | | 0.140 | 0.400 | 10 | 10/29/2022 04:50 | WG1949984 |
| Ethylbenzene | U | | 0.212 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | 5.08 | 10.0 | 10 | 10/29/2022 04:50 | WG1949984 |
| Isopropylbenzene | U | J4 | 0.345 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| p-Isopropyltoluene | U | | 0.932 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 2-Butanone (MEK) | U | | 5.00 | 10.0 | 10 | 10/29/2022 04:50 | WG1949984 |
| Methylene Chloride | U | | 2.65 | 10.0 | 10 | 10/29/2022 04:50 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | 4.00 | 10.0 | 10 | 10/29/2022 04:50 | WG1949984 |
| Methyl tert-butyl ether | U | | 0.118 | 0.400 | 10 | 10/29/2022 04:50 | WG1949984 |
| Naphthalene | U | | 1.24 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| n-Propylbenzene | U | | 0.472 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Styrene | U | | 1.09 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | J4 | 0.200 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | 0.156 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.270 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Tetrachloroethene | 319 | C5 | 0.280 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Toluene | 1.93 | J | 0.500 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | 0.250 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | 1.93 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,1,1-Trichloroethane | U | | 0.110 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,1,2-Trichloroethane | U | | 0.353 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Trichloroethene | 217 | | 0.160 | 0.400 | 10 | 10/29/2022 04:50 | WG1949984 |
| Trichlorofluoromethane | U | | 0.200 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,2,3-Trichloropropane | U | | 2.04 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,2,4-Trimethylbenzene | U | | 0.464 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | 0.460 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | 0.432 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Vinyl chloride | 23.9 | | 0.273 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Xylenes, Total | U | | 1.91 | 2.60 | 10 | 10/29/2022 04:50 | WG1949984 |
| Ethyl Ether | U | | 0.170 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Tetrahydrofuran | U | | 0.900 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Iodomethane | U | | 2.42 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Allyl chloride | U | | 5.80 | 10.0 | 10 | 10/29/2022 04:50 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | 0.560 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| *(S) Toluene-d8* | *111* | | | *75.0-131* | | *10/29/2022 04:50* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *115* | | | *67.0-138* | | *10/29/2022 04:50* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *94.5* | | | *70.0-130* | | *10/29/2022 04:50* | WG1949984 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Method Blank (MB)

(MB) R3857733-2 11/07/22 08:04

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1550567-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1550567-01 11/07/22 09:22 • (DUP) R3857733-4 11/07/22 09:28

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 498000 | 498000 | 1 | 0.125 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

## L1551100-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1551100-01 11/07/22 10:06 • (DUP) R3857733-6 11/07/22 10:12

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 243000 | 242000 | 1 | 0.198 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3857733-1 11/07/22 07:57

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 98800 | 98.8 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3855655-1 10/26/22 10:58

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1550276-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1550276-01 10/26/22 12:08 • (DUP) R3855655-3 10/26/22 12:23

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Nitrate | 4500 | 4500 | 1 | 0.00222 | | 15 |
| Sulfate | 193000 | 193000 | 1 | 0.0426 | | 15 |

## L1550276-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1550276-01 10/26/22 13:22 • (DUP) R3855655-4 10/26/22 12:38

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Chloride | 265000 | 265000 | 5 | 0.291 | | 15 |

## L1550357-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1550357-01 10/26/22 19:07 • (DUP) R3855655-7 10/26/22 19:27

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Chloride | 95700 | 95200 | 1 | 0.488 | | 15 |
| Nitrate | 234 | 356 | 1 | 41.2 | P1 | 15 |
| Sulfate | 1360 | 1600 | 1 | 16.5 | J P1 | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3855655-2 10/26/22 11:28

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Chloride | 40000 | 40300 | 101 | 80.0-120 | |
| Nitrate | 8000 | 7830 | 97.9 | 80.0-120 | |
| Sulfate | 40000 | 41400 | 103 | 80.0-120 | |

## L1550276-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1550276-01 10/26/22 12:08 • (MS) R3855655-5 10/26/22 12:53 • (MSD) R3855655-6 10/26/22 13:08

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 261000 | 298000 | 298000 | 74.8 | 75.2 | 1 | 80.0-120 | E V | E V | 0.0592 | 15 |
| Nitrate | 5000 | 4500 | 9090 | 9120 | 91.8 | 92.3 | 1 | 80.0-120 | | | 0.259 | 15 |
| Sulfate | 50000 | 193000 | 236000 | 236000 | 85.9 | 86.3 | 1 | 80.0-120 | E | E | 0.0965 | 15 |

## L1550357-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1550357-01 10/26/22 19:07 • (MS) R3855655-8 10/26/22 19:42

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 95700 | 141000 | 90.7 | 1 | 80.0-120 | |
| Nitrate | 5000 | 234 | 5320 | 102 | 1 | 80.0-120 | |
| Sulfate | 50000 | 1360 | 52600 | 102 | 1 | 80.0-120 | |

## Method Blank (MB)

(MB) R3857435-2 11/05/22 07:49

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 191 | J | 102 | 1000 |

## L1550365-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1550365-15 11/05/22 11:39 • (DUP) R3857435-3 11/05/22 11:57

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 573 | 525 | 1 | 8.85 | J | 20 |

## L1550408-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1550408-01 11/05/22 14:56 • (DUP) R3857435-4 11/05/22 15:11

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 3670 | 3520 | 1 | 4.20 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3857435-1 11/05/22 07:34

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 73500 | 98.0 | 85.0-115 | |

## L1550519-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1550519-01 11/05/22 16:25 • (MS) R3857435-5 11/05/22 16:45 • (MSD) R3857435-6 11/05/22 17:09

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 1690 | 59000 | 54400 | 115 | 105 | 1 | 80.0-120 | | | 8.10 | 20 |

## L1550592-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1550592-01 11/05/22 17:24 • (MS) R3857435-7 11/05/22 17:49 • (MSD) R3857435-8 11/05/22 18:13

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 634 | 61000 | 60300 | 121 | 119 | 1 | 80.0-120 | J5 | | 1.19 | 20 |

## Method Blank (MB)

(MB) R3859762-1 11/10/22 18:47

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3859762-2 11/10/22 18:50

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Iron | 5000 | 4940 | 98.7 | 80.0-120 | |
| Manganese | 50.0 | 49.7 | 99.4 | 80.0-120 | |

## L1550884-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1550884-02 11/10/22 18:54 • (MS) R3859762-4 11/10/22 19:00 • (MSD) R3859762-5 11/10/22 19:04

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iron | 5000 | 1190 | 6390 | 6280 | 104 | 102 | 1 | 75.0-125 | | | 1.79 | 20 |
| Manganese | 50.0 | 579 | 641 | 634 | 125 | 111 | 1 | 75.0-125 | | | 1.14 | 20 |

## Method Blank (MB)

(MB) R3853844-2 10/27/22 11:27

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1550276-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1550276-01 10/27/22 12:46 • (DUP) R3853844-3 10/27/22 12:59

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1550276-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1550276-04 10/27/22 13:02 • (DUP) R3853844-4 10/27/22 14:58

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3853844-1 10/27/22 11:24 • (LCSD) R3853844-7 10/27/22 15:06

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 66.4 | 64.5 | 97.9 | 95.1 | 85.0-115 | | | 2.90 | 20 |
| Ethane | 129 | 117 | 113 | 90.7 | 87.6 | 85.0-115 | | | 3.48 | 20 |
| Ethene | 127 | 119 | 114 | 93.7 | 89.8 | 85.0-115 | | | 4.29 | 20 |

## L1550276-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1550276-01 10/27/22 12:46 • (MS) R3853844-5 10/27/22 15:01 • (MSD) R3853844-6 10/27/22 15:04

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | U | 70.4 | 88.0 | 104 | 130 | 1 | 85.0-115 | | J3 J5 | 22.2 | 20 |
| Ethane | 129 | U | 125 | 151 | 96.9 | 117 | 1 | 85.0-115 | | J5 | 18.8 | 20 |
| Ethene | 127 | U | 125 | 151 | 98.4 | 119 | 1 | 85.0-115 | | J5 | 18.8 | 20 |

## Method Blank (MB)

(MB) R3854272-2 10/28/22 11:19

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |

## L1550493-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1550493-01 10/28/22 12:07 • (DUP) R3854272-3 10/28/22 12:23

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |

## L1550645-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1550645-16 10/28/22 13:57 • (DUP) R3854272-4 10/28/22 14:00

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 1900 | 1880 | 1 | 1.06 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3854272-1 10/28/22 11:16 • (LCSD) R3854272-5 10/28/22 14:07

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 70.7 | 67.4 | 104 | 99.4 | 85.0-115 | | | 4.78 | 20 |

## Method Blank (MB)

(MB) R3856636-3 10/29/22 00:54

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3856636-3 10/29/22 00:54

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *117* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *112* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *93.9* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3856636-1 10/28/22 23:29 • (LCSD) R3856636-2 10/28/22 23:49

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 22.3 | 21.7 | 89.2 | 86.8 | 10.0-160 | | | 2.73 | 31 |
| Acrylonitrile | 25.0 | 26.9 | 25.8 | 108 | 103 | 45.0-153 | | | 4.17 | 22 |
| Benzene | 5.00 | 4.98 | 4.59 | 99.6 | 91.8 | 70.0-123 | | | 8.15 | 20 |
| Bromobenzene | 5.00 | 4.81 | 4.69 | 96.2 | 93.8 | 73.0-121 | | | 2.53 | 20 |
| Bromodichloromethane | 5.00 | 4.72 | 4.46 | 94.4 | 89.2 | 73.0-121 | | | 5.66 | 20 |
| Bromoform | 5.00 | 4.80 | 5.04 | 96.0 | 101 | 64.0-132 | | | 4.88 | 20 |
| Bromomethane | 5.00 | 5.21 | 4.84 | 104 | 96.8 | 56.0-147 | | | 7.36 | 20 |
| n-Butylbenzene | 5.00 | 6.11 | 5.55 | 122 | 111 | 68.0-135 | | | 9.61 | 20 |
| sec-Butylbenzene | 5.00 | 5.54 | 5.09 | 111 | 102 | 74.0-130 | | | 8.47 | 20 |
| tert-Butylbenzene | 5.00 | 4.82 | 4.58 | 96.4 | 91.6 | 75.0-127 | | | 5.11 | 20 |
| Carbon tetrachloride | 5.00 | 5.19 | 5.02 | 104 | 100 | 66.0-128 | | | 3.33 | 20 |
| Chlorobenzene | 5.00 | 5.27 | 5.03 | 105 | 101 | 76.0-128 | | | 4.66 | 20 |
| Chlorodibromomethane | 5.00 | 4.98 | 4.99 | 99.6 | 99.8 | 74.0-127 | | | 0.201 | 20 |
| Chloroethane | 5.00 | 5.13 | 5.04 | 103 | 101 | 61.0-134 | | | 1.77 | 20 |
| Chloroform | 5.00 | 5.09 | 4.76 | 102 | 95.2 | 72.0-123 | | | 6.70 | 20 |
| Chloromethane | 5.00 | 5.12 | 4.80 | 102 | 96.0 | 51.0-138 | | | 6.45 | 20 |
| 2-Chlorotoluene | 5.00 | 4.91 | 4.58 | 98.2 | 91.6 | 75.0-124 | | | 6.95 | 20 |
| 4-Chlorotoluene | 5.00 | 4.97 | 5.00 | 99.4 | 100 | 75.0-124 | | | 0.602 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 5.06 | 5.21 | 101 | 104 | 59.0-130 | | | 2.92 | 20 |
| 1,2-Dibromoethane | 5.00 | 4.74 | 4.38 | 94.8 | 87.6 | 74.0-128 | | | 7.89 | 20 |
| Dibromomethane | 5.00 | 4.76 | 4.60 | 95.2 | 92.0 | 75.0-122 | | | 3.42 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 5.83 | 5.56 | 117 | 111 | 76.0-124 | | | 4.74 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 4.93 | 5.39 | 98.6 | 108 | 76.0-125 | | | 8.91 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 4.59 | 4.96 | 91.8 | 99.2 | 77.0-121 | | | 7.75 | 20 |
| Dichlorodifluoromethane | 5.00 | 4.59 | 4.52 | 91.8 | 90.4 | 43.0-156 | | | 1.54 | 20 |
| 1,1-Dichloroethane | 5.00 | 5.18 | 4.85 | 104 | 97.0 | 70.0-127 | | | 6.58 | 20 |
| 1,2-Dichloroethane | 5.00 | 5.03 | 4.80 | 101 | 96.0 | 65.0-131 | | | 4.68 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.25 | 4.95 | 105 | 99.0 | 65.0-131 | | | 5.88 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.29 | 4.96 | 106 | 99.2 | 73.0-125 | | | 6.44 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.07 | 4.49 | 101 | 89.8 | 71.0-125 | | | 12.1 | 20 |
| 1,2-Dichloropropane | 5.00 | 4.74 | 4.72 | 94.8 | 94.4 | 74.0-125 | | | 0.423 | 20 |
| 1,1-Dichloropropene | 5.00 | 4.96 | 4.82 | 99.2 | 96.4 | 73.0-125 | | | 2.86 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.11 | 4.65 | 102 | 93.0 | 80.0-125 | | | 9.43 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 4.69 | 4.29 | 93.8 | 85.8 | 76.0-127 | | | 8.91 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 4.98 | 4.63 | 99.6 | 92.6 | 73.0-127 | | | 7.28 | 20 |
| 2,2-Dichloropropane | 5.00 | 4.70 | 4.60 | 94.0 | 92.0 | 59.0-135 | | | 2.15 | 20 |
| Di-isopropyl ether | 5.00 | 5.28 | 4.96 | 106 | 99.2 | 60.0-136 | | | 6.25 | 20 |
| Ethylbenzene | 5.00 | 5.87 | 5.67 | 117 | 113 | 74.0-126 | | | 3.47 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 5.30 | 5.14 | 106 | 103 | 57.0-150 | | | 3.07 | 20 |
| Isopropylbenzene | 5.00 | 6.51 | 6.16 | 130 | 123 | 72.0-127 | J4 | | 5.52 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3856636-1 10/28/22 23:29 • (LCSD) R3856636-2 10/28/22 23:49

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.58 | 5.26 | 112 | 105 | 72.0-133 | | | 5.90 | 20 |
| 2-Butanone (MEK) | 25.0 | 23.0 | 21.8 | 92.0 | 87.2 | 30.0-160 | | | 5.36 | 24 |
| Methylene Chloride | 5.00 | 5.35 | 5.01 | 107 | 100 | 68.0-123 | | | 6.56 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 28.7 | 28.3 | 115 | 113 | 56.0-143 | | | 1.40 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.01 | 4.62 | 100 | 92.4 | 66.0-132 | | | 8.10 | 20 |
| Naphthalene | 5.00 | 6.35 | 6.12 | 127 | 122 | 59.0-130 | | | 3.69 | 20 |
| n-Propylbenzene | 5.00 | 6.23 | 5.78 | 125 | 116 | 74.0-126 | | | 7.49 | 20 |
| Styrene | 5.00 | 5.62 | 5.30 | 112 | 106 | 72.0-127 | | | 5.86 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 6.54 | 6.25 | 131 | 125 | 74.0-129 | J4 | | 4.53 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 5.65 | 5.32 | 113 | 106 | 68.0-128 | | | 6.02 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.07 | 4.78 | 101 | 95.6 | 61.0-139 | | | 5.89 | 20 |
| Tetrachloroethene | 5.00 | 6.18 | 5.84 | 124 | 117 | 70.0-136 | | | 5.66 | 20 |
| Toluene | 5.00 | 5.96 | 5.62 | 119 | 112 | 75.0-121 | | | 5.87 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 6.01 | 5.60 | 120 | 112 | 59.0-139 | | | 7.06 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 5.72 | 5.38 | 114 | 108 | 62.0-137 | | | 6.13 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.42 | 5.05 | 108 | 101 | 69.0-126 | | | 7.07 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.08 | 5.23 | 102 | 105 | 78.0-123 | | | 2.91 | 20 |
| Trichloroethene | 5.00 | 5.18 | 4.92 | 104 | 98.4 | 76.0-126 | | | 5.15 | 20 |
| Trichlorofluoromethane | 5.00 | 4.69 | 4.40 | 93.8 | 88.0 | 61.0-142 | | | 6.38 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 5.21 | 4.95 | 104 | 99.0 | 67.0-129 | | | 5.12 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.98 | 5.70 | 120 | 114 | 70.0-126 | | | 4.79 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.63 | 5.24 | 113 | 105 | 74.0-124 | | | 7.18 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.77 | 5.27 | 115 | 105 | 73.0-127 | | | 9.06 | 20 |
| Vinyl chloride | 5.00 | 5.24 | 5.00 | 105 | 100 | 63.0-134 | | | 4.69 | 20 |
| Xylenes, Total | 15.0 | 17.1 | 16.6 | 114 | 111 | 72.0-127 | | | 2.97 | 20 |
| Ethyl ether | 5.00 | 4.97 | 4.77 | 99.4 | 95.4 | 64.0-137 | | | 4.11 | 20 |
| Tetrahydrofuran | 5.00 | 4.65 | 4.28 | 93.0 | 85.6 | 37.0-146 | | | 8.29 | 24 |
| Iodomethane | 25.0 | 24.5 | 23.5 | 98.0 | 94.0 | 74.0-134 | | | 4.17 | 20 |
| Allyl chloride | 25.0 | 26.4 | 25.2 | 106 | 101 | 70.0-131 | | | 4.65 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 4.58 | 3.78 | 91.6 | 75.6 | 45.0-143 | | | 19.1 | 20 |
| *(S) Toluene-d8* | | | | *114* | *115* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *106* | *104* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *94.1* | *92.4* | *70.0-130* | | | | |

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| C5 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded high. Data is likely to show a high bias concerning the result. |
| E | The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL). |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J3 | The associated batch QC was outside the established quality control range for precision. |
| J4 | The associated batch QC was outside the established quality control range for accuracy. |
| J5 | The sample matrix interfered with the ability to make any accurate determination; spike value is high. |
| P1 | RPD value not applicable for sample concentrations less than 5 times the reporting limit. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

**2101 Fourth Ave., Suite 1310**
**Seattle, WA 98121**

Billing Information:
**Attn: Accounts Payable**
**2101 4th Avenue, Suite 1310**
**Seattle, WA 98121**

Pres Chk

Report to:
**Brian O'Neal/Bill Haldeman**

Email To:
**Shannon.McKernan@nv5.com;brian.oneal@nv5**

Project Description:
**American Linen**

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: **206-529-3980**

Client Project #
1413001.10.70102

Lab Project #
**PESENVSWA-ALP**

Collected by (print):
Anthony Semerano

Site/Facility ID #

P.O. # 1413001070102
~~443018-1413001.05.601~~

Collected by (signature):

Immediately Packed on Ice N ___ Y X

***Rush?*** (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | | | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-183-102522 | Grab | GW | — | 10-25-22 | 1000 | 9 | X | X | X | X | DNA (ARS) | X | X | X | | | No NWTPHGX | -4 |
| MW-179-102522 | ↓ | GW | — | 10-25-22 | 1227 | 9 | X | X | X | X | | X | X | X | | | | -5 |
| MW-184-102522 | ↓ | GW | — | 10-25-22 | 1324 | 9 | X | X | X | X | | X | X | X | | | | -6 |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |

ARS 10-25-22

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1550366

F206

Acctnum: **PESENVSWA**
Template: **T218236**
Prelogin: **P957562**
PM: **546 - Jared Starkey**
PB:

Shipped Via:

* Matrix:
**SS** - Soil **AIR** - Air **F** - Filter
**GW** - Groundwater **B** - Bioassay
**WW** - WasteWater
**DW** - Drinking Water
**OT** - Other_____

**Remarks:**

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist

| | | |
|---|---|---|
| COC Seal Present/Intact: | NP | Y N |
| COC Signed/Accurate: | | Y N |
| Bottles arrive intact: | | Y N |
| Correct bottles used: | | Y N |
| Sufficient volume sent: | | Y N |
| If Applicable | | |
| VOA Zero Headspace: | | Y N |
| Preservation Correct/Checked: | | Y N |
| RAD Screen <0.5 mR/hr: | | Y N |

| | | | | | |
|---|---|---|---|---|---|
| Relinquished by : (Signature) | Date: 10-25-22 ~~10-24-22~~ (NEW) | Time: 14:52 | Received by: (Signature) Natalie Weedon | Trip Blank Received: Yes / No (No) HCL / MeoH TBR | |
| Relinquished by : (Signature) Natalie Weedon | Date: 10-25-22 | Time: 1555 | Received by: (Signature) | Temp MM HG °C 0.5-0.3=0.2 Bottles Received: 27 | If preservation required by Login: Date/Time |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: 10/26/22 Time: 9a | Hold: Condition: NCF / OK |

# ANALYTICAL REPORT

November 14, 2022



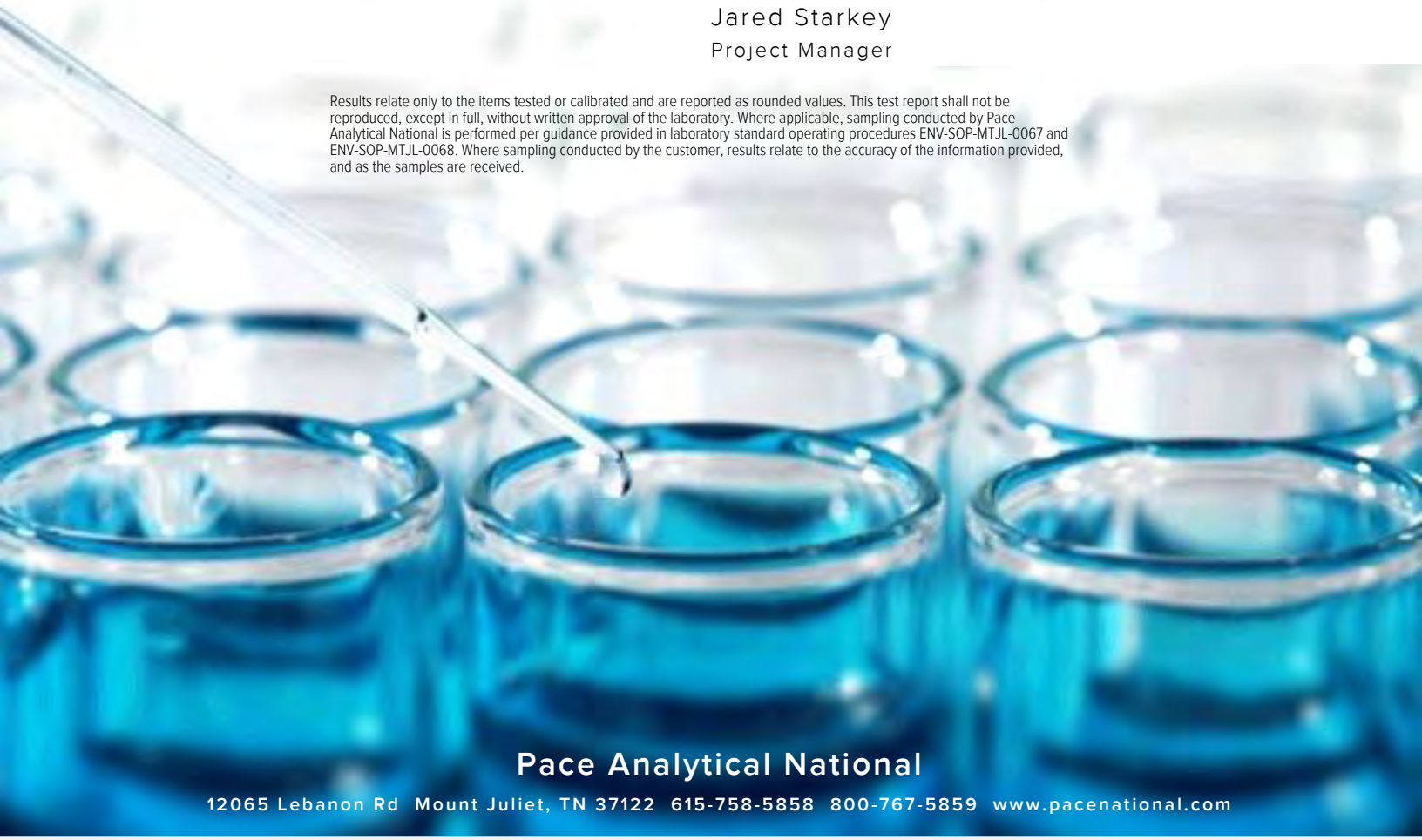
## PES Environmental, Inc.- WA

| | |
|---|---|
| Sample Delivery Group: | L1550880 |
| Samples Received: | 10/27/2022 |
| Project Number: | 1413.001.10.701.02 |
| Description: | American Linen |
| Report To: | Brian O'Neal/Bill Haldeman |
| | 2101 Fourth Ave., Suite 1310 |
| | Seattle, WA 98121 |

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## MW-177-102622 L1550880-01 GW

Collected by: NEW | Collected date/time: 10/26/22 11:37 | Received date/time: 10/27/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1956061 | 1 | 11/08/22 12:28 | 11/08/22 12:28 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1949908 | 1 | 10/27/22 23:00 | 10/27/22 23:00 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1955935 | 1 | 11/11/22 12:31 | 11/11/22 12:31 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1956348 | 1 | 11/09/22 21:42 | 11/10/22 19:57 | LD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1951651 | 1 | 10/31/22 14:55 | 10/31/22 14:55 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1952125 | 10 | 11/01/22 09:11 | 11/01/22 09:11 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1949984 | 200 | 10/29/22 05:11 | 10/29/22 05:11 | JAH | Mt. Juliet, TN |

## MW-180-102622 L1550880-02 GW

Collected by: NEW | Collected date/time: 10/26/22 12:32 | Received date/time: 10/27/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1956061 | 1 | 11/08/22 12:33 | 11/08/22 12:33 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1949908 | 1 | 10/27/22 23:41 | 10/27/22 23:41 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1955935 | 1 | 11/11/22 13:38 | 11/11/22 13:38 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1956348 | 1 | 11/09/22 21:42 | 11/10/22 20:00 | LD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1951651 | 1 | 10/31/22 15:18 | 10/31/22 15:18 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1952125 | 10 | 11/01/22 09:14 | 11/01/22 09:14 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1949984 | 25 | 10/29/22 05:33 | 10/29/22 05:33 | JAH | Mt. Juliet, TN |

## MW-171-102622 L1550880-03 GW

Collected by: NEW | Collected date/time: 10/26/22 14:51 | Received date/time: 10/27/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1956061 | 1 | 11/08/22 12:45 | 11/08/22 12:45 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1949908 | 1 | 10/27/22 23:55 | 10/27/22 23:55 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1955935 | 1 | 11/11/22 13:56 | 11/11/22 13:56 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1956348 | 1 | 11/09/22 21:42 | 11/10/22 20:03 | LD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1951651 | 1 | 10/31/22 15:27 | 10/31/22 15:27 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1949984 | 100 | 10/29/22 05:55 | 10/29/22 05:55 | JAH | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 320000 | | 8450 | 20000 | 1 | 11/08/2022 12:28 | WG1956061 |

Sample Narrative:
L1550880-01 WG1956061: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 69000 | | 379 | 1000 | 1 | 10/27/2022 23:00 | WG1949908 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/27/2022 23:00 | WG1949908 |
| Sulfate | 10300 | | 594 | 5000 | 1 | 10/27/2022 23:00 | WG1949908 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 8330 | | 102 | 1000 | 1 | 11/11/2022 12:31 | WG1955935 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 3620 | | 28.1 | 100 | 1 | 11/10/2022 19:57 | WG1956348 |
| Manganese | 666 | | 0.704 | 5.00 | 1 | 11/10/2022 19:57 | WG1956348 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 29100 | | 2.87 | 6.78 | 10 | 11/01/2022 09:11 | WG1952125 |
| Ethane | 731 | | 0.296 | 1.29 | 1 | 10/31/2022 14:55 | WG1951651 |
| Ethene | 1880 | | 0.422 | 1.27 | 1 | 10/31/2022 14:55 | WG1951651 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 110 | 200 | 200 | 10/29/2022 05:11 | WG1949984 |
| Acrylonitrile | U | | 15.2 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| Benzene | U | | 3.20 | 8.00 | 200 | 10/29/2022 05:11 | WG1949984 |
| Bromobenzene | U | | 8.40 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| Bromodichloromethane | U | | 6.30 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Bromoform | U | | 47.8 | 200 | 200 | 10/29/2022 05:11 | WG1949984 |
| Bromomethane | U | | 29.6 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| n-Butylbenzene | U | | 30.6 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| sec-Butylbenzene | U | | 20.2 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| tert-Butylbenzene | U | | 12.4 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Carbon tetrachloride | U | | 8.64 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Chlorobenzene | U | | 4.58 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Chlorodibromomethane | U | | 3.60 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Chloroethane | U | | 8.64 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Chloroform | U | | 3.32 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Chloromethane | U | | 11.1 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| 2-Chlorotoluene | U | | 7.36 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 4-Chlorotoluene | U | | 9.04 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,2-Dibromo-3-Chloropropane | U | | 40.8 | 200 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,2-Dibromoethane | U | | 4.20 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 8.00 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,2-Dichlorobenzene | U | | 11.6 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,3-Dichlorobenzene | U | | 13.6 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,4-Dichlorobenzene | U | | 15.8 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Dichlorodifluoromethane | U | | 6.54 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,1-Dichloroethane | U | | 4.60 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,2-Dichloroethane | U | | 3.80 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,1-Dichloroethene | U | | 4.00 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| cis-1,2-Dichloroethene | 3150 | | 5.52 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| trans-1,2-Dichloroethene | 27.2 | J | 11.4 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,2-Dichloropropane | U | | 10.2 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,1-Dichloropropene | U | | 5.60 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,3-Dichloropropane | U | | 14.0 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| cis-1,3-Dichloropropene | U | | 5.42 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| trans-1,3-Dichloropropene | U | | 12.2 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 2,2-Dichloropropane | U | | 6.34 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Di-isopropyl ether | U | | 2.80 | 8.00 | 200 | 10/29/2022 05:11 | WG1949984 |
| Ethylbenzene | U | | 4.24 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | 102 | 200 | 200 | 10/29/2022 05:11 | WG1949984 |
| Isopropylbenzene | U | J4 | 6.90 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| p-Isopropyltoluene | U | | 18.6 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 2-Butanone (MEK) | U | | 100 | 200 | 200 | 10/29/2022 05:11 | WG1949984 |
| Methylene Chloride | U | | 53.0 | 200 | 200 | 10/29/2022 05:11 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | 80.0 | 200 | 200 | 10/29/2022 05:11 | WG1949984 |
| Methyl tert-butyl ether | U | | 2.36 | 8.00 | 200 | 10/29/2022 05:11 | WG1949984 |
| Naphthalene | U | | 24.8 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| n-Propylbenzene | U | | 9.44 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Styrene | U | | 21.8 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | J4 | 4.00 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | 3.12 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | 5.40 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Tetrachloroethene | 5450 | C5 | 5.60 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Toluene | 33.2 | J | 10.0 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | 5.00 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | 38.6 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,1,1-Trichloroethane | U | | 2.20 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,1,2-Trichloroethane | U | | 7.06 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Trichloroethene | 551 | | 3.20 | 8.00 | 200 | 10/29/2022 05:11 | WG1949984 |
| Trichlorofluoromethane | U | | 4.00 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,2,3-Trichloropropane | U | | 40.8 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,2,4-Trimethylbenzene | U | | 9.28 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | 9.20 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | 8.64 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Vinyl chloride | 3100 | | 5.46 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Xylenes, Total | U | | 38.2 | 52.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Ethyl Ether | U | | 3.40 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Tetrahydrofuran | U | | 18.0 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| Iodomethane | U | | 48.4 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| Allyl chloride | U | | 116 | 200 | 200 | 10/29/2022 05:11 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | 11.2 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| *(S) Toluene-d8* | *115* | | | *75.0-131* | | *10/29/2022 05:11* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *114* | | | *67.0-138* | | *10/29/2022 05:11* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *96.4* | | | *70.0-130* | | *10/29/2022 05:11* | WG1949984 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 1150000 | | 8450 | 20000 | 1 | 11/08/2022 12:33 | WG1956061 |

Sample Narrative:

L1550880-02 WG1956061: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 74600 | | 379 | 1000 | 1 | 10/27/2022 23:41 | WG1949908 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/27/2022 23:41 | WG1949908 |
| Sulfate | 24100 | | 594 | 5000 | 1 | 10/27/2022 23:41 | WG1949908 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 34700 | | 102 | 1000 | 1 | 11/11/2022 13:38 | WG1955935 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 23700 | | 28.1 | 100 | 1 | 11/10/2022 20:00 | WG1956348 |
| Manganese | 8180 | | 0.704 | 5.00 | 1 | 11/10/2022 20:00 | WG1956348 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 14700 | | 2.87 | 6.78 | 10 | 11/01/2022 09:14 | WG1952125 |
| Ethane | 39.1 | | 0.296 | 1.29 | 1 | 10/31/2022 15:18 | WG1951651 |
| Ethene | 99.8 | | 0.422 | 1.27 | 1 | 10/31/2022 15:18 | WG1951651 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 13.7 | 25.0 | 25 | 10/29/2022 05:33 | WG1949984 |
| Acrylonitrile | U | | 1.90 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| Benzene | U | | 0.400 | 1.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| Bromobenzene | U | | 1.05 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| Bromodichloromethane | U | | 0.788 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Bromoform | U | | 5.98 | 25.0 | 25 | 10/29/2022 05:33 | WG1949984 |
| Bromomethane | U | | 3.70 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| n-Butylbenzene | U | | 3.83 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| sec-Butylbenzene | U | | 2.53 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| tert-Butylbenzene | U | | 1.55 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| Carbon tetrachloride | U | | 1.08 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| Chlorobenzene | U | | 0.573 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Chlorodibromomethane | U | | 0.450 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Chloroethane | U | | 1.08 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| Chloroform | U | | 0.415 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Chloromethane | U | | 1.39 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| 2-Chlorotoluene | U | | 0.920 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| 4-Chlorotoluene | U | | 1.13 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,2-Dibromo-3-Chloropropane | U | | 5.10 | 25.0 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,2-Dibromoethane | U | | 0.525 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 1.00 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,2-Dichlorobenzene | U | | 1.45 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,3-Dichlorobenzene | U | | 1.70 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,4-Dichlorobenzene | U | | 1.97 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| Dichlorodifluoromethane | U | | 0.818 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,1-Dichloroethane | U | | 0.575 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,2-Dichloroethane | U | | 0.475 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,1-Dichloroethene | 2.65 | | 0.500 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| cis-1,2-Dichloroethene | 948 | | 0.690 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| trans-1,2-Dichloroethene | 4.50 | J | 1.43 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,2-Dichloropropane | U | | 1.27 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,1-Dichloropropene | U | | 0.700 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,3-Dichloropropane | U | | 1.75 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| cis-1,3-Dichloropropene | U | | 0.678 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| trans-1,3-Dichloropropene | U | | 1.53 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| 2,2-Dichloropropane | U | | 0.793 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Di-isopropyl ether | U | | 0.350 | 1.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| Ethylbenzene | U | | 0.530 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | 12.7 | 25.0 | 25 | 10/29/2022 05:33 | WG1949984 |
| Isopropylbenzene | U | J4 | 0.863 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| p-Isopropyltoluene | U | | 2.33 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| 2-Butanone (MEK) | U | | 12.5 | 25.0 | 25 | 10/29/2022 05:33 | WG1949984 |
| Methylene Chloride | U | | 6.63 | 25.0 | 25 | 10/29/2022 05:33 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | 10.0 | 25.0 | 25 | 10/29/2022 05:33 | WG1949984 |
| Methyl tert-butyl ether | U | | 0.295 | 1.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| Naphthalene | U | | 3.10 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| n-Propylbenzene | U | | 1.18 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| Styrene | U | | 2.73 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | J4 | 0.500 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | 0.390 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.675 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Tetrachloroethene | 4.80 | C5 | 0.700 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Toluene | 5.07 | | 1.25 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | 0.625 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | 4.83 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,1,1-Trichloroethane | U | | 0.275 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,1,2-Trichloroethane | U | | 0.883 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Trichloroethene | 7.70 | | 0.400 | 1.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| Trichlorofluoromethane | U | | 0.500 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,2,3-Trichloropropane | U | | 5.10 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,2,4-Trimethylbenzene | U | | 1.16 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | 1.15 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | 1.08 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| Vinyl chloride | 743 | | 0.682 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Xylenes, Total | U | | 4.78 | 6.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Ethyl Ether | U | | 0.425 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Tetrahydrofuran | U | | 2.25 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| Iodomethane | U | | 6.05 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| Allyl chloride | U | | 14.5 | 25.0 | 25 | 10/29/2022 05:33 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | 1.40 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| *(S) Toluene-d8* | *114* | | | *75.0-131* | | *10/29/2022 05:33* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *114* | | | *67.0-138* | | *10/29/2022 05:33* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *93.8* | | | *70.0-130* | | *10/29/2022 05:33* | WG1949984 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 326000 | | 8450 | 20000 | 1 | 11/08/2022 12:45 | WG1956061 |

Sample Narrative:

L1550880-03 WG1956061: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 102000 | | 379 | 1000 | 1 | 10/27/2022 23:55 | WG1949908 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/27/2022 23:55 | WG1949908 |
| Sulfate | 12000 | | 594 | 5000 | 1 | 10/27/2022 23:55 | WG1949908 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 7080 | | 102 | 1000 | 1 | 11/11/2022 13:56 | WG1955935 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 2660 | | 28.1 | 100 | 1 | 11/10/2022 20:03 | WG1956348 |
| Manganese | 548 | | 0.704 | 5.00 | 1 | 11/10/2022 20:03 | WG1956348 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 4890 | | 0.287 | 0.678 | 1 | 10/31/2022 15:27 | WG1951651 |
| Ethane | 26.4 | | 0.296 | 1.29 | 1 | 10/31/2022 15:27 | WG1951651 |
| Ethene | 424 | | 0.422 | 1.27 | 1 | 10/31/2022 15:27 | WG1951651 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 54.8 | 100 | 100 | 10/29/2022 05:55 | WG1949984 |
| Acrylonitrile | U | | 7.60 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Benzene | U | | 1.60 | 4.00 | 100 | 10/29/2022 05:55 | WG1949984 |
| Bromobenzene | U | | 4.20 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Bromodichloromethane | U | | 3.15 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Bromoform | U | | 23.9 | 100 | 100 | 10/29/2022 05:55 | WG1949984 |
| Bromomethane | U | | 14.8 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| n-Butylbenzene | U | | 15.3 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| sec-Butylbenzene | U | | 10.1 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| tert-Butylbenzene | U | | 6.20 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Carbon tetrachloride | U | | 4.32 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Chlorobenzene | U | | 2.29 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Chlorodibromomethane | U | | 1.80 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Chloroethane | U | | 4.32 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Chloroform | U | | 1.66 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Chloromethane | U | | 5.56 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 2-Chlorotoluene | U | | 3.68 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 4-Chlorotoluene | U | | 4.52 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,2-Dibromo-3-Chloropropane | U | | 20.4 | 100 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,2-Dibromoethane | U | | 2.10 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 4.00 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,2-Dichlorobenzene | U | | 5.80 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,3-Dichlorobenzene | U | | 6.80 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,4-Dichlorobenzene | U | | 7.88 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Dichlorodifluoromethane | U | | 3.27 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,1-Dichloroethane | U | | 2.30 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,2-Dichloroethane | U | | 1.90 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,1-Dichloroethene | 35.8 | | 2.00 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| cis-1,2-Dichloroethene | 3680 | | 2.76 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| trans-1,2-Dichloroethene | 15.5 | J | 5.72 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,2-Dichloropropane | U | | 5.08 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,1-Dichloropropene | U | | 2.80 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,3-Dichloropropane | U | | 7.00 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| cis-1,3-Dichloropropene | U | | 2.71 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| trans-1,3-Dichloropropene | U | | 6.12 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 2,2-Dichloropropane | U | | 3.17 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Di-isopropyl ether | U | | 1.40 | 4.00 | 100 | 10/29/2022 05:55 | WG1949984 |
| Ethylbenzene | U | | 2.12 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | 50.8 | 100 | 100 | 10/29/2022 05:55 | WG1949984 |
| Isopropylbenzene | U | J4 | 3.45 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| p-Isopropyltoluene | U | | 9.32 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 2-Butanone (MEK) | U | | 50.0 | 100 | 100 | 10/29/2022 05:55 | WG1949984 |
| Methylene Chloride | U | | 26.5 | 100 | 100 | 10/29/2022 05:55 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | 40.0 | 100 | 100 | 10/29/2022 05:55 | WG1949984 |
| Methyl tert-butyl ether | U | | 1.18 | 4.00 | 100 | 10/29/2022 05:55 | WG1949984 |
| Naphthalene | U | | 12.4 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| n-Propylbenzene | U | | 4.72 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Styrene | U | | 10.9 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | J4 | 2.00 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | 1.56 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | 2.70 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Tetrachloroethene | U | | 2.80 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Toluene | 17.3 | J | 5.00 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | 2.50 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | 19.3 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,1,1-Trichloroethane | U | | 1.10 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,1,2-Trichloroethane | U | | 3.53 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Trichloroethene | 9.30 | | 1.60 | 4.00 | 100 | 10/29/2022 05:55 | WG1949984 |
| Trichlorofluoromethane | U | | 2.00 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,2,3-Trichloropropane | U | | 20.4 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,2,4-Trimethylbenzene | U | | 4.64 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | 4.60 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | 4.32 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Vinyl chloride | 1820 | | 2.73 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Xylenes, Total | U | | 19.1 | 26.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Ethyl Ether | U | | 1.70 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Tetrahydrofuran | U | | 9.00 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Iodomethane | U | | 24.2 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Allyl chloride | U | | 58.0 | 100 | 100 | 10/29/2022 05:55 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | 5.60 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| *(S) Toluene-d8* | *113* | | | *75.0-131* | | *10/29/2022 05:55* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *116* | | | *67.0-138* | | *10/29/2022 05:55* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *96.3* | | | *70.0-130* | | *10/29/2022 05:55* | WG1949984 |

## Method Blank (MB)

(MB) R3858377-2 11/08/22 11:53

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1550845-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1550845-01 11/08/22 11:59 • (DUP) R3858377-3 11/08/22 12:04

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 573000 | 571000 | 1 | 0.389 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

## L1551441-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1551441-15 11/08/22 13:38 • (DUP) R3858377-4 11/08/22 13:44

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 142000 | 143000 | 1 | 0.678 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3858377-1 11/08/22 11:49

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 101000 | 101 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3855928-1 10/27/22 10:42

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1550845-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1550845-01 10/27/22 19:20 • (DUP) R3855928-3 10/27/22 19:34

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Nitrate | U | U | 1 | 0.000 | | 15 |
| Sulfate | 35700 | 34900 | 1 | 2.35 | | 15 |

## L1550845-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1550845-01 10/27/22 20:56 • (DUP) R3855928-4 10/27/22 19:48

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 409000 | 397000 | 5 | 3.00 | | 15 |

## L1550919-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1550919-14 10/28/22 03:20 • (DUP) R3855928-7 10/28/22 03:34

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 23000 | 22800 | 1 | 0.709 | | 15 |
| Nitrate | U | U | 1 | 0.000 | | 15 |
| Sulfate | U | U | 1 | 0.000 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3855928-2 10/27/22 10:56

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 39800 | 99.6 | 80.0-120 | |
| Nitrate | 8000 | 7700 | 96.3 | 80.0-120 | |
| Sulfate | 40000 | 39600 | 98.9 | 80.0-120 | |

## L1550845-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1550845-01 10/27/22 19:20 • (MS) R3855928-5 10/27/22 20:02 • (MSD) R3855928-6 10/27/22 20:15

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 397000 | 437000 | 428000 | 81.1 | 62.1 | 1 | 80.0-120 | E | E V | 2.20 | 15 |
| Nitrate | 5000 | U | 4610 | 4500 | 92.1 | 90.0 | 1 | 80.0-120 | | | 2.37 | 15 |
| Sulfate | 50000 | 35700 | 83600 | 81600 | 95.8 | 91.7 | 1 | 80.0-120 | | | 2.43 | 15 |

## L1550919-14 Original Sample (OS) • Matrix Spike (MS)

(OS) L1550919-14 10/28/22 03:20 • (MS) R3855928-8 10/28/22 03:48

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 23000 | 72900 | 99.8 | 1 | 80.0-120 | |
| Nitrate | 5000 | U | 4750 | 95.0 | 1 | 80.0-120 | |
| Sulfate | 50000 | U | 48600 | 97.3 | 1 | 80.0-120 | |

## Method Blank (MB)

(MB) R3860106-2 11/11/22 04:10

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 378 | J | 102 | 1000 |

## L1550645-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1550645-14 11/11/22 06:53 • (DUP) R3860106-3 11/11/22 07:12

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2510000 | 2570000 | 50 | 2.40 | | 20 |

## L1550755-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1550755-06 11/11/22 11:10 • (DUP) R3860106-4 11/11/22 11:34

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 13100 | 12800 | 1 | 2.32 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3860106-1 11/11/22 03:54

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 75900 | 101 | 85.0-115 | |

## L1550880-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1550880-01 11/11/22 12:31 • (MS) R3860106-5 11/11/22 12:53 • (MSD) R3860106-6 11/11/22 13:15

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 8330 | 58400 | 53900 | 100 | 91.1 | 1 | 80.0-120 | | | 8.02 | 20 |

## L1550884-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1550884-01 11/11/22 14:15 • (MS) R3860106-7 11/11/22 14:37 • (MSD) R3860106-8 11/11/22 14:58

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 7330 | 59900 | 55400 | 105 | 96.2 | 1 | 80.0-120 | | | 7.77 | 20 |

## Method Blank (MB)

(MB) R3859762-1 11/10/22 18:47

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3859762-2 11/10/22 18:50

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Iron | 5000 | 4940 | 98.7 | 80.0-120 | |
| Manganese | 50.0 | 49.7 | 99.4 | 80.0-120 | |

## L1550884-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1550884-02 11/10/22 18:54 • (MS) R3859762-4 11/10/22 19:00 • (MSD) R3859762-5 11/10/22 19:04

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Iron | 5000 | 1190 | 6390 | 6280 | 104 | 102 | 1 | 75.0-125 | | | 1.79 | 20 |
| Manganese | 50.0 | 579 | 641 | 634 | 125 | 111 | 1 | 75.0-125 | | | 1.14 | 20 |

## Method Blank (MB)

(MB) R3855188-2 10/31/22 14:06

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1550365-22 Original Sample (OS) • Duplicate (DUP)

(OS) L1550365-22 10/31/22 14:22 • (DUP) R3855188-3 10/31/22 15:24

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1551052-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1551052-09 10/31/22 16:33 • (DUP) R3855188-4 10/31/22 16:37

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 102 | 102 | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3855188-1 10/31/22 13:59 • (LCSD) R3855188-9 10/31/22 16:53

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 70.3 | 69.1 | 104 | 102 | 85.0-115 | | | 1.72 | 20 |
| Ethane | 129 | 116 | 119 | 89.9 | 92.2 | 85.0-115 | | | 2.55 | 20 |
| Ethene | 127 | 117 | 119 | 92.1 | 93.7 | 85.0-115 | | | 1.69 | 20 |

## L1550845-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1550845-01 10/31/22 14:29 • (MS) R3855188-5 10/31/22 16:39 • (MSD) R3855188-6 10/31/22 16:42

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 3520 | 3430 | 3420 | 0.000 | 0.000 | 1 | 85.0-115 | V | V | 0.292 | 20 |
| Ethane | 129 | U | 133 | 131 | 103 | 102 | 1 | 85.0-115 | | | 1.52 | 20 |
| Ethene | 127 | U | 132 | 130 | 104 | 102 | 1 | 85.0-115 | | | 1.53 | 20 |

## L1551052-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1551052-02 10/31/22 15:46 • (MS) R3855188-7 10/31/22 16:44 • (MSD) R3855188-8 10/31/22 16:48

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | U | 84.4 | 93.7 | 124 | 138 | 1 | 85.0-115 | J5 | J5 | 10.4 | 20 |
| Ethane | 129 | U | 133 | 144 | 103 | 112 | 1 | 85.0-115 | | | 7.94 | 20 |
| Ethene | 127 | U | 133 | 144 | 105 | 113 | 1 | 85.0-115 | | | 7.94 | 20 |

## Method Blank (MB)

(MB) R3855409-2 11/01/22 08:55

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |

## L1550845-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1550845-05 11/01/22 09:05 • (DUP) R3855409-3 11/01/22 10:04

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 7560 | 5490 | 10 | 31.7 | | 20 |

## L1550906-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1550906-12 11/01/22 10:17 • (DUP) R3855409-4 11/01/22 10:48

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3855409-1 11/01/22 08:53 • (LCSD) R3855409-5 11/01/22 11:22

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 71.8 | 69.6 | 106 | 103 | 85.0-115 | | | 3.11 | 20 |

## Method Blank (MB)

(MB) R3856636-3 10/29/22 00:54

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3856636-3 10/29/22 00:54

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *117* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *112* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *93.9* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3856636-1 10/28/22 23:29 • (LCSD) R3856636-2 10/28/22 23:49

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 22.3 | 21.7 | 89.2 | 86.8 | 10.0-160 | | | 2.73 | 31 |
| Acrylonitrile | 25.0 | 26.9 | 25.8 | 108 | 103 | 45.0-153 | | | 4.17 | 22 |
| Benzene | 5.00 | 4.98 | 4.59 | 99.6 | 91.8 | 70.0-123 | | | 8.15 | 20 |
| Bromobenzene | 5.00 | 4.81 | 4.69 | 96.2 | 93.8 | 73.0-121 | | | 2.53 | 20 |
| Bromodichloromethane | 5.00 | 4.72 | 4.46 | 94.4 | 89.2 | 73.0-121 | | | 5.66 | 20 |
| Bromoform | 5.00 | 4.80 | 5.04 | 96.0 | 101 | 64.0-132 | | | 4.88 | 20 |
| Bromomethane | 5.00 | 5.21 | 4.84 | 104 | 96.8 | 56.0-147 | | | 7.36 | 20 |
| n-Butylbenzene | 5.00 | 6.11 | 5.55 | 122 | 111 | 68.0-135 | | | 9.61 | 20 |
| sec-Butylbenzene | 5.00 | 5.54 | 5.09 | 111 | 102 | 74.0-130 | | | 8.47 | 20 |
| tert-Butylbenzene | 5.00 | 4.82 | 4.58 | 96.4 | 91.6 | 75.0-127 | | | 5.11 | 20 |
| Carbon tetrachloride | 5.00 | 5.19 | 5.02 | 104 | 100 | 66.0-128 | | | 3.33 | 20 |
| Chlorobenzene | 5.00 | 5.27 | 5.03 | 105 | 101 | 76.0-128 | | | 4.66 | 20 |
| Chlorodibromomethane | 5.00 | 4.98 | 4.99 | 99.6 | 99.8 | 74.0-127 | | | 0.201 | 20 |
| Chloroethane | 5.00 | 5.13 | 5.04 | 103 | 101 | 61.0-134 | | | 1.77 | 20 |
| Chloroform | 5.00 | 5.09 | 4.76 | 102 | 95.2 | 72.0-123 | | | 6.70 | 20 |
| Chloromethane | 5.00 | 5.12 | 4.80 | 102 | 96.0 | 51.0-138 | | | 6.45 | 20 |
| 2-Chlorotoluene | 5.00 | 4.91 | 4.58 | 98.2 | 91.6 | 75.0-124 | | | 6.95 | 20 |
| 4-Chlorotoluene | 5.00 | 4.97 | 5.00 | 99.4 | 100 | 75.0-124 | | | 0.602 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 5.06 | 5.21 | 101 | 104 | 59.0-130 | | | 2.92 | 20 |
| 1,2-Dibromoethane | 5.00 | 4.74 | 4.38 | 94.8 | 87.6 | 74.0-128 | | | 7.89 | 20 |
| Dibromomethane | 5.00 | 4.76 | 4.60 | 95.2 | 92.0 | 75.0-122 | | | 3.42 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 5.83 | 5.56 | 117 | 111 | 76.0-124 | | | 4.74 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 4.93 | 5.39 | 98.6 | 108 | 76.0-125 | | | 8.91 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 4.59 | 4.96 | 91.8 | 99.2 | 77.0-121 | | | 7.75 | 20 |
| Dichlorodifluoromethane | 5.00 | 4.59 | 4.52 | 91.8 | 90.4 | 43.0-156 | | | 1.54 | 20 |
| 1,1-Dichloroethane | 5.00 | 5.18 | 4.85 | 104 | 97.0 | 70.0-127 | | | 6.58 | 20 |
| 1,2-Dichloroethane | 5.00 | 5.03 | 4.80 | 101 | 96.0 | 65.0-131 | | | 4.68 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.25 | 4.95 | 105 | 99.0 | 65.0-131 | | | 5.88 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.29 | 4.96 | 106 | 99.2 | 73.0-125 | | | 6.44 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.07 | 4.49 | 101 | 89.8 | 71.0-125 | | | 12.1 | 20 |
| 1,2-Dichloropropane | 5.00 | 4.74 | 4.72 | 94.8 | 94.4 | 74.0-125 | | | 0.423 | 20 |
| 1,1-Dichloropropene | 5.00 | 4.96 | 4.82 | 99.2 | 96.4 | 73.0-125 | | | 2.86 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.11 | 4.65 | 102 | 93.0 | 80.0-125 | | | 9.43 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 4.69 | 4.29 | 93.8 | 85.8 | 76.0-127 | | | 8.91 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 4.98 | 4.63 | 99.6 | 92.6 | 73.0-127 | | | 7.28 | 20 |
| 2,2-Dichloropropane | 5.00 | 4.70 | 4.60 | 94.0 | 92.0 | 59.0-135 | | | 2.15 | 20 |
| Di-isopropyl ether | 5.00 | 5.28 | 4.96 | 106 | 99.2 | 60.0-136 | | | 6.25 | 20 |
| Ethylbenzene | 5.00 | 5.87 | 5.67 | 117 | 113 | 74.0-126 | | | 3.47 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 5.30 | 5.14 | 106 | 103 | 57.0-150 | | | 3.07 | 20 |
| Isopropylbenzene | 5.00 | 6.51 | 6.16 | 130 | 123 | 72.0-127 | J4 | | 5.52 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3856636-1 10/28/22 23:29 • (LCSD) R3856636-2 10/28/22 23:49

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.58 | 5.26 | 112 | 105 | 72.0-133 | | | 5.90 | 20 |
| 2-Butanone (MEK) | 25.0 | 23.0 | 21.8 | 92.0 | 87.2 | 30.0-160 | | | 5.36 | 24 |
| Methylene Chloride | 5.00 | 5.35 | 5.01 | 107 | 100 | 68.0-123 | | | 6.56 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 28.7 | 28.3 | 115 | 113 | 56.0-143 | | | 1.40 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.01 | 4.62 | 100 | 92.4 | 66.0-132 | | | 8.10 | 20 |
| Naphthalene | 5.00 | 6.35 | 6.12 | 127 | 122 | 59.0-130 | | | 3.69 | 20 |
| n-Propylbenzene | 5.00 | 6.23 | 5.78 | 125 | 116 | 74.0-126 | | | 7.49 | 20 |
| Styrene | 5.00 | 5.62 | 5.30 | 112 | 106 | 72.0-127 | | | 5.86 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 6.54 | 6.25 | 131 | 125 | 74.0-129 | J4 | | 4.53 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 5.65 | 5.32 | 113 | 106 | 68.0-128 | | | 6.02 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.07 | 4.78 | 101 | 95.6 | 61.0-139 | | | 5.89 | 20 |
| Tetrachloroethene | 5.00 | 6.18 | 5.84 | 124 | 117 | 70.0-136 | | | 5.66 | 20 |
| Toluene | 5.00 | 5.96 | 5.62 | 119 | 112 | 75.0-121 | | | 5.87 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 6.01 | 5.60 | 120 | 112 | 59.0-139 | | | 7.06 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 5.72 | 5.38 | 114 | 108 | 62.0-137 | | | 6.13 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.42 | 5.05 | 108 | 101 | 69.0-126 | | | 7.07 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.08 | 5.23 | 102 | 105 | 78.0-123 | | | 2.91 | 20 |
| Trichloroethene | 5.00 | 5.18 | 4.92 | 104 | 98.4 | 76.0-126 | | | 5.15 | 20 |
| Trichlorofluoromethane | 5.00 | 4.69 | 4.40 | 93.8 | 88.0 | 61.0-142 | | | 6.38 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 5.21 | 4.95 | 104 | 99.0 | 67.0-129 | | | 5.12 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.98 | 5.70 | 120 | 114 | 70.0-126 | | | 4.79 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.63 | 5.24 | 113 | 105 | 74.0-124 | | | 7.18 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.77 | 5.27 | 115 | 105 | 73.0-127 | | | 9.06 | 20 |
| Vinyl chloride | 5.00 | 5.24 | 5.00 | 105 | 100 | 63.0-134 | | | 4.69 | 20 |
| Xylenes, Total | 15.0 | 17.1 | 16.6 | 114 | 111 | 72.0-127 | | | 2.97 | 20 |
| Ethyl ether | 5.00 | 4.97 | 4.77 | 99.4 | 95.4 | 64.0-137 | | | 4.11 | 20 |
| Tetrahydrofuran | 5.00 | 4.65 | 4.28 | 93.0 | 85.6 | 37.0-146 | | | 8.29 | 24 |
| Iodomethane | 25.0 | 24.5 | 23.5 | 98.0 | 94.0 | 74.0-134 | | | 4.17 | 20 |
| Allyl chloride | 25.0 | 26.4 | 25.2 | 106 | 101 | 70.0-131 | | | 4.65 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 4.58 | 3.78 | 91.6 | 75.6 | 45.0-143 | | | 19.1 | 20 |
| *(S) Toluene-d8* | | | | *114* | *115* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *106* | *104* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *94.1* | *92.4* | *70.0-130* | | | | |

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| C5 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded high. Data is likely to show a high bias concerning the result. |
| E | The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL). |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J4 | The associated batch QC was outside the established quality control range for accuracy. |
| J5 | The sample matrix interfered with the ability to make any accurate determination; spike value is high. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

**2101 Fourth Ave., Suite 1310**
**Seattle, WA 98121**

Billing Information:
**Attn: Accounts Payable**
**2101 4th Avenue, Suite 1310**
**Seattle, WA 98121**

Report to:
**Brian O'Neal/Bill Haldeman**

Email To:
**Shannon.McKernan@nv5.com;brian.oneal@nv5**

Project Description:
**American Linen**

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: **206-529-3980**

Client Project #
1413.001.10.701.02

Lab Project #
**PESENVSWA-ALP**

Collected by (print):
NEW

Site/Facility ID #

P.O. # 1413.001.10.701.02
~~443018-1413001.05.601~~

Collected by (signature):
NEW

Immediately
Packed on Ice N ___ Y ✓

***Rush?*** (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Pres Chk

Analysis / Container / Preservative

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | | | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-177-102622 | Grab | GW | — | 10/26/22 | 1137 | 9 | X | X | X | X | | X | X | X | | | | 01 |
| MW-180-102622 | ↓ | GW | — | ↓ | 1232 | ↓ | X | X | X | X | | X | X | X | | | | 02 |
| MW-171-102622 | ↓ | GW | — | ↓ | 1451 | ↓ | X | X | X | X | | X | X | X | | | | 03 |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |

NEW 10/26/22

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L558880

Table # 1210

Acctnum: **PESENVSWA**
Template: **T218236**
Prelogin: **P957562**
PM: **546 - Jared Starkey**
PB:

Shipped Via:

* Matrix:
**SS** - Soil **AIR** - Air **F** - Filter
**GW** - Groundwater **B** - Bioassay
**WW** - WasteWater
**DW** - Drinking Water
**OT** - Other_____

**Remarks:**

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier _____

Tracking # 8004 5459 7181

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) |
|---|---|---|---|
| Natalie Woodson | 10/26/22 | 1610 | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) |
| | 10/26/22 | 1640 | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) |
| | | | Hawa Mueh |

Trip Blank Received: Yes / No
HCl / MeoH
TBR

Temp: 1.1 °C Bottles Received: 27
2.2 2.2

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Date: 10/27/22 Time: 09:00

# ANALYTICAL REPORT

November 14, 2022



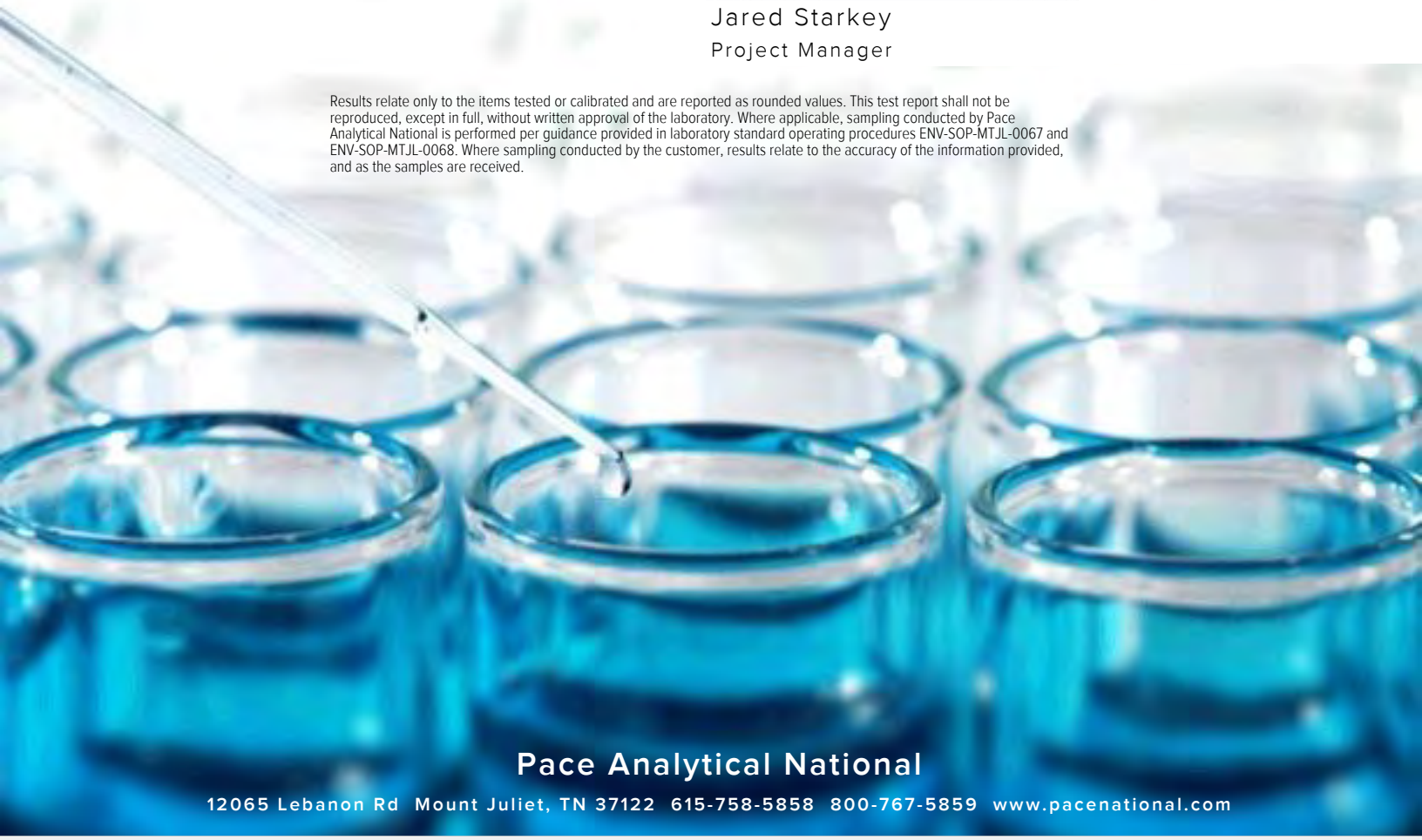
## PES Environmental, Inc.- WA

| | |
|---|---|
| Sample Delivery Group: | L1550884 |
| Samples Received: | 10/27/2022 |
| Project Number: | 1413001.10.701.02 |
| Description: | American Linen |
| Report To: | Brian O'Neal/Bill Haldeman<br>2101 Fourth Ave., Suite 1310<br>Seattle, WA 98121 |

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## MW-187-102622 L1550884-01 GW

Collected by: ARS | Collected date/time: 10/26/22 11:00 | Received date/time: 10/27/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1956061 | 1 | 11/08/22 12:50 | 11/08/22 12:50 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1949908 | 1 | 10/28/22 00:08 | 10/28/22 00:08 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1955935 | 1 | 11/11/22 14:15 | 11/11/22 14:15 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1956348 | 1 | 11/09/22 21:42 | 11/10/22 20:16 | LD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1951651 | 1 | 10/31/22 15:36 | 10/31/22 15:36 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1952125 | 10 | 11/01/22 09:20 | 11/01/22 09:20 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1949984 | 1 | 10/29/22 01:58 | 10/29/22 01:58 | JAH | Mt. Juliet, TN |

## MW-188-102622 L1550884-02 GW

Collected by: ARS | Collected date/time: 10/26/22 11:50 | Received date/time: 10/27/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1956061 | 1 | 11/08/22 12:55 | 11/08/22 12:55 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1949908 | 1 | 10/28/22 00:22 | 10/28/22 00:22 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1957292 | 1 | 11/11/22 13:05 | 11/11/22 13:05 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1956348 | 1 | 11/09/22 21:42 | 11/10/22 18:54 | LD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1952125 | 1 | 11/01/22 09:39 | 11/01/22 09:39 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1949984 | 1 | 10/29/22 02:20 | 10/29/22 02:20 | JAH | Mt. Juliet, TN |

## MW-186-102622 L1550884-03 GW

Collected by: ARS | Collected date/time: 10/26/22 15:00 | Received date/time: 10/27/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1956061 | 1 | 11/08/22 13:00 | 11/08/22 13:00 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1949908 | 1 | 10/28/22 00:36 | 10/28/22 00:36 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1957292 | 1 | 11/11/22 13:26 | 11/11/22 13:26 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1956348 | 1 | 11/09/22 21:42 | 11/10/22 20:20 | LD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1952125 | 1 | 11/01/22 09:43 | 11/01/22 09:43 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1952393 | 10 | 11/01/22 14:23 | 11/01/22 14:23 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1949984 | 1 | 10/29/22 02:42 | 10/29/22 02:42 | JAH | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 696000 | | 8450 | 20000 | 1 | 11/08/2022 12:50 | WG1956061 |

Sample Narrative:

L1550884-01 WG1956061: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 80800 | | 379 | 1000 | 1 | 10/28/2022 00:08 | WG1949908 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/28/2022 00:08 | WG1949908 |
| Sulfate | U | | 594 | 5000 | 1 | 10/28/2022 00:08 | WG1949908 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 7330 | | 102 | 1000 | 1 | 11/11/2022 14:15 | WG1955935 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 4320 | | 28.1 | 100 | 1 | 11/10/2022 20:16 | WG1956348 |
| Manganese | 868 | | 0.704 | 5.00 | 1 | 11/10/2022 20:16 | WG1956348 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 13100 | | 2.87 | 6.78 | 10 | 11/01/2022 09:20 | WG1952125 |
| Ethane | 375 | | 0.296 | 1.29 | 1 | 10/31/2022 15:36 | WG1951651 |
| Ethene | U | | 0.422 | 1.27 | 1 | 10/31/2022 15:36 | WG1951651 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 10/29/2022 01:58 | WG1949984 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 10/29/2022 01:58 | WG1949984 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 10/29/2022 01:58 | WG1949984 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| cis-1,2-Dichloroethene | 0.125 | | 0.0276 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 10/29/2022 01:58 | WG1949984 |
| Ethylbenzene | 0.101 | | 0.0212 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 10/29/2022 01:58 | WG1949984 |
| Isopropylbenzene | U | J4 | 0.0345 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 10/29/2022 01:58 | WG1949984 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 10/29/2022 01:58 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 10/29/2022 01:58 | WG1949984 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 10/29/2022 01:58 | WG1949984 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| Styrene | U | | 0.109 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | J4 | 0.0200 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| Toluene | 0.506 | | 0.0500 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 10/29/2022 01:58 | WG1949984 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,2,4-Trimethylbenzene | 0.171 | J | 0.0464 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| Vinyl chloride | 0.274 | | 0.0273 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| Xylenes, Total | 0.780 | | 0.191 | 0.260 | 1 | 10/29/2022 01:58 | WG1949984 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| Tetrahydrofuran | 0.867 | | 0.0900 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 10/29/2022 01:58 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| *(S) Toluene-d8* | *118* | | | *75.0-131* | | *10/29/2022 01:58* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *111* | | | *67.0-138* | | *10/29/2022 01:58* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *93.0* | | | *70.0-130* | | *10/29/2022 01:58* | WG1949984 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 264000 | | 8450 | 20000 | 1 | 11/08/2022 12:55 | WG1956061 |

Sample Narrative:

L1550884-02 WG1956061: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 41400 | | 379 | 1000 | 1 | 10/28/2022 00:22 | WG1949908 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/28/2022 00:22 | WG1949908 |
| Sulfate | 24400 | | 594 | 5000 | 1 | 10/28/2022 00:22 | WG1949908 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1970 | B | 102 | 1000 | 1 | 11/11/2022 13:05 | WG1957292 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1190 | | 28.1 | 100 | 1 | 11/10/2022 18:54 | WG1956348 |
| Manganese | 579 | | 0.704 | 5.00 | 1 | 11/10/2022 18:54 | WG1956348 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 927 | | 0.287 | 0.678 | 1 | 11/01/2022 09:39 | WG1952125 |
| Ethane | 24.1 | | 0.296 | 1.29 | 1 | 11/01/2022 09:39 | WG1952125 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/01/2022 09:39 | WG1952125 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 10/29/2022 02:20 | WG1949984 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 10/29/2022 02:20 | WG1949984 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 10/29/2022 02:20 | WG1949984 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| cis-1,2-Dichloroethene | 0.104 | | 0.0276 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 10/29/2022 02:20 | WG1949984 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 10/29/2022 02:20 | WG1949984 |
| Isopropylbenzene | U | J4 | 0.0345 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 10/29/2022 02:20 | WG1949984 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 10/29/2022 02:20 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 10/29/2022 02:20 | WG1949984 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 10/29/2022 02:20 | WG1949984 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| Styrene | U | | 0.109 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | J4 | 0.0200 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 10/29/2022 02:20 | WG1949984 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| Vinyl chloride | 0.192 | | 0.0273 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 10/29/2022 02:20 | WG1949984 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 10/29/2022 02:20 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| *(S) Toluene-d8* | *116* | | | *75.0-131* | | *10/29/2022 02:20* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *113* | | | *67.0-138* | | *10/29/2022 02:20* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *94.4* | | | *70.0-130* | | *10/29/2022 02:20* | WG1949984 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 781000 | | 8450 | 20000 | 1 | 11/08/2022 13:00 | WG1956061 |

Sample Narrative:

L1550884-03 WG1956061: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 94600 | | 379 | 1000 | 1 | 10/28/2022 00:36 | WG1949908 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/28/2022 00:36 | WG1949908 |
| Sulfate | U | | 594 | 5000 | 1 | 10/28/2022 00:36 | WG1949908 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 10200 | | 102 | 1000 | 1 | 11/11/2022 13:26 | WG1957292 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 10800 | | 28.1 | 100 | 1 | 11/10/2022 20:20 | WG1956348 |
| Manganese | 1730 | | 0.704 | 5.00 | 1 | 11/10/2022 20:20 | WG1956348 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 32900 | | 2.87 | 6.78 | 10 | 11/01/2022 14:23 | WG1952393 |
| Ethane | 300 | | 0.296 | 1.29 | 1 | 11/01/2022 09:43 | WG1952125 |
| Ethene | 37.4 | | 0.422 | 1.27 | 1 | 11/01/2022 09:43 | WG1952125 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 10/29/2022 02:42 | WG1949984 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| Benzene | 0.0520 | | 0.0160 | 0.0400 | 1 | 10/29/2022 02:42 | WG1949984 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 10/29/2022 02:42 | WG1949984 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| cis-1,2-Dichloroethene | 0.207 | | 0.0276 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| trans-1,2-Dichloroethene | 0.682 | | 0.0572 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 10/29/2022 02:42 | WG1949984 |
| Ethylbenzene | 0.0730 | J | 0.0212 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 10/29/2022 02:42 | WG1949984 |
| Isopropylbenzene | U | J4 | 0.0345 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 10/29/2022 02:42 | WG1949984 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 10/29/2022 02:42 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 10/29/2022 02:42 | WG1949984 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 10/29/2022 02:42 | WG1949984 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| Styrene | U | | 0.109 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | J4 | 0.0200 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| Toluene | 0.379 | | 0.0500 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| Trichloroethene | 0.0630 | | 0.0160 | 0.0400 | 1 | 10/29/2022 02:42 | WG1949984 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,2,4-Trimethylbenzene | 0.101 | J | 0.0464 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| Vinyl chloride | 3.19 | | 0.0273 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| Xylenes, Total | 0.479 | | 0.191 | 0.260 | 1 | 10/29/2022 02:42 | WG1949984 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| Tetrahydrofuran | 0.748 | | 0.0900 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 10/29/2022 02:42 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| *(S) Toluene-d8* | *118* | | | *75.0-131* | | *10/29/2022 02:42* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *118* | | | *67.0-138* | | *10/29/2022 02:42* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *94.3* | | | *70.0-130* | | *10/29/2022 02:42* | WG1949984 |

## Method Blank (MB)

(MB) R3858377-2 11/08/22 11:53

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1550845-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1550845-01 11/08/22 11:59 • (DUP) R3858377-3 11/08/22 12:04

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 573000 | 571000 | 1 | 0.389 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

## L1551441-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1551441-15 11/08/22 13:38 • (DUP) R3858377-4 11/08/22 13:44

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 142000 | 143000 | 1 | 0.678 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3858377-1 11/08/22 11:49

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 101000 | 101 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3855928-1 10/27/22 10:42

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1550845-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1550845-01 10/27/22 19:20 • (DUP) R3855928-3 10/27/22 19:34

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Nitrate | U | U | 1 | 0.000 | | 15 |
| Sulfate | 35700 | 34900 | 1 | 2.35 | | 15 |

## L1550845-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1550845-01 10/27/22 20:56 • (DUP) R3855928-4 10/27/22 19:48

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 409000 | 397000 | 5 | 3.00 | | 15 |

## L1550919-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1550919-14 10/28/22 03:20 • (DUP) R3855928-7 10/28/22 03:34

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 23000 | 22800 | 1 | 0.709 | | 15 |
| Nitrate | U | U | 1 | 0.000 | | 15 |
| Sulfate | U | U | 1 | 0.000 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3855928-2 10/27/22 10:56

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 39800 | 99.6 | 80.0-120 | |
| Nitrate | 8000 | 7700 | 96.3 | 80.0-120 | |
| Sulfate | 40000 | 39600 | 98.9 | 80.0-120 | |

## L1550845-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1550845-01 10/27/22 19:20 • (MS) R3855928-5 10/27/22 20:02 • (MSD) R3855928-6 10/27/22 20:15

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 397000 | 437000 | 428000 | 81.1 | 62.1 | 1 | 80.0-120 | E | E V | 2.20 | 15 |
| Nitrate | 5000 | U | 4610 | 4500 | 92.1 | 90.0 | 1 | 80.0-120 | | | 2.37 | 15 |
| Sulfate | 50000 | 35700 | 83600 | 81600 | 95.8 | 91.7 | 1 | 80.0-120 | | | 2.43 | 15 |

## L1550919-14 Original Sample (OS) • Matrix Spike (MS)

(OS) L1550919-14 10/28/22 03:20 • (MS) R3855928-8 10/28/22 03:48

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 23000 | 72900 | 99.8 | 1 | 80.0-120 | |
| Nitrate | 5000 | U | 4750 | 95.0 | 1 | 80.0-120 | |
| Sulfate | 50000 | U | 48600 | 97.3 | 1 | 80.0-120 | |

## Method Blank (MB)

(MB) R3860106-2 11/11/22 04:10

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 378 | J | 102 | 1000 |

## L1550645-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1550645-14 11/11/22 06:53 • (DUP) R3860106-3 11/11/22 07:12

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2510000 | 2570000 | 50 | 2.40 | | 20 |

## L1550755-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1550755-06 11/11/22 11:10 • (DUP) R3860106-4 11/11/22 11:34

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 13100 | 12800 | 1 | 2.32 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3860106-1 11/11/22 03:54

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 75900 | 101 | 85.0-115 | |

## L1550880-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1550880-01 11/11/22 12:31 • (MS) R3860106-5 11/11/22 12:53 • (MSD) R3860106-6 11/11/22 13:15

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 8330 | 58400 | 53900 | 100 | 91.1 | 1 | 80.0-120 | | | 8.02 | 20 |

## L1550884-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1550884-01 11/11/22 14:15 • (MS) R3860106-7 11/11/22 14:37 • (MSD) R3860106-8 11/11/22 14:58

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 7330 | 59900 | 55400 | 105 | 96.2 | 1 | 80.0-120 | | | 7.77 | 20 |

## Method Blank (MB)

(MB) R3860486-2 11/13/22 11:43

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 716 | J | 102 | 1000 |

## Method Blank (MB)

(MB) R3860487-2 11/11/22 10:26

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 692 | J | 102 | 1000 |

## L1550892-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1550892-01 11/11/22 15:19 • (DUP) R3860487-3 11/11/22 15:36

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2480 | 2600 | 1 | 4.61 | | 20 |

## L1550923-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1550923-03 11/11/22 18:20 • (DUP) R3860487-4 11/11/22 18:32

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1340 | 1190 | 1 | 11.8 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3860486-1 11/13/22 11:12

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 70700 | 94.3 | 85.0-115 | |

## Laboratory Control Sample (LCS)

(LCS) R3860487-1 11/11/22 10:08

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 73600 | 98.1 | 85.0-115 | |

## L1550923-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1550923-06 11/13/22 12:57 • (MS) R3860486-3 11/13/22 13:20 • (MSD) R3860486-4 11/13/22 13:44

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 1320 | 50300 | 51700 | 97.9 | 101 | 1 | 80.0-120 | | | 2.88 | 20 |

## L1551094-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1551094-01 11/13/22 13:57 • (MS) R3860486-5 11/13/22 14:21 • (MSD) R3860486-6 11/13/22 14:44

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | U | 49400 | 50200 | 98.9 | 100 | 1 | 80.0-120 | | | 1.47 | 20 |

## Method Blank (MB)

(MB) R3859762-1 11/10/22 18:47

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3859762-2 11/10/22 18:50

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Iron | 5000 | 4940 | 98.7 | 80.0-120 | |
| Manganese | 50.0 | 49.7 | 99.4 | 80.0-120 | |

## L1550884-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1550884-02 11/10/22 18:54 • (MS) R3859762-4 11/10/22 19:00 • (MSD) R3859762-5 11/10/22 19:04

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iron | 5000 | 1190 | 6390 | 6280 | 104 | 102 | 1 | 75.0-125 | | | 1.79 | 20 |
| Manganese | 50.0 | 579 | 641 | 634 | 125 | 111 | 1 | 75.0-125 | | | 1.14 | 20 |

## Method Blank (MB)

(MB) R3855188-2 10/31/22 14:06

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1550365-22 Original Sample (OS) • Duplicate (DUP)

(OS) L1550365-22 10/31/22 14:22 • (DUP) R3855188-3 10/31/22 15:24

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1551052-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1551052-09 10/31/22 16:33 • (DUP) R3855188-4 10/31/22 16:37

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3855188-1 10/31/22 13:59 • (LCSD) R3855188-9 10/31/22 16:53

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Ethane | 129 | 116 | 119 | 89.9 | 92.2 | 85.0-115 | | | 2.55 | 20 |
| Ethene | 127 | 117 | 119 | 92.1 | 93.7 | 85.0-115 | | | 1.69 | 20 |

## L1550845-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1550845-01 10/31/22 14:29 • (MS) R3855188-5 10/31/22 16:39 • (MSD) R3855188-6 10/31/22 16:42

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Ethane | 129 | U | 133 | 131 | 103 | 102 | 1 | 85.0-115 | | | 1.52 | 20 |
| Ethene | 127 | U | 132 | 130 | 104 | 102 | 1 | 85.0-115 | | | 1.53 | 20 |

## L1551052-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1551052-02 10/31/22 15:46 • (MS) R3855188-7 10/31/22 16:44 • (MSD) R3855188-8 10/31/22 16:48

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ethane | 129 | U | 133 | 144 | 103 | 112 | 1 | 85.0-115 | | | 7.94 | 20 |
| Ethene | 127 | U | 133 | 144 | 105 | 113 | 1 | 85.0-115 | | | 7.94 | 20 |

## Method Blank (MB)

(MB) R3855409-2 11/01/22 08:55

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1550845-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1550845-05 11/01/22 09:05 • (DUP) R3855409-3 11/01/22 10:04

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | 7560 | 5490 | 10 | 31.7 | | 20 |
| Ethane | U | U | 10 | 0.000 | | 20 |
| Ethene | U | U | 10 | 0.000 | | 20 |

## L1550906-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1550906-12 11/01/22 10:17 • (DUP) R3855409-4 11/01/22 10:48

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3855409-1 11/01/22 08:53 • (LCSD) R3855409-5 11/01/22 11:22

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 71.8 | 69.6 | 106 | 103 | 85.0-115 | | | 3.11 | 20 |
| Ethane | 129 | 123 | 127 | 95.3 | 98.4 | 85.0-115 | | | 3.20 | 20 |
| Ethene | 127 | 125 | 128 | 98.4 | 101 | 85.0-115 | | | 2.37 | 20 |

## Method Blank (MB)

(MB) R3855635-2 11/01/22 14:12

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |

## L1550962-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1550962-15 11/01/22 14:53 • (DUP) R3855635-3 11/01/22 14:55

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |

## L1551333-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1551333-02 11/01/22 15:34 • (DUP) R3855635-4 11/01/22 15:44

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3855635-1 11/01/22 14:08 • (LCSD) R3855635-7 11/01/22 15:53

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 68.2 | 70.9 | 101 | 105 | 85.0-115 | | | 3.88 | 20 |

## L1550962-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1550962-15 11/01/22 14:53 • (MS) R3855635-5 11/01/22 15:48 • (MSD) R3855635-6 11/01/22 15:51

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Methane | 67.8 | U | 79.1 | 88.6 | 117 | 131 | 1 | 85.0-115 | J5 | J5 | 11.3 | 20 |

## Method Blank (MB)

(MB) R3856636-3 10/29/22 00:54

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3856636-3 10/29/22 00:54

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *117* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *112* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *93.9* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3856636-1 10/28/22 23:29 • (LCSD) R3856636-2 10/28/22 23:49

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 22.3 | 21.7 | 89.2 | 86.8 | 10.0-160 | | | 2.73 | 31 |
| Acrylonitrile | 25.0 | 26.9 | 25.8 | 108 | 103 | 45.0-153 | | | 4.17 | 22 |
| Benzene | 5.00 | 4.98 | 4.59 | 99.6 | 91.8 | 70.0-123 | | | 8.15 | 20 |
| Bromobenzene | 5.00 | 4.81 | 4.69 | 96.2 | 93.8 | 73.0-121 | | | 2.53 | 20 |
| Bromodichloromethane | 5.00 | 4.72 | 4.46 | 94.4 | 89.2 | 73.0-121 | | | 5.66 | 20 |
| Bromoform | 5.00 | 4.80 | 5.04 | 96.0 | 101 | 64.0-132 | | | 4.88 | 20 |
| Bromomethane | 5.00 | 5.21 | 4.84 | 104 | 96.8 | 56.0-147 | | | 7.36 | 20 |
| n-Butylbenzene | 5.00 | 6.11 | 5.55 | 122 | 111 | 68.0-135 | | | 9.61 | 20 |
| sec-Butylbenzene | 5.00 | 5.54 | 5.09 | 111 | 102 | 74.0-130 | | | 8.47 | 20 |
| tert-Butylbenzene | 5.00 | 4.82 | 4.58 | 96.4 | 91.6 | 75.0-127 | | | 5.11 | 20 |
| Carbon tetrachloride | 5.00 | 5.19 | 5.02 | 104 | 100 | 66.0-128 | | | 3.33 | 20 |
| Chlorobenzene | 5.00 | 5.27 | 5.03 | 105 | 101 | 76.0-128 | | | 4.66 | 20 |
| Chlorodibromomethane | 5.00 | 4.98 | 4.99 | 99.6 | 99.8 | 74.0-127 | | | 0.201 | 20 |
| Chloroethane | 5.00 | 5.13 | 5.04 | 103 | 101 | 61.0-134 | | | 1.77 | 20 |
| Chloroform | 5.00 | 5.09 | 4.76 | 102 | 95.2 | 72.0-123 | | | 6.70 | 20 |
| Chloromethane | 5.00 | 5.12 | 4.80 | 102 | 96.0 | 51.0-138 | | | 6.45 | 20 |
| 2-Chlorotoluene | 5.00 | 4.91 | 4.58 | 98.2 | 91.6 | 75.0-124 | | | 6.95 | 20 |
| 4-Chlorotoluene | 5.00 | 4.97 | 5.00 | 99.4 | 100 | 75.0-124 | | | 0.602 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 5.06 | 5.21 | 101 | 104 | 59.0-130 | | | 2.92 | 20 |
| 1,2-Dibromoethane | 5.00 | 4.74 | 4.38 | 94.8 | 87.6 | 74.0-128 | | | 7.89 | 20 |
| Dibromomethane | 5.00 | 4.76 | 4.60 | 95.2 | 92.0 | 75.0-122 | | | 3.42 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 5.83 | 5.56 | 117 | 111 | 76.0-124 | | | 4.74 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 4.93 | 5.39 | 98.6 | 108 | 76.0-125 | | | 8.91 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 4.59 | 4.96 | 91.8 | 99.2 | 77.0-121 | | | 7.75 | 20 |
| Dichlorodifluoromethane | 5.00 | 4.59 | 4.52 | 91.8 | 90.4 | 43.0-156 | | | 1.54 | 20 |
| 1,1-Dichloroethane | 5.00 | 5.18 | 4.85 | 104 | 97.0 | 70.0-127 | | | 6.58 | 20 |
| 1,2-Dichloroethane | 5.00 | 5.03 | 4.80 | 101 | 96.0 | 65.0-131 | | | 4.68 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.25 | 4.95 | 105 | 99.0 | 65.0-131 | | | 5.88 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.29 | 4.96 | 106 | 99.2 | 73.0-125 | | | 6.44 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.07 | 4.49 | 101 | 89.8 | 71.0-125 | | | 12.1 | 20 |
| 1,2-Dichloropropane | 5.00 | 4.74 | 4.72 | 94.8 | 94.4 | 74.0-125 | | | 0.423 | 20 |
| 1,1-Dichloropropene | 5.00 | 4.96 | 4.82 | 99.2 | 96.4 | 73.0-125 | | | 2.86 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.11 | 4.65 | 102 | 93.0 | 80.0-125 | | | 9.43 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 4.69 | 4.29 | 93.8 | 85.8 | 76.0-127 | | | 8.91 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 4.98 | 4.63 | 99.6 | 92.6 | 73.0-127 | | | 7.28 | 20 |
| 2,2-Dichloropropane | 5.00 | 4.70 | 4.60 | 94.0 | 92.0 | 59.0-135 | | | 2.15 | 20 |
| Di-isopropyl ether | 5.00 | 5.28 | 4.96 | 106 | 99.2 | 60.0-136 | | | 6.25 | 20 |
| Ethylbenzene | 5.00 | 5.87 | 5.67 | 117 | 113 | 74.0-126 | | | 3.47 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 5.30 | 5.14 | 106 | 103 | 57.0-150 | | | 3.07 | 20 |
| Isopropylbenzene | 5.00 | 6.51 | 6.16 | 130 | 123 | 72.0-127 | J4 | | 5.52 | 20 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3856636-1 10/28/22 23:29 • (LCSD) R3856636-2 10/28/22 23:49

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.58 | 5.26 | 112 | 105 | 72.0-133 | | | 5.90 | 20 |
| 2-Butanone (MEK) | 25.0 | 23.0 | 21.8 | 92.0 | 87.2 | 30.0-160 | | | 5.36 | 24 |
| Methylene Chloride | 5.00 | 5.35 | 5.01 | 107 | 100 | 68.0-123 | | | 6.56 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 28.7 | 28.3 | 115 | 113 | 56.0-143 | | | 1.40 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.01 | 4.62 | 100 | 92.4 | 66.0-132 | | | 8.10 | 20 |
| Naphthalene | 5.00 | 6.35 | 6.12 | 127 | 122 | 59.0-130 | | | 3.69 | 20 |
| n-Propylbenzene | 5.00 | 6.23 | 5.78 | 125 | 116 | 74.0-126 | | | 7.49 | 20 |
| Styrene | 5.00 | 5.62 | 5.30 | 112 | 106 | 72.0-127 | | | 5.86 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 6.54 | 6.25 | 131 | 125 | 74.0-129 | J4 | | 4.53 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 5.65 | 5.32 | 113 | 106 | 68.0-128 | | | 6.02 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.07 | 4.78 | 101 | 95.6 | 61.0-139 | | | 5.89 | 20 |
| Tetrachloroethene | 5.00 | 6.18 | 5.84 | 124 | 117 | 70.0-136 | | | 5.66 | 20 |
| Toluene | 5.00 | 5.96 | 5.62 | 119 | 112 | 75.0-121 | | | 5.87 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 6.01 | 5.60 | 120 | 112 | 59.0-139 | | | 7.06 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 5.72 | 5.38 | 114 | 108 | 62.0-137 | | | 6.13 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.42 | 5.05 | 108 | 101 | 69.0-126 | | | 7.07 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.08 | 5.23 | 102 | 105 | 78.0-123 | | | 2.91 | 20 |
| Trichloroethene | 5.00 | 5.18 | 4.92 | 104 | 98.4 | 76.0-126 | | | 5.15 | 20 |
| Trichlorofluoromethane | 5.00 | 4.69 | 4.40 | 93.8 | 88.0 | 61.0-142 | | | 6.38 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 5.21 | 4.95 | 104 | 99.0 | 67.0-129 | | | 5.12 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.98 | 5.70 | 120 | 114 | 70.0-126 | | | 4.79 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.63 | 5.24 | 113 | 105 | 74.0-124 | | | 7.18 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.77 | 5.27 | 115 | 105 | 73.0-127 | | | 9.06 | 20 |
| Vinyl chloride | 5.00 | 5.24 | 5.00 | 105 | 100 | 63.0-134 | | | 4.69 | 20 |
| Xylenes, Total | 15.0 | 17.1 | 16.6 | 114 | 111 | 72.0-127 | | | 2.97 | 20 |
| Ethyl ether | 5.00 | 4.97 | 4.77 | 99.4 | 95.4 | 64.0-137 | | | 4.11 | 20 |
| Tetrahydrofuran | 5.00 | 4.65 | 4.28 | 93.0 | 85.6 | 37.0-146 | | | 8.29 | 24 |
| Iodomethane | 25.0 | 24.5 | 23.5 | 98.0 | 94.0 | 74.0-134 | | | 4.17 | 20 |
| Allyl chloride | 25.0 | 26.4 | 25.2 | 106 | 101 | 70.0-131 | | | 4.65 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 4.58 | 3.78 | 91.6 | 75.6 | 45.0-143 | | | 19.1 | 20 |
| *(S) Toluene-d8* | | | | *114* | *115* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *106* | *104* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *94.1* | *92.4* | *70.0-130* | | | | |

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| B | The same analyte is found in the associated blank. |
| E | The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL). |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J4 | The associated batch QC was outside the established quality control range for accuracy. |
| J5 | The sample matrix interfered with the ability to make any accurate determination; spike value is high. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

**2101 Fourth Ave., Suite 1310**
**Seattle, WA 98121**

Billing Information:
**Attn: Accounts Payable**
**2101 4th Avenue, Suite 1310**
**Seattle, WA 98121**

Pres Chk

Report to:
**Brian O'Neal/Bill Haldeman**

Email To:
**Shannon.McKernan@nv5.com;brian.oneal@nv5**

Project Description:
**American Linen**

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: **206-529-3980**

Client Project #
14130O1.10.701.02

Lab Project #
**PESENVSWA-ALP**

Collected by (print):
ARS

Site/Facility ID #

P.O. # 14130O1.10.701.02
**443018-1413001.05.601**

Collected by (signature):

Immediately
Packed on Ice N ___ Y X

***Rush?*** (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Quote #

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1556884

Table # 1211

Acctnum: **PESENVSWA**
Template: **T218236**
Prelogin: **P957562**
PM: **546 - Jared Starkey**
PB:

Shipped Via:

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-187-102622 | Grab | GW | — | 10-26-22 | 11:00 | 9 | X | X | X | X | | X | X | X | | 01 |
| MW-188-102622 | " | GW | — | " | 11:50 | 9 | X | X | X | X | | X | X | X | | 02 |
| MW-186-102622 | " | GW | — | " | 15:00 | 9 | X | X | X | X | | X | X | X | | 03 |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | ARJ | | | | | | | | | | | |
| | | GW | | | 10-26-22 | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

**Remarks:**

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier _____

Tracking # 6094 5459 7170

Sample Receipt Checklist

| | | |
|---|---|---|
| COC Seal Present/Intact: | NP | Y N |
| COC Signed/Accurate: | | Y N |
| Bottles arrive intact: | | Y N |
| Correct bottles used: | | Y N |
| Sufficient volume sent: | | Y N |
| **If Applicable** | | |
| VOA Zero Headspace: | | Y N |
| Preservation Correct/Checked: | | Y N |
| RAD Screen <0.5 mR/hr: | | Y N |

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / No HCL / MeoH TBR | |
|---|---|---|---|---|---|
| | 10-26-22 | 16:40 | | | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: 2+0=2 °C | Bottles Received: 27 |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) Hana Mwonda | Date: 10/27/22 | Time: 09:00 |

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

# ANALYTICAL REPORT

November 15, 2022



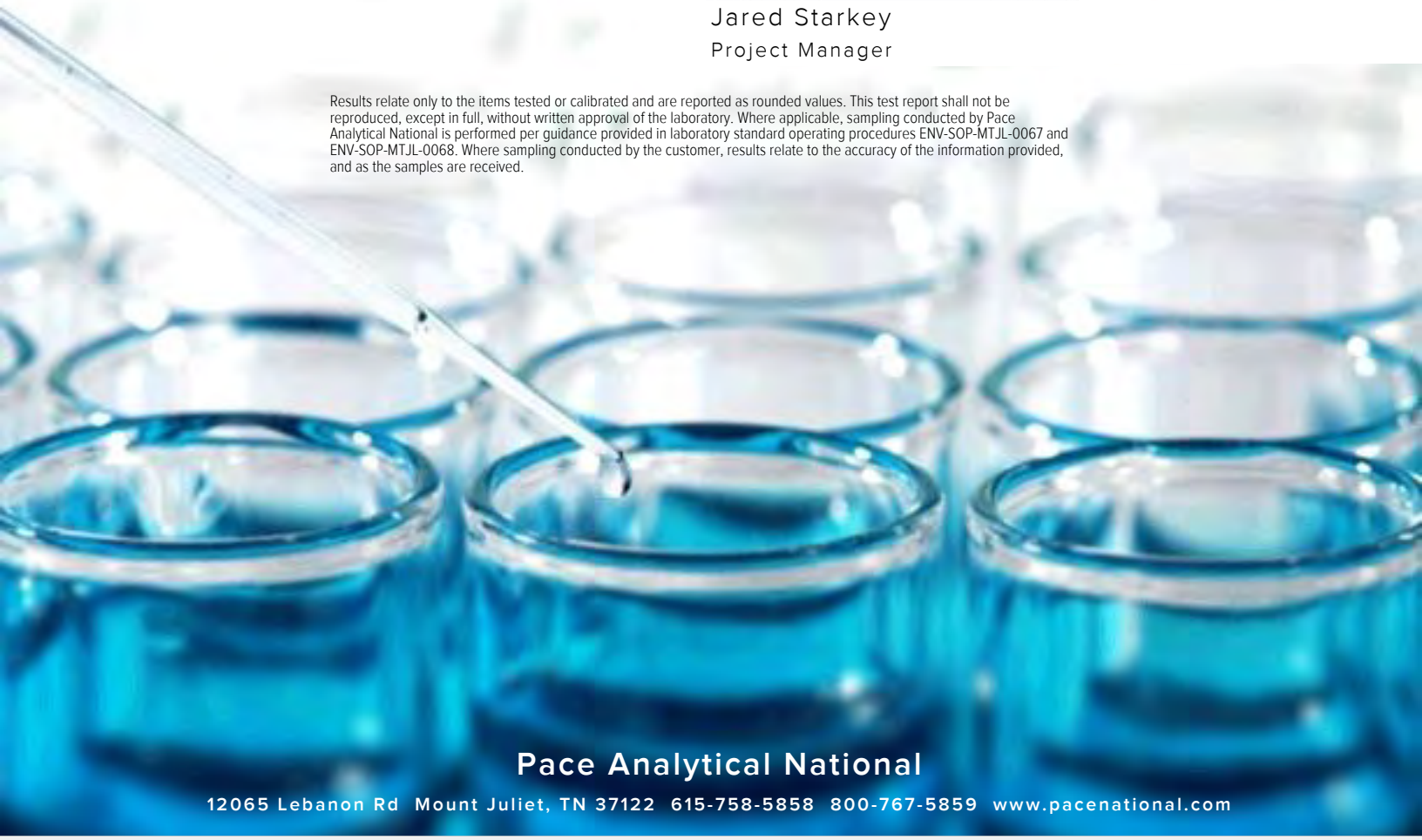
## PES Environmental, Inc.- WA

| | |
|---|---|
| Sample Delivery Group: | L1551408 |
| Samples Received: | 10/28/2022 |
| Project Number: | 1413.001.10.701.02 |
| Description: | American Linen |
| Report To: | Brian O'Neal/Bill Haldeman |
| | 2101 Fourth Ave., Suite 1310 |
| | Seattle, WA 98121 |

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## MW-169-102722 L1551408-01 GW

Collected by: NEW | Collected date/time: 10/27/22 10:37 | Received date/time: 10/28/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1956194 | 1 | 11/09/22 15:19 | 11/09/22 15:19 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1950716 | 1 | 10/28/22 22:21 | 10/28/22 22:21 | ELN | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1958040 | 1 | 11/14/22 10:53 | 11/14/22 10:53 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1956357 | 1 | 11/11/22 18:27 | 11/11/22 21:59 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1952606 | 1 | 11/02/22 11:45 | 11/02/22 11:45 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953104 | 10 | 11/02/22 15:49 | 11/02/22 15:49 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1951841 | 1 | 10/31/22 19:32 | 10/31/22 19:32 | ADM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1952435 | 1 | 11/02/22 18:44 | 11/02/22 18:44 | JHH | Mt. Juliet, TN |

## MW-172-102722 L1551408-02 GW

Collected by: NEW | Collected date/time: 10/27/22 12:07 | Received date/time: 10/28/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1956194 | 1 | 11/09/22 15:24 | 11/09/22 15:24 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1950716 | 1 | 10/28/22 23:02 | 10/28/22 23:02 | ELN | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1958040 | 1 | 11/14/22 11:57 | 11/14/22 11:57 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1956357 | 1 | 11/11/22 18:27 | 11/11/22 22:03 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1952606 | 1 | 11/02/22 11:53 | 11/02/22 11:53 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1951841 | 1 | 10/31/22 19:51 | 10/31/22 19:51 | ADM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1952435 | 200 | 11/02/22 19:03 | 11/02/22 19:03 | JHH | Mt. Juliet, TN |

## MW-170-102722 L1551408-03 GW

Collected by: NEW | Collected date/time: 10/27/22 13:00 | Received date/time: 10/28/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1956194 | 1 | 11/09/22 15:34 | 11/09/22 15:34 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1950716 | 1 | 10/28/22 23:43 | 10/28/22 23:43 | ELN | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1958042 | 1 | 11/13/22 09:03 | 11/13/22 09:03 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1956357 | 1 | 11/11/22 18:27 | 11/11/22 22:06 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1952606 | 1 | 11/02/22 12:01 | 11/02/22 12:01 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953104 | 10 | 11/02/22 15:52 | 11/02/22 15:52 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1951841 | 10 | 10/31/22 21:29 | 10/31/22 21:29 | ADM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1952435 | 500 | 11/02/22 19:22 | 11/02/22 19:22 | JHH | Mt. Juliet, TN |

## MW-185-102722 L1551408-04 GW

Collected by: NEW | Collected date/time: 10/27/22 14:46 | Received date/time: 10/28/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1956194 | 1 | 11/09/22 15:39 | 11/09/22 15:39 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1950716 | 1 | 10/28/22 23:57 | 10/28/22 23:57 | ELN | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1958042 | 1 | 11/13/22 09:23 | 11/13/22 09:23 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1956357 | 1 | 11/11/22 18:27 | 11/11/22 22:10 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1952606 | 1 | 11/02/22 12:11 | 11/02/22 12:11 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953104 | 10 | 11/02/22 15:55 | 11/02/22 15:55 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1951841 | 5 | 10/31/22 21:49 | 10/31/22 21:49 | ADM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1952435 | 5 | 11/02/22 19:41 | 11/02/22 19:41 | JHH | Mt. Juliet, TN |

## TB-102722 L1551408-05 GW

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| NEW | 10/27/22 00:00 | 10/28/22 09:00 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1951841 | 1 | 10/31/22 16:16 | 10/31/22 16:16 | ADM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1952435 | 1 | 11/02/22 15:23 | 11/02/22 15:23 | JHH | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 449000 | | 8450 | 20000 | 1 | 11/09/2022 15:19 | WG1956194 |

Sample Narrative:

L1551408-01 WG1956194: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 85000 | | 379 | 1000 | 1 | 10/28/2022 22:21 | WG1950716 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/28/2022 22:21 | WG1950716 |
| Sulfate | 596 | J | 594 | 5000 | 1 | 10/28/2022 22:21 | WG1950716 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 15200 | J5 | 102 | 1000 | 1 | 11/14/2022 10:53 | WG1958040 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 2710 | | 28.1 | 100 | 1 | 11/11/2022 21:59 | WG1956357 |
| Manganese | 748 | | 0.704 | 5.00 | 1 | 11/11/2022 21:59 | WG1956357 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 30500 | | 2.87 | 6.78 | 10 | 11/02/2022 15:49 | WG1953104 |
| Ethane | 198 | | 0.296 | 1.29 | 1 | 11/02/2022 11:45 | WG1952606 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/02/2022 11:45 | WG1952606 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 10/31/2022 19:32 | WG1951841 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| Benzene | 0.109 | | 0.0160 | 0.0400 | 1 | 10/31/2022 19:32 | WG1951841 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 10/31/2022 19:32 | WG1951841 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,2-Dibromoethane | U | J4 | 0.0210 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | J4 | 0.0400 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| trans-1,2-Dichloroethene | 0.284 | | 0.0572 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 10/31/2022 19:32 | WG1951841 |
| Ethylbenzene | 0.0670 | J | 0.0212 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 10/31/2022 19:32 | WG1951841 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 10/31/2022 19:32 | WG1951841 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 10/31/2022 19:32 | WG1951841 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 10/31/2022 19:32 | WG1951841 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 10/31/2022 19:32 | WG1951841 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| n-Propylbenzene | U | J4 | 0.0472 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| Styrene | U | | 0.109 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| Toluene | 0.168 | J | 0.0500 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| Trichloroethene | 0.0560 | | 0.0160 | 0.0400 | 1 | 10/31/2022 19:32 | WG1951841 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/02/2022 18:44 | WG1952435 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| Vinyl chloride | 1.12 | | 0.0273 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| Xylenes, Total | 0.316 | | 0.191 | 0.260 | 1 | 10/31/2022 19:32 | WG1951841 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| Tetrahydrofuran | 3.74 | | 0.0900 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 10/31/2022 19:32 | WG1951841 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *10/31/2022 19:32* | WG1951841 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/02/2022 18:44* | WG1952435 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *10/31/2022 19:32* | WG1951841 |
| *(S) 4-Bromofluorobenzene* | *93.1* | | | *67.0-138* | | *11/02/2022 18:44* | WG1952435 |
| *(S) 1,2-Dichloroethane-d4* | *99.2* | | | *70.0-130* | | *10/31/2022 19:32* | WG1951841 |
| *(S) 1,2-Dichloroethane-d4* | *111* | | | *70.0-130* | | *11/02/2022 18:44* | WG1952435 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 294000 | | 8450 | 20000 | 1 | 11/09/2022 15:24 | WG1956194 |

Sample Narrative:
L1551408-02 WG1956194: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 25900 | | 379 | 1000 | 1 | 10/28/2022 23:02 | WG1950716 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/28/2022 23:02 | WG1950716 |
| Sulfate | 29900 | | 594 | 5000 | 1 | 10/28/2022 23:02 | WG1950716 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 7790 | J5 | 102 | 1000 | 1 | 11/14/2022 11:57 | WG1958040 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 514 | | 28.1 | 100 | 1 | 11/11/2022 22:03 | WG1956357 |
| Manganese | 2220 | | 0.704 | 5.00 | 1 | 11/11/2022 22:03 | WG1956357 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 5210 | | 0.287 | 0.678 | 1 | 11/02/2022 11:53 | WG1952606 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/02/2022 11:53 | WG1952606 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/02/2022 11:53 | WG1952606 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 10/31/2022 19:51 | WG1951841 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| Benzene | 0.0400 | J | 0.0160 | 0.0400 | 1 | 10/31/2022 19:51 | WG1951841 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 10/31/2022 19:51 | WG1951841 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| Chloroform | 0.116 | | 0.0166 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,2-Dibromoethane | U | J4 | 0.0210 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | J4 | 0.0400 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,1-Dichloroethane | 0.198 | | 0.0230 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,1-Dichloroethene | 46.3 | | 0.0200 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| cis-1,2-Dichloroethene | 309 | | 5.52 | 20.0 | 200 | 11/02/2022 19:03 | WG1952435 |
| trans-1,2-Dichloroethene | 27.4 | | 0.0572 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 10/31/2022 19:51 | WG1951841 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 10/31/2022 19:51 | WG1951841 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 10/31/2022 19:51 | WG1951841 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 10/31/2022 19:51 | WG1951841 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 10/31/2022 19:51 | WG1951841 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 10/31/2022 19:51 | WG1951841 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| n-Propylbenzene | U | J4 | 0.0472 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| Styrene | U | | 0.109 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| Tetrachloroethene | 3390 | | 5.60 | 20.0 | 200 | 11/02/2022 19:03 | WG1952435 |
| Toluene | 0.412 | | 0.0500 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| Trichloroethene | 1880 | | 3.20 | 8.00 | 200 | 11/02/2022 19:03 | WG1952435 |
| Trichlorofluoromethane | U | | 4.00 | 20.0 | 200 | 11/02/2022 19:03 | WG1952435 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| Vinyl chloride | 8.28 | | 0.0273 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| Xylenes, Total | 0.310 | | 0.191 | 0.260 | 1 | 10/31/2022 19:51 | WG1951841 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 10/31/2022 19:51 | WG1951841 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *10/31/2022 19:51* | WG1951841 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/02/2022 19:03* | WG1952435 |
| *(S) 4-Bromofluorobenzene* | *106* | | | *67.0-138* | | *10/31/2022 19:51* | WG1951841 |
| *(S) 4-Bromofluorobenzene* | *94.6* | | | *67.0-138* | | *11/02/2022 19:03* | WG1952435 |
| *(S) 1,2-Dichloroethane-d4* | *94.4* | | | *70.0-130* | | *10/31/2022 19:51* | WG1951841 |
| *(S) 1,2-Dichloroethane-d4* | *115* | | | *70.0-130* | | *11/02/2022 19:03* | WG1952435 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 601000 | | 8450 | 20000 | 1 | 11/09/2022 15:34 | WG1956194 |

Sample Narrative:

L1551408-03 WG1956194: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 162000 | | 379 | 1000 | 1 | 10/28/2022 23:43 | WG1950716 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/28/2022 23:43 | WG1950716 |
| Sulfate | 3030 | J | 594 | 5000 | 1 | 10/28/2022 23:43 | WG1950716 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 16500 | | 102 | 1000 | 1 | 11/13/2022 09:03 | WG1958042 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 4090 | | 28.1 | 100 | 1 | 11/11/2022 22:06 | WG1956357 |
| Manganese | 1190 | | 0.704 | 5.00 | 1 | 11/11/2022 22:06 | WG1956357 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 21800 | | 2.87 | 6.78 | 10 | 11/02/2022 15:52 | WG1953104 |
| Ethane | 146 | | 0.296 | 1.29 | 1 | 11/02/2022 12:01 | WG1952606 |
| Ethene | 2160 | | 0.422 | 1.27 | 1 | 11/02/2022 12:01 | WG1952606 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 5.48 | 10.0 | 10 | 10/31/2022 21:29 | WG1951841 |
| Acrylonitrile | U | | 0.760 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Benzene | 0.490 | | 0.160 | 0.400 | 10 | 10/31/2022 21:29 | WG1951841 |
| Bromobenzene | U | | 0.420 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Bromodichloromethane | U | | 0.315 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Bromoform | U | | 2.39 | 10.0 | 10 | 10/31/2022 21:29 | WG1951841 |
| Bromomethane | U | | 1.48 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| n-Butylbenzene | U | | 1.53 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| sec-Butylbenzene | U | | 1.01 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| tert-Butylbenzene | U | | 0.620 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Carbon tetrachloride | U | | 0.432 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Chlorobenzene | U | | 0.229 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Chlorodibromomethane | U | | 0.180 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Chloroethane | U | | 0.432 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Chloroform | U | | 0.166 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Chloromethane | U | | 0.556 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 2-Chlorotoluene | U | | 0.368 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 4-Chlorotoluene | U | | 0.452 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,2-Dibromo-3-Chloropropane | U | | 2.04 | 10.0 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,2-Dibromoethane | U | J4 | 0.210 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | J4 | 0.400 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,2-Dichlorobenzene | U | | 0.580 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,3-Dichlorobenzene | U | | 0.680 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,4-Dichlorobenzene | U | | 0.788 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Dichlorodifluoromethane | U | | 0.327 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,1-Dichloroethane | U | | 0.230 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,2-Dichloroethane | U | | 0.190 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,1-Dichloroethene | 16.1 | | 0.200 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| cis-1,2-Dichloroethene | 2980 | | 13.8 | 50.0 | 500 | 11/02/2022 19:22 | WG1952435 |
| trans-1,2-Dichloroethene | 180 | | 0.572 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,2-Dichloropropane | U | | 0.508 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,1-Dichloropropene | U | | 0.280 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,3-Dichloropropane | U | | 0.700 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| cis-1,3-Dichloropropene | U | | 0.271 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| trans-1,3-Dichloropropene | U | | 0.612 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 2,2-Dichloropropane | U | | 0.317 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Di-isopropyl ether | U | | 0.140 | 0.400 | 10 | 10/31/2022 21:29 | WG1951841 |
| Ethylbenzene | 0.570 | J | 0.212 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Hexachloro-1,3-butadiene | U | | 5.08 | 10.0 | 10 | 10/31/2022 21:29 | WG1951841 |
| Isopropylbenzene | U | | 0.345 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| p-Isopropyltoluene | U | | 0.932 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 2-Butanone (MEK) | U | | 5.00 | 10.0 | 10 | 10/31/2022 21:29 | WG1951841 |
| Methylene Chloride | U | | 2.65 | 10.0 | 10 | 10/31/2022 21:29 | WG1951841 |
| 4-Methyl-2-pentanone (MIBK) | U | | 4.00 | 10.0 | 10 | 10/31/2022 21:29 | WG1951841 |
| Methyl tert-butyl ether | U | | 0.118 | 0.400 | 10 | 10/31/2022 21:29 | WG1951841 |
| Naphthalene | U | | 1.24 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| n-Propylbenzene | U | J4 | 0.472 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Styrene | U | | 1.09 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,1,1,2-Tetrachloroethane | U | | 0.200 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,1,2,2-Tetrachloroethane | U | | 0.156 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.270 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Tetrachloroethene | 31.0 | J | 14.0 | 50.0 | 500 | 11/02/2022 19:22 | WG1952435 |
| Toluene | 0.850 | J | 0.500 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,2,3-Trichlorobenzene | U | | 0.250 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,2,4-Trichlorobenzene | U | | 1.93 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,1,1-Trichloroethane | U | | 0.110 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,1,2-Trichloroethane | U | | 0.353 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Trichloroethene | 3.99 | | 0.160 | 0.400 | 10 | 10/31/2022 21:29 | WG1951841 |
| Trichlorofluoromethane | U | | 10.0 | 50.0 | 500 | 11/02/2022 19:22 | WG1952435 |
| 1,2,3-Trichloropropane | U | | 2.04 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,2,4-Trimethylbenzene | U | | 0.464 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,2,3-Trimethylbenzene | U | | 0.460 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,3,5-Trimethylbenzene | U | | 0.432 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Vinyl chloride | 11700 | | 13.6 | 50.0 | 500 | 11/02/2022 19:22 | WG1952435 |
| Xylenes, Total | U | | 1.91 | 2.60 | 10 | 10/31/2022 21:29 | WG1951841 |
| Ethyl Ether | U | | 0.170 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Tetrahydrofuran | U | | 0.900 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Iodomethane | U | | 2.42 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Allyl chloride | U | | 5.80 | 10.0 | 10 | 10/31/2022 21:29 | WG1951841 |
| Trans-1,4-Dichloro-2-butene | U | | 0.560 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *10/31/2022 21:29* | WG1951841 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/02/2022 19:22* | WG1952435 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *10/31/2022 21:29* | WG1951841 |
| *(S) 4-Bromofluorobenzene* | *93.6* | | | *67.0-138* | | *11/02/2022 19:22* | WG1952435 |
| *(S) 1,2-Dichloroethane-d4* | *99.1* | | | *70.0-130* | | *10/31/2022 21:29* | WG1951841 |
| *(S) 1,2-Dichloroethane-d4* | *112* | | | *70.0-130* | | *11/02/2022 19:22* | WG1952435 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 526000 | | 8450 | 20000 | 1 | 11/09/2022 15:39 | WG1956194 |

Sample Narrative:

L1551408-04 WG1956194: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 79900 | | 379 | 1000 | 1 | 10/28/2022 23:57 | WG1950716 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/28/2022 23:57 | WG1950716 |
| Sulfate | 721 | J | 594 | 5000 | 1 | 10/28/2022 23:57 | WG1950716 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 11300 | | 102 | 1000 | 1 | 11/13/2022 09:23 | WG1958042 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 4850 | | 28.1 | 100 | 1 | 11/11/2022 22:10 | WG1956357 |
| Manganese | 767 | | 0.704 | 5.00 | 1 | 11/11/2022 22:10 | WG1956357 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 30400 | | 2.87 | 6.78 | 10 | 11/02/2022 15:55 | WG1953104 |
| Ethane | 198 | | 0.296 | 1.29 | 1 | 11/02/2022 12:11 | WG1952606 |
| Ethene | 22.1 | | 0.422 | 1.27 | 1 | 11/02/2022 12:11 | WG1952606 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 2.74 | 5.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Acrylonitrile | U | | 0.380 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| Benzene | 0.105 | J | 0.0800 | 0.200 | 5 | 10/31/2022 21:49 | WG1951841 |
| Bromobenzene | U | | 0.210 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| Bromodichloromethane | U | | 0.158 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| Bromoform | U | | 1.20 | 5.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Bromomethane | U | | 0.740 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| n-Butylbenzene | U | | 0.765 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| sec-Butylbenzene | U | | 0.505 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| tert-Butylbenzene | U | | 0.310 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Carbon tetrachloride | U | | 0.216 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Chlorobenzene | U | | 0.115 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| Chlorodibromomethane | U | | 0.0900 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| Chloroethane | U | | 0.216 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Chloroform | U | | 0.0830 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| Chloromethane | U | | 0.278 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| 2-Chlorotoluene | U | | 0.184 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| 4-Chlorotoluene | U | | 0.226 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,2-Dibromo-3-Chloropropane | U | | 1.02 | 5.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,2-Dibromoethane | U | J4 | 0.105 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | J4 | 0.200 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,2-Dichlorobenzene | U | | 0.290 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,3-Dichlorobenzene | U | | 0.340 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,4-Dichlorobenzene | U | | 0.394 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Dichlorodifluoromethane | U | | 0.164 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,1-Dichloroethane | U | | 0.115 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,2-Dichloroethane | U | | 0.0950 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,1-Dichloroethene | U | | 0.100 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| cis-1,2-Dichloroethene | 0.225 | J | 0.138 | 0.500 | 5 | 11/02/2022 19:41 | WG1952435 |
| trans-1,2-Dichloroethene | U | | 0.286 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,2-Dichloropropane | U | | 0.254 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,1-Dichloropropene | U | | 0.140 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,3-Dichloropropane | U | | 0.350 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| cis-1,3-Dichloropropene | U | | 0.136 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| trans-1,3-Dichloropropene | U | | 0.306 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 2,2-Dichloropropane | U | | 0.159 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| Di-isopropyl ether | U | | 0.0700 | 0.200 | 5 | 10/31/2022 21:49 | WG1951841 |
| Ethylbenzene | U | | 0.106 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| Hexachloro-1,3-butadiene | U | | 2.54 | 5.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Isopropylbenzene | U | | 0.173 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| p-Isopropyltoluene | U | | 0.466 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 2-Butanone (MEK) | U | | 2.50 | 5.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Methylene Chloride | U | | 1.33 | 5.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 4-Methyl-2-pentanone (MIBK) | U | | 2.00 | 5.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Methyl tert-butyl ether | U | | 0.0590 | 0.200 | 5 | 10/31/2022 21:49 | WG1951841 |
| Naphthalene | U | | 0.620 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| n-Propylbenzene | U | J4 | 0.236 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Styrene | U | | 0.545 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,1,1,2-Tetrachloroethane | U | | 0.100 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0780 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.135 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| Tetrachloroethene | U | | 0.140 | 0.500 | 5 | 11/02/2022 19:41 | WG1952435 |
| Toluene | U | | 0.250 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,2,3-Trichlorobenzene | U | | 0.125 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,2,4-Trichlorobenzene | U | | 0.965 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,1,1-Trichloroethane | U | | 0.0550 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,1,2-Trichloroethane | U | | 0.177 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| Trichloroethene | U | | 0.0800 | 0.200 | 5 | 11/02/2022 19:41 | WG1952435 |
| Trichlorofluoromethane | U | | 0.100 | 0.500 | 5 | 11/02/2022 19:41 | WG1952435 |
| 1,2,3-Trichloropropane | U | | 1.02 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,2,4-Trimethylbenzene | U | | 0.232 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,2,3-Trimethylbenzene | U | | 0.230 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,3,5-Trimethylbenzene | U | | 0.216 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Vinyl chloride | 1.48 | | 0.137 | 0.500 | 5 | 11/02/2022 19:41 | WG1952435 |
| Xylenes, Total | U | | 0.955 | 1.30 | 5 | 10/31/2022 21:49 | WG1951841 |
| Ethyl Ether | U | | 0.0850 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| Tetrahydrofuran | U | | 0.450 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| Iodomethane | U | | 1.21 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| Allyl chloride | U | | 2.90 | 5.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Trans-1,4-Dichloro-2-butene | U | | 0.280 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *10/31/2022 21:49* | WG1951841 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/02/2022 19:41* | WG1952435 |
| *(S) 4-Bromofluorobenzene* | *106* | | | *67.0-138* | | *10/31/2022 21:49* | WG1951841 |
| *(S) 4-Bromofluorobenzene* | *93.9* | | | *67.0-138* | | *11/02/2022 19:41* | WG1952435 |
| *(S) 1,2-Dichloroethane-d4* | *94.5* | | | *70.0-130* | | *10/31/2022 21:49* | WG1951841 |
| *(S) 1,2-Dichloroethane-d4* | *113* | | | *70.0-130* | | *11/02/2022 19:41* | WG1952435 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 2.72 | C5 | 0.548 | 1.00 | 1 | 10/31/2022 16:16 | WG1951841 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 10/31/2022 16:16 | WG1951841 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 10/31/2022 16:16 | WG1951841 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 10/31/2022 16:16 | WG1951841 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 10/31/2022 16:16 | WG1951841 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 10/31/2022 16:16 | WG1951841 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 10/31/2022 16:16 | WG1951841 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 10/31/2022 16:16 | WG1951841 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 10/31/2022 16:16 | WG1951841 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 10/31/2022 16:16 | WG1951841 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 10/31/2022 16:16 | WG1951841 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 10/31/2022 16:16 | WG1951841 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 10/31/2022 16:16 | WG1951841 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 10/31/2022 16:16 | WG1951841 |
| 1,2-Dibromoethane | U | J4 | 0.0210 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| Dibromomethane | U | J4 | 0.0400 | 0.200 | 1 | 10/31/2022 16:16 | WG1951841 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 10/31/2022 16:16 | WG1951841 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 10/31/2022 16:16 | WG1951841 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 10/31/2022 16:16 | WG1951841 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 10/31/2022 16:16 | WG1951841 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 10/31/2022 16:16 | WG1951841 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 10/31/2022 16:16 | WG1951841 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 10/31/2022 16:16 | WG1951841 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 10/31/2022 16:16 | WG1951841 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 10/31/2022 16:16 | WG1951841 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 10/31/2022 16:16 | WG1951841 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 10/31/2022 16:16 | WG1951841 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 10/31/2022 16:16 | WG1951841 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 10/31/2022 16:16 | WG1951841 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 10/31/2022 16:16 | WG1951841 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 10/31/2022 16:16 | WG1951841 |
| n-Propylbenzene | U | J4 | 0.0472 | 0.200 | 1 | 10/31/2022 16:16 | WG1951841 |
| Styrene | U | | 0.109 | 0.500 | 1 | 10/31/2022 16:16 | WG1951841 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| Toluene | 0.110 | J | 0.0500 | 0.200 | 1 | 10/31/2022 16:16 | WG1951841 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 10/31/2022 16:16 | WG1951841 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 10/31/2022 16:16 | WG1951841 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 10/31/2022 16:16 | WG1951841 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/02/2022 15:23 | WG1952435 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 10/31/2022 16:16 | WG1951841 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 10/31/2022 16:16 | WG1951841 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 10/31/2022 16:16 | WG1951841 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 10/31/2022 16:16 | WG1951841 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 10/31/2022 16:16 | WG1951841 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 10/31/2022 16:16 | WG1951841 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 10/31/2022 16:16 | WG1951841 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 10/31/2022 16:16 | WG1951841 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 10/31/2022 16:16 | WG1951841 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 10/31/2022 16:16 | WG1951841 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *10/31/2022 16:16* | WG1951841 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/02/2022 15:23* | WG1952435 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *10/31/2022 16:16* | WG1951841 |
| *(S) 4-Bromofluorobenzene* | *95.8* | | | *67.0-138* | | *11/02/2022 15:23* | WG1952435 |
| *(S) 1,2-Dichloroethane-d4* | *99.3* | | | *70.0-130* | | *10/31/2022 16:16* | WG1951841 |
| *(S) 1,2-Dichloroethane-d4* | *111* | | | *70.0-130* | | *11/02/2022 15:23* | WG1952435 |

## Method Blank (MB)

(MB) R3859186-2 11/09/22 14:41

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1551542-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1551542-01 11/09/22 14:49 • (DUP) R3859186-3 11/09/22 14:57

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 515000 | 531000 | 1 | 3.20 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

## L1551542-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1551542-02 11/09/22 16:30 • (DUP) R3859186-4 11/09/22 16:45

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 1270000 | 1280000 | 1 | 0.734 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3859186-1 11/09/22 14:37

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 101000 | 101 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3854881-1 10/28/22 10:28

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Chloride, Dissolved | U | | 379 | 1000 |
| Nitrate, Dissolved | U | | 48.0 | 100 |
| Sulfate, Dissolved | U | | 594 | 5000 |

## L1551303-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1551303-01 10/28/22 18:14 • (DUP) R3854881-3 10/28/22 18:28

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Chloride, Dissolved | 24200 | 23300 | 1 | 3.74 | | 15 |
| Nitrate, Dissolved | 2750 | 2670 | 1 | 2.78 | | 15 |
| Sulfate, Dissolved | 9880 | 9480 | 1 | 4.22 | | 15 |

## L1551408-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1551408-02 10/28/22 23:02 • (DUP) R3854881-6 10/28/22 23:16

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Chloride, Dissolved | 25900 | 26400 | 1 | 1.66 | | 15 |
| Nitrate, Dissolved | U | U | 1 | 0.000 | | 15 |
| Sulfate, Dissolved | 29900 | 30200 | 1 | 0.832 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3854881-2 10/28/22 10:41

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Chloride, Dissolved | 40000 | 40200 | 100 | 80.0-120 | |
| Nitrate, Dissolved | 8000 | 7760 | 97.0 | 80.0-120 | |
| Sulfate, Dissolved | 40000 | 39800 | 99.6 | 80.0-120 | |

## L1551303-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1551303-01 10/28/22 18:14 • (MS) R3854881-4 10/28/22 18:42 • (MSD) R3854881-5 10/28/22 18:56

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride, Dissolved | 50000 | 24200 | 70100 | 73100 | 91.9 | 97.8 | 1 | 80.0-120 | | | 4.15 | 15 |
| Nitrate, Dissolved | 5000 | 2750 | 7070 | 7380 | 86.5 | 92.7 | 1 | 80.0-120 | | | 4.24 | 15 |
| Sulfate, Dissolved | 50000 | 9880 | 55100 | 58000 | 90.3 | 96.2 | 1 | 80.0-120 | | | 5.16 | 15 |

## L1551408-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1551408-02 10/28/22 23:02 • (MS) R3854881-7 10/28/22 23:30

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride, Dissolved | 50000 | 25900 | 75600 | 99.4 | 1 | 80.0-120 | |
| Nitrate, Dissolved | 5000 | U | 4670 | 93.4 | 1 | 80.0-120 | |
| Sulfate, Dissolved | 50000 | 29900 | 77100 | 94.3 | 1 | 80.0-120 | |

## Method Blank (MB)

(MB) R3860484-2 11/12/22 19:10

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 194 | J | 102 | 1000 |

## Method Blank (MB)

(MB) R3860900-2 11/14/22 08:01

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 377 | J | 102 | 1000 |

## L1551340-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1551340-01 11/12/22 22:08 • (DUP) R3860484-3 11/12/22 22:26

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 31600 | 31700 | 1 | 0.506 | | 20 |

## L1551352-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1551352-04 11/13/22 00:36 • (DUP) R3860484-4 11/13/22 00:52

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 582 | 585 | 1 | 0.377 | J | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3860484-1 11/12/22 18:54

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 76300 | 102 | 85.0-115 | |

## Laboratory Control Sample (LCS)

(LCS) R3860900-1 11/14/22 07:45

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 78600 | 105 | 85.0-115 | |

## L1551408-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1551408-01 11/14/22 10:53 • (MS) R3860900-3 11/14/22 11:16 • (MSD) R3860900-4 11/14/22 11:39

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 15200 | 78400 | 78200 | 126 | 126 | 1 | 80.0-120 | J5 | J5 | 0.307 | 20 |

## L1551408-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1551408-02 11/14/22 11:57 • (MS) R3860900-5 11/14/22 12:19 • (MSD) R3860900-6 11/14/22 12:41

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 7790 | 71400 | 72000 | 127 | 128 | 1 | 80.0-120 | J5 | J5 | 0.781 | 20 |

## Method Blank (MB)

(MB) R3860485-2 11/13/22 08:40

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 208 | J | 102 | 1000 |

## L1551642-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1551642-02 11/13/22 17:24 • (DUP) R3860485-7 11/13/22 17:40

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 735 | 724 | 1 | 1.44 | J | 20 |

## L1551642-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1551642-03 11/13/22 17:56 • (DUP) R3860485-8 11/13/22 18:12

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 664 | 581 | 1 | 13.3 | J | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3860485-1 11/13/22 08:24

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 78300 | 104 | 85.0-115 | |

## L1551413-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1551413-01 11/13/22 09:44 • (MS) R3860485-3 11/13/22 10:06 • (MSD) R3860485-4 11/13/22 10:28

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 11900 | 63100 | 64000 | 102 | 104 | 1 | 80.0-120 | | | 1.45 | 20 |

## L1551421-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1551421-02 11/13/22 12:55 • (MS) R3860485-5 11/13/22 13:16 • (MSD) R3860485-6 11/13/22 13:38

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 3220 | 54700 | 53900 | 103 | 101 | 1 | 80.0-120 | | | 1.33 | 20 |

## Method Blank (MB)

(MB) R3860278-1 11/11/22 21:39

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3860278-2 11/11/22 21:43

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Iron | 5000 | 4980 | 99.7 | 80.0-120 | |
| Manganese | 50.0 | 48.8 | 97.5 | 80.0-120 | |

## L1551413-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1551413-04 11/11/22 21:46 • (MS) R3860278-4 11/11/22 21:53 • (MSD) R3860278-5 11/11/22 21:56

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iron | 5000 | 11400 | 16000 | 15900 | 91.5 | 90.5 | 1 | 75.0-125 | | | 0.337 | 20 |
| Manganese | 50.0 | 2290 | 2320 | 2310 | 54.3 | 39.9 | 1 | 75.0-125 | V | V | 0.310 | 20 |

## Method Blank (MB)

(MB) R3856142-2 11/02/22 11:06

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1551388-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1551388-06 11/02/22 11:37 • (DUP) R3856142-3 11/02/22 12:07

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1551623-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1551623-01 11/02/22 14:15 • (DUP) R3856142-4 11/02/22 14:26

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3856142-1 11/02/22 11:00 • (LCSD) R3856142-5 11/02/22 15:04

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 70.5 | 69.7 | 104 | 103 | 85.0-115 | | | 1.14 | 20 |
| Ethane | 129 | 125 | 124 | 96.9 | 96.1 | 85.0-115 | | | 0.803 | 20 |
| Ethene | 127 | 127 | 126 | 100 | 99.2 | 85.0-115 | | | 0.791 | 20 |

## Method Blank (MB)

(MB) R3856225-2 11/02/22 15:36

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |

## L1551374-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1551374-02 11/02/22 15:44 • (DUP) R3856225-3 11/02/22 16:11

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 10800 | 11000 | 10 | 1.83 | | 20 |

## L1551832-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1551832-01 11/02/22 16:22 • (DUP) R3856225-4 11/02/22 16:39

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3856225-1 11/02/22 15:34 • (LCSD) R3856225-7 11/02/22 16:47

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 69.1 | 71.8 | 102 | 106 | 85.0-115 | | | 3.83 | 20 |

## L1551837-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1551837-01 11/02/22 16:37 • (MS) R3856225-5 11/02/22 16:42 • (MSD) R3856225-6 11/02/22 16:44

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Methane | 67.8 | 74.3 | 154 | 152 | 118 | 115 | 1 | 85.0-115 | J5 | | 1.31 | 20 |

## Method Blank (MB)

(MB) R3855442-3 10/31/22 12:25

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3855442-3 10/31/22 12:25

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *102* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *107* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *100* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3855442-1 10/31/22 09:55 • (LCSD) R3855442-2 10/31/22 10:14

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 35.0 | 35.0 | 140 | 140 | 10.0-160 | | | 0.000 | 31 |
| Acrylonitrile | 25.0 | 32.4 | 33.8 | 130 | 135 | 45.0-153 | | | 4.23 | 22 |
| Benzene | 5.00 | 5.67 | 5.38 | 113 | 108 | 70.0-123 | | | 5.25 | 20 |
| Bromobenzene | 5.00 | 5.77 | 5.51 | 115 | 110 | 73.0-121 | | | 4.61 | 20 |
| Bromodichloromethane | 5.00 | 5.96 | 5.78 | 119 | 116 | 73.0-121 | | | 3.07 | 20 |
| Bromoform | 5.00 | 6.35 | 6.07 | 127 | 121 | 64.0-132 | | | 4.51 | 20 |
| Bromomethane | 5.00 | 4.48 | 4.11 | 89.6 | 82.2 | 56.0-147 | | | 8.61 | 20 |
| n-Butylbenzene | 5.00 | 5.41 | 5.04 | 108 | 101 | 68.0-135 | | | 7.08 | 20 |
| sec-Butylbenzene | 5.00 | 5.96 | 5.63 | 119 | 113 | 74.0-130 | | | 5.69 | 20 |
| tert-Butylbenzene | 5.00 | 5.87 | 5.40 | 117 | 108 | 75.0-127 | | | 8.34 | 20 |
| Carbon tetrachloride | 5.00 | 5.89 | 5.62 | 118 | 112 | 66.0-128 | | | 4.69 | 20 |
| Chlorobenzene | 5.00 | 5.72 | 5.28 | 114 | 106 | 76.0-128 | | | 8.00 | 20 |
| Chlorodibromomethane | 5.00 | 6.29 | 6.02 | 126 | 120 | 74.0-127 | | | 4.39 | 20 |
| Chloroethane | 5.00 | 4.97 | 4.73 | 99.4 | 94.6 | 61.0-134 | | | 4.95 | 20 |
| Chloroform | 5.00 | 5.54 | 5.37 | 111 | 107 | 72.0-123 | | | 3.12 | 20 |
| Chloromethane | 5.00 | 5.26 | 4.87 | 105 | 97.4 | 51.0-138 | | | 7.70 | 20 |
| 2-Chlorotoluene | 5.00 | 5.92 | 5.30 | 118 | 106 | 75.0-124 | | | 11.1 | 20 |
| 4-Chlorotoluene | 5.00 | 5.91 | 5.39 | 118 | 108 | 75.0-124 | | | 9.20 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 6.08 | 6.28 | 122 | 126 | 59.0-130 | | | 3.24 | 20 |
| 1,2-Dibromoethane | 5.00 | 6.46 | 6.43 | 129 | 129 | 74.0-128 | J4 | J4 | 0.465 | 20 |
| Dibromomethane | 5.00 | 6.16 | 6.27 | 123 | 125 | 75.0-122 | J4 | J4 | 1.77 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 5.96 | 5.83 | 119 | 117 | 76.0-124 | | | 2.21 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 6.15 | 5.81 | 123 | 116 | 76.0-125 | | | 5.69 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 5.47 | 5.13 | 109 | 103 | 77.0-121 | | | 6.42 | 20 |
| Dichlorodifluoromethane | 5.00 | 5.70 | 5.71 | 114 | 114 | 43.0-156 | | | 0.175 | 20 |
| 1,1-Dichloroethane | 5.00 | 5.62 | 5.15 | 112 | 103 | 70.0-127 | | | 8.73 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.97 | 5.05 | 99.4 | 101 | 65.0-131 | | | 1.60 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.36 | 5.04 | 107 | 101 | 65.0-131 | | | 6.15 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.90 | 5.57 | 118 | 111 | 73.0-125 | | | 5.75 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.41 | 5.12 | 108 | 102 | 71.0-125 | | | 5.51 | 20 |
| 1,2-Dichloropropane | 5.00 | 5.84 | 5.54 | 117 | 111 | 74.0-125 | | | 5.27 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.82 | 5.27 | 116 | 105 | 73.0-125 | | | 9.92 | 20 |
| 1,3-Dichloropropane | 5.00 | 6.11 | 5.95 | 122 | 119 | 80.0-125 | | | 2.65 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 5.17 | 5.04 | 103 | 101 | 76.0-127 | | | 2.55 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 5.43 | 5.07 | 109 | 101 | 73.0-127 | | | 6.86 | 20 |
| 2,2-Dichloropropane | 5.00 | 6.53 | 6.48 | 131 | 130 | 59.0-135 | | | 0.769 | 20 |
| Di-isopropyl ether | 5.00 | 5.58 | 5.53 | 112 | 111 | 60.0-136 | | | 0.900 | 20 |
| Ethylbenzene | 5.00 | 5.36 | 4.75 | 107 | 95.0 | 74.0-126 | | | 12.1 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 5.84 | 5.58 | 117 | 112 | 57.0-150 | | | 4.55 | 20 |
| Isopropylbenzene | 5.00 | 6.11 | 5.45 | 122 | 109 | 72.0-127 | | | 11.4 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3855442-1 10/31/22 09:55 • (LCSD) R3855442-2 10/31/22 10:14

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 6.22 | 5.76 | 124 | 115 | 72.0-133 | | | 7.68 | 20 |
| 2-Butanone (MEK) | 25.0 | 22.5 | 23.7 | 90.0 | 94.8 | 30.0-160 | | | 5.19 | 24 |
| Methylene Chloride | 5.00 | 5.44 | 5.39 | 109 | 108 | 68.0-123 | | | 0.923 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 27.4 | 27.0 | 110 | 108 | 56.0-143 | | | 1.47 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.53 | 5.64 | 111 | 113 | 66.0-132 | | | 1.97 | 20 |
| Naphthalene | 5.00 | 5.17 | 5.36 | 103 | 107 | 59.0-130 | | | 3.61 | 20 |
| n-Propylbenzene | 5.00 | 6.39 | 5.77 | 128 | 115 | 74.0-126 | J4 | | 10.2 | 20 |
| Styrene | 5.00 | 5.90 | 5.84 | 118 | 117 | 72.0-127 | | | 1.02 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 6.04 | 5.80 | 121 | 116 | 74.0-129 | | | 4.05 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 5.84 | 5.56 | 117 | 111 | 68.0-128 | | | 4.91 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.80 | 5.10 | 116 | 102 | 61.0-139 | | | 12.8 | 20 |
| Tetrachloroethene | 5.00 | 5.70 | 5.04 | 114 | 101 | 70.0-136 | | | 12.3 | 20 |
| Toluene | 5.00 | 5.54 | 5.13 | 111 | 103 | 75.0-121 | | | 7.69 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 5.45 | 5.53 | 109 | 111 | 59.0-139 | | | 1.46 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 5.61 | 5.65 | 112 | 113 | 62.0-137 | | | 0.710 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.86 | 5.59 | 117 | 112 | 69.0-126 | | | 4.72 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 6.13 | 5.96 | 123 | 119 | 78.0-123 | | | 2.81 | 20 |
| Trichloroethene | 5.00 | 5.89 | 5.47 | 118 | 109 | 76.0-126 | | | 7.39 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 6.25 | 6.10 | 125 | 122 | 67.0-129 | | | 2.43 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 6.20 | 5.36 | 124 | 107 | 70.0-126 | | | 14.5 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.73 | 5.28 | 115 | 106 | 74.0-124 | | | 8.17 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.52 | 5.02 | 110 | 100 | 73.0-127 | | | 9.49 | 20 |
| Vinyl chloride | 5.00 | 5.47 | 5.00 | 109 | 100 | 63.0-134 | | | 8.98 | 20 |
| Xylenes, Total | 15.0 | 16.4 | 14.8 | 109 | 98.7 | 72.0-127 | | | 10.3 | 20 |
| Ethyl ether | 5.00 | 5.43 | 5.52 | 109 | 110 | 64.0-137 | | | 1.64 | 20 |
| Tetrahydrofuran | 5.00 | 5.71 | 5.54 | 114 | 111 | 37.0-146 | | | 3.02 | 24 |
| Iodomethane | 25.0 | 28.2 | 26.6 | 113 | 106 | 74.0-134 | | | 5.84 | 20 |
| Allyl chloride | 25.0 | 27.8 | 25.8 | 111 | 103 | 70.0-131 | | | 7.46 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 4.70 | 4.65 | 94.0 | 93.0 | 45.0-143 | | | 1.07 | 20 |
| *(S) Toluene-d8* | | | | *100* | *102* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *106* | *110* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *96.8* | *99.8* | *70.0-130* | | | | |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## L1549355-22 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1549355-22 10/31/22 16:56 • (MS) R3855442-4 10/31/22 22:08 • (MSD) R3855442-5 10/31/22 22:28

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 3.13 | 36.3 | 36.0 | 133 | 131 | 1 | 10.0-160 | | | 0.830 | 40 |
| Acrylonitrile | 25.0 | U | 31.1 | 32.3 | 124 | 129 | 1 | 10.0-160 | | | 3.79 | 40 |
| Benzene | 5.00 | 0.0460 | 4.43 | 3.72 | 87.7 | 73.5 | 1 | 10.0-149 | | | 17.4 | 37 |
| Bromobenzene | 5.00 | U | 4.50 | 4.04 | 90.0 | 80.8 | 1 | 10.0-156 | | | 10.8 | 38 |
| Bromodichloromethane | 5.00 | U | 4.84 | 4.42 | 96.8 | 88.4 | 1 | 10.0-143 | | | 9.07 | 37 |
| Bromoform | 5.00 | U | 5.22 | 5.02 | 104 | 100 | 1 | 10.0-146 | | | 3.91 | 36 |
| Bromomethane | 5.00 | U | 3.35 | 2.77 | 67.0 | 55.4 | 1 | 10.0-149 | | | 19.0 | 38 |
| n-Butylbenzene | 5.00 | U | 3.67 | 3.25 | 73.4 | 65.0 | 1 | 10.0-160 | | | 12.1 | 40 |
| sec-Butylbenzene | 5.00 | U | 4.51 | 3.87 | 90.2 | 77.4 | 1 | 10.0-159 | | | 15.3 | 39 |
| tert-Butylbenzene | 5.00 | U | 4.64 | 3.86 | 92.8 | 77.2 | 1 | 10.0-156 | | | 18.4 | 39 |
| Carbon tetrachloride | 5.00 | U | 4.89 | 3.83 | 97.8 | 76.6 | 1 | 10.0-145 | | | 24.3 | 37 |
| Chlorobenzene | 5.00 | U | 4.38 | 3.89 | 87.6 | 77.8 | 1 | 10.0-152 | | | 11.9 | 39 |
| Chlorodibromomethane | 5.00 | U | 5.02 | 4.77 | 100 | 95.4 | 1 | 10.0-146 | | | 5.11 | 37 |
| Chloroethane | 5.00 | U | 3.85 | 3.33 | 77.0 | 66.6 | 1 | 10.0-146 | | | 14.5 | 40 |
| Chloroform | 5.00 | 0.547 | 5.10 | 4.47 | 91.1 | 78.5 | 1 | 10.0-146 | | | 13.2 | 37 |
| Chloromethane | 5.00 | U | 3.90 | 3.26 | 78.0 | 65.2 | 1 | 10.0-159 | | | 17.9 | 37 |
| 2-Chlorotoluene | 5.00 | U | 4.83 | 3.93 | 96.6 | 78.6 | 1 | 10.0-159 | | | 20.5 | 38 |
| 4-Chlorotoluene | 5.00 | U | 4.34 | 3.79 | 86.8 | 75.8 | 1 | 10.0-155 | | | 13.5 | 39 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | U | 5.56 | 5.60 | 111 | 112 | 1 | 10.0-151 | | | 0.717 | 39 |
| 1,2-Dibromoethane | 5.00 | U | 5.18 | 5.18 | 104 | 104 | 1 | 10.0-148 | | | 0.000 | 34 |
| Dibromomethane | 5.00 | U | 4.55 | 4.90 | 91.0 | 98.0 | 1 | 10.0-147 | | | 7.41 | 35 |
| 1,2-Dichlorobenzene | 5.00 | U | 4.77 | 4.37 | 95.4 | 87.4 | 1 | 10.0-155 | | | 8.75 | 37 |
| 1,3-Dichlorobenzene | 5.00 | U | 4.78 | 4.21 | 95.6 | 84.2 | 1 | 10.0-153 | | | 12.7 | 38 |
| 1,4-Dichlorobenzene | 5.00 | U | 4.16 | 3.68 | 83.2 | 73.6 | 1 | 10.0-151 | | | 12.2 | 38 |
| Dichlorodifluoromethane | 5.00 | U | 3.68 | 2.81 | 73.6 | 56.2 | 1 | 10.0-160 | | | 26.8 | 35 |
| 1,1-Dichloroethane | 5.00 | 0.140 | 4.66 | 4.03 | 90.4 | 77.8 | 1 | 10.0-147 | | | 14.5 | 37 |
| 1,2-Dichloroethane | 5.00 | U | 4.42 | 4.12 | 88.4 | 82.4 | 1 | 10.0-148 | | | 7.03 | 35 |
| 1,1-Dichloroethene | 5.00 | 0.604 | 4.92 | 3.86 | 86.3 | 65.1 | 1 | 10.0-155 | | | 24.1 | 37 |
| cis-1,2-Dichloroethene | 5.00 | 383 | 384 | 373 | 20.0 | 0.000 | 1 | 10.0-149 | E | E V | 2.91 | 37 |
| trans-1,2-Dichloroethene | 5.00 | 0.762 | 4.40 | 3.76 | 72.8 | 60.0 | 1 | 10.0-150 | | | 15.7 | 37 |
| 1,2-Dichloropropane | 5.00 | U | 4.72 | 3.85 | 94.4 | 77.0 | 1 | 10.0-148 | | | 20.3 | 37 |
| 1,1-Dichloropropene | 5.00 | U | 4.14 | 3.45 | 82.8 | 69.0 | 1 | 10.0-153 | | | 18.2 | 35 |
| 1,3-Dichloropropane | 5.00 | U | 5.06 | 4.81 | 101 | 96.2 | 1 | 10.0-154 | | | 5.07 | 35 |
| cis-1,3-Dichloropropene | 5.00 | U | 3.43 | 3.01 | 68.6 | 60.2 | 1 | 10.0-151 | | | 13.0 | 37 |
| trans-1,3-Dichloropropene | 5.00 | U | 3.87 | 3.78 | 77.4 | 75.6 | 1 | 10.0-148 | | | 2.35 | 37 |
| 2,2-Dichloropropane | 5.00 | U | 3.46 | 2.80 | 69.2 | 56.0 | 1 | 10.0-138 | | | 21.1 | 36 |
| Di-isopropyl ether | 5.00 | U | 5.00 | 4.59 | 100 | 91.8 | 1 | 10.0-147 | | | 8.55 | 36 |
| Ethylbenzene | 5.00 | U | 3.97 | 3.46 | 79.4 | 69.2 | 1 | 10.0-160 | | | 13.7 | 38 |
| Hexachloro-1,3-butadiene | 5.00 | U | 3.76 | 3.35 | 75.2 | 67.0 | 1 | 10.0-160 | | | 11.5 | 40 |
| Isopropylbenzene | 5.00 | U | 4.59 | 3.93 | 91.8 | 78.6 | 1 | 10.0-155 | | | 15.5 | 38 |

## L1549355-22 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1549355-22 10/31/22 16:56 • (MS) R3855442-4 10/31/22 22:08 • (MSD) R3855442-5 10/31/22 22:28

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | U | 4.71 | 3.91 | 94.2 | 78.2 | 1 | 10.0-160 | | | 18.6 | 40 |
| 2-Butanone (MEK) | 25.0 | U | 22.6 | 28.3 | 90.4 | 113 | 1 | 10.0-160 | | | 22.4 | 40 |
| Methylene Chloride | 5.00 | U | 4.53 | 3.84 | 90.6 | 76.8 | 1 | 10.0-141 | | | 16.5 | 37 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | U | 25.1 | 26.8 | 100 | 107 | 1 | 10.0-160 | | | 6.55 | 35 |
| Methyl tert-butyl ether | 5.00 | U | 4.93 | 4.58 | 98.6 | 91.6 | 1 | 11.0-147 | | | 7.36 | 35 |
| Naphthalene | 5.00 | U | 3.87 | 3.99 | 77.4 | 79.8 | 1 | 10.0-160 | | | 3.05 | 36 |
| n-Propylbenzene | 5.00 | U | 4.77 | 4.03 | 95.4 | 80.6 | 1 | 10.0-158 | | | 16.8 | 38 |
| Styrene | 5.00 | U | 4.49 | 4.06 | 89.8 | 81.2 | 1 | 10.0-160 | | | 10.1 | 40 |
| 1,1,1,2-Tetrachloroethane | 5.00 | U | 5.12 | 4.67 | 102 | 93.4 | 1 | 10.0-149 | | | 9.19 | 39 |
| 1,1,2,2-Tetrachloroethane | 5.00 | U | 5.51 | 5.37 | 110 | 107 | 1 | 10.0-160 | | | 2.57 | 35 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | U | 4.71 | 3.91 | 94.2 | 78.2 | 1 | 10.0-160 | | | 18.6 | 36 |
| Tetrachloroethene | 5.00 | U | 4.22 | 3.50 | 84.4 | 70.0 | 1 | 10.0-156 | | | 18.7 | 39 |
| Toluene | 5.00 | U | 4.07 | 3.53 | 81.4 | 70.6 | 1 | 10.0-156 | | | 14.2 | 38 |
| 1,2,3-Trichlorobenzene | 5.00 | U | 4.26 | 3.88 | 85.2 | 77.6 | 1 | 10.0-160 | | | 9.34 | 40 |
| 1,2,4-Trichlorobenzene | 5.00 | U | 3.93 | 3.85 | 78.6 | 77.0 | 1 | 10.0-160 | | | 2.06 | 40 |
| 1,1,1-Trichloroethane | 5.00 | 0.0940 | 4.80 | 3.88 | 94.1 | 75.7 | 1 | 10.0-144 | | | 21.2 | 35 |
| 1,1,2-Trichloroethane | 5.00 | U | 5.15 | 4.98 | 103 | 99.6 | 1 | 10.0-160 | | | 3.36 | 35 |
| Trichloroethene | 5.00 | 369 | 379 | 370 | 200 | 20.0 | 1 | 10.0-156 | E V | E | 2.40 | 38 |
| 1,2,3-Trichloropropane | 5.00 | U | 5.60 | 5.35 | 112 | 107 | 1 | 10.0-156 | | | 4.57 | 35 |
| 1,2,4-Trimethylbenzene | 5.00 | U | 4.61 | 3.96 | 92.2 | 79.2 | 1 | 10.0-160 | | | 15.2 | 36 |
| 1,2,3-Trimethylbenzene | 5.00 | U | 4.54 | 3.92 | 90.8 | 78.4 | 1 | 10.0-160 | | | 14.7 | 36 |
| 1,3,5-Trimethylbenzene | 5.00 | U | 4.05 | 3.37 | 81.0 | 67.4 | 1 | 10.0-160 | | | 18.3 | 38 |
| Vinyl chloride | 5.00 | 0.976 | 5.18 | 4.24 | 84.1 | 65.3 | 1 | 10.0-160 | | | 20.0 | 37 |
| Xylenes, Total | 15.0 | U | 12.2 | 10.7 | 81.3 | 71.3 | 1 | 10.0-160 | | | 13.1 | 38 |
| Ethyl ether | 5.00 | U | 4.57 | 4.49 | 91.4 | 89.8 | 1 | 10.0-160 | | | 1.77 | 31 |
| Tetrahydrofuran | 5.00 | U | 3.66 | 4.69 | 73.2 | 93.8 | 1 | 10.0-158 | | | 24.7 | 33 |
| Iodomethane | 25.0 | U | 21.1 | 17.8 | 84.4 | 71.2 | 1 | 10.0-160 | | | 17.0 | 38 |
| Allyl chloride | 25.0 | U | 20.0 | 16.2 | 80.0 | 64.8 | 1 | 10.0-160 | | | 21.0 | 30 |
| trans-1,4-Dichloro-2-butene | 5.00 | U | 2.38 | 3.22 | 47.6 | 64.4 | 1 | 10.0-152 | | | 30.0 | 36 |
| *(S) Toluene-d8* | | | | | *95.1* | *99.6* | | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | | *108* | *109* | | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | | *99.8* | *98.3* | | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R3856420-2 11/02/22 12:30

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *94.8* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *111* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3856420-1 11/02/22 11:51 • (LCSD) R3856420-3 11/02/22 14:26

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 5.00 | 4.16 | 3.82 | 83.2 | 76.4 | 73.0-125 | | | 8.52 | 20 |
| Tetrachloroethene | 5.00 | 4.22 | 4.06 | 84.4 | 81.2 | 70.0-136 | | | 3.86 | 20 |
| Trichloroethene | 5.00 | 4.05 | 3.90 | 81.0 | 78.0 | 76.0-126 | | | 3.77 | 20 |
| Trichlorofluoromethane | 5.00 | 5.09 | 4.95 | 102 | 99.0 | 61.0-142 | | | 2.79 | 20 |
| Vinyl chloride | 5.00 | 5.13 | 5.13 | 103 | 103 | 63.0-134 | | | 0.000 | 20 |
| *(S) Toluene-d8* | | | | *104* | *103* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *93.9* | *93.0* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *115* | *111* | *70.0-130* | | | | |

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| C5 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded high. Data is likely to show a high bias concerning the result. |
| E | The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL). |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J4 | The associated batch QC was outside the established quality control range for accuracy. |
| J5 | The sample matrix interfered with the ability to make any accurate determination; spike value is high. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Billing Information:
Attn: Accounts Payable
2101 4th Avenue, Suite 1310
Seattle, WA 98121

Pres Chk

Report to:
Brian O'Neal/Bill Haldeman

Email To:
Shannon.McKernan@nv5.com;brian.oneal@nv5

Project Description:
American Linen

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: 206-529-3980

Client Project #
1413.001.10.701.02

Lab Project #
PESENVSWA-ALP

Collected by (print):
NEW

Site/Facility ID #

P.O. # 1413001107016Z
~~443018-1413001.05.601~~

Collected by (signature):
NEW

Immediately Packed on Ice N___ Y✓

*Rush?* (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | | | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-169-102722 | GRAB | GW | — | 10/27/22 | 1037 | 9 | X | X | X | X | | X | X | X | | | | -01 |
| MW-172-102722 | ↓ | GW | — | ↓ | 1207 | ↓ | X | X | X | X | | X | X | X | | | | -02 |
| MW-170-102722 | | GW | — | | 1300 | | X | X | X | X | | X | X | X | | | | -03 |
| MW-185-102722 | ↓ | GW | — | ↓ | 1446 | ↓ | X | X | X | X | | X | X | X | | | | -04 |
| TB-102722 | — | GW | — | ↓ | — | ↓ | | | | | | | | X | | | | -05 |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | NEW | | | | | | | | | |
| | | GW | | | | | | | 10/27/22 | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1551488
F246

Acctnum: PESENVSWA
Template: T218236
Prelogin: P957562
PM: 546 - Jared Starkey
PB:

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: ✓Y __N
Preservation Correct/Checked: ✓Y __N
RAD Screen <0.5 mR/hr: ✓Y __N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: (Yes) No / (HCL) MeoH / TBR | If preservation required by Login: Date/Time |
|---|---|---|---|---|---|
| Natalie Weedon | 10/27/22 | 1650 | | 1 | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: MMA °C 0.4+0=0.4 / Bottles Received: 36 | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: 10/28/22 / Time: 900 | Hold: / Condition: NCF / (OK) |

# ANALYTICAL REPORT

November 14, 2022



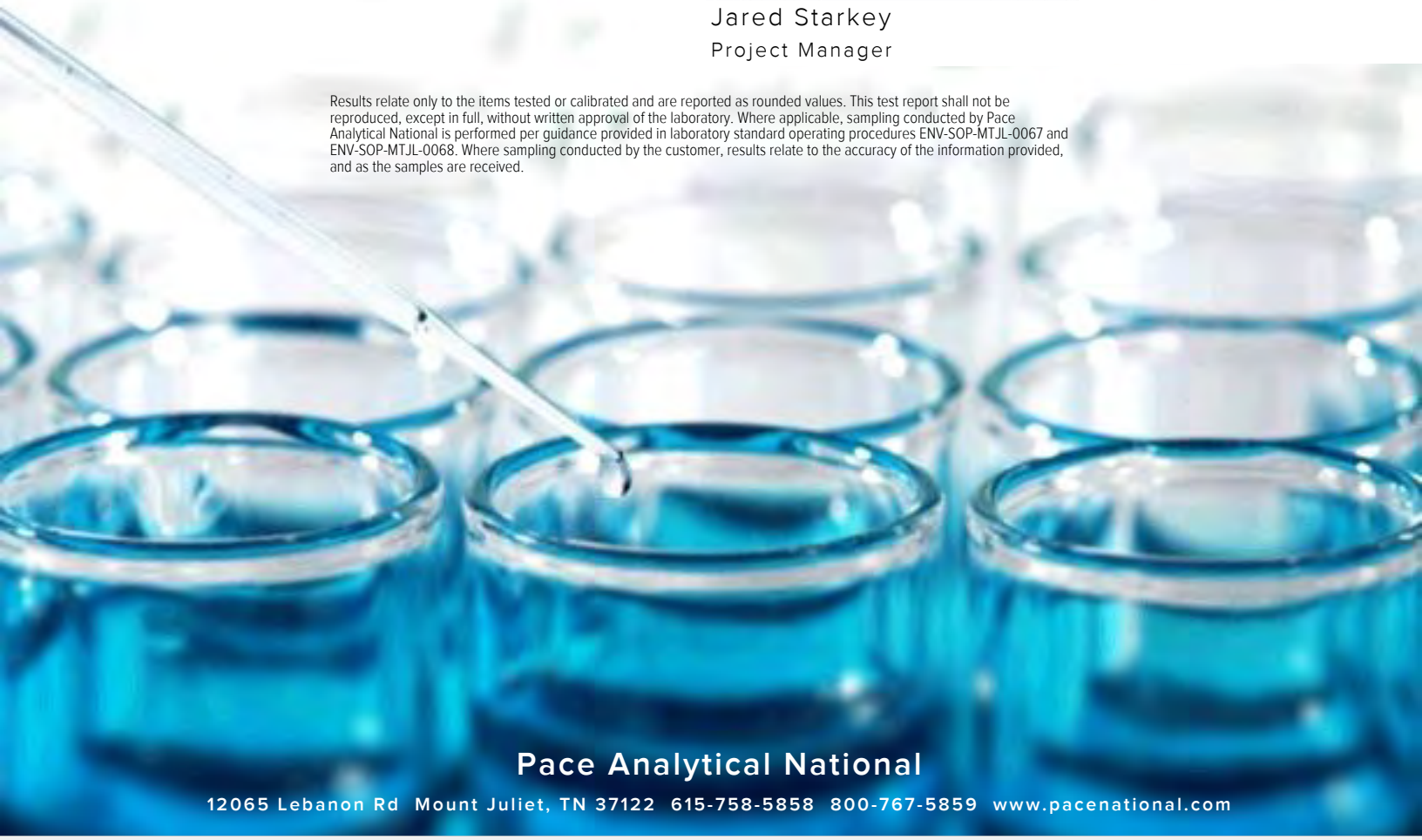
## PES Environmental, Inc.- WA

| | |
|---|---|
| Sample Delivery Group: | L1551413 |
| Samples Received: | 10/28/2022 |
| Project Number: | 1413001.10.701.02 |
| Description: | American Linen |
| Report To: | Brian O'Neal/Bill Haldeman |
| | 2101 Fourth Ave., Suite 1310 |
| | Seattle, WA 98121 |

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## MW-173-102722 L1551413-01 GW

Collected by: ARS | Collected date/time: 10/27/22 11:20 | Received date/time: 10/28/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1956194 | 1 | 11/09/22 15:43 | 11/09/22 15:43 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1950716 | 1 | 10/29/22 00:11 | 10/29/22 00:11 | ELN | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1958042 | 1 | 11/13/22 09:44 | 11/13/22 09:44 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1956357 | 1 | 11/11/22 18:27 | 11/11/22 22:20 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1952606 | 1 | 11/02/22 12:42 | 11/02/22 12:42 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953104 | 10 | 11/02/22 15:58 | 11/02/22 15:58 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1951841 | 1 | 10/31/22 20:11 | 10/31/22 20:11 | ADM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1952435 | 1 | 11/02/22 20:01 | 11/02/22 20:01 | JHH | Mt. Juliet, TN |

## MW-174-102722 L1551413-02 GW

Collected by: ARS | Collected date/time: 10/27/22 13:02 | Received date/time: 10/28/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1956194 | 1 | 11/09/22 15:48 | 11/09/22 15:48 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1950716 | 1 | 10/29/22 00:24 | 10/29/22 00:24 | ELN | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1958042 | 1 | 11/13/22 10:50 | 11/13/22 10:50 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1956357 | 1 | 11/11/22 18:27 | 11/11/22 22:23 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1952606 | 1 | 11/02/22 13:37 | 11/02/22 13:37 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953104 | 10 | 11/02/22 16:01 | 11/02/22 16:01 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1951841 | 1 | 10/31/22 20:30 | 10/31/22 20:30 | ADM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1952435 | 10 | 11/02/22 20:20 | 11/02/22 20:20 | JHH | Mt. Juliet, TN |

## MW-175-102722 L1551413-03 GW

Collected by: ARS | Collected date/time: 10/27/22 13:55 | Received date/time: 10/28/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1956194 | 1 | 11/09/22 15:52 | 11/09/22 15:52 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1950716 | 1 | 10/29/22 00:38 | 10/29/22 00:38 | ELN | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1958042 | 1 | 11/13/22 11:12 | 11/13/22 11:12 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1956357 | 1 | 11/11/22 18:27 | 11/11/22 22:26 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1952606 | 1 | 11/02/22 13:40 | 11/02/22 13:40 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953104 | 10 | 11/02/22 16:04 | 11/02/22 16:04 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1951841 | 1 | 10/31/22 20:50 | 10/31/22 20:50 | ADM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1952435 | 1 | 11/02/22 20:39 | 11/02/22 20:39 | JHH | Mt. Juliet, TN |

## MW-176-102722 L1551413-04 GW

Collected by: ARS | Collected date/time: 10/27/22 14:44 | Received date/time: 10/28/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1956194 | 1 | 11/09/22 15:57 | 11/09/22 15:57 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1950716 | 1 | 10/29/22 00:52 | 10/29/22 00:52 | ELN | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1958042 | 1 | 11/13/22 11:33 | 11/13/22 11:33 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1956357 | 1 | 11/11/22 18:27 | 11/11/22 21:46 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1952606 | 1 | 11/02/22 13:44 | 11/02/22 13:44 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953104 | 10 | 11/02/22 16:09 | 11/02/22 16:09 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1951841 | 1 | 10/31/22 21:09 | 10/31/22 21:09 | ADM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1952435 | 1 | 11/02/22 20:58 | 11/02/22 20:58 | JHH | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 515000 | | 8450 | 20000 | 1 | 11/09/2022 15:43 | WG1956194 |

Sample Narrative:

L1551413-01 WG1956194: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 46000 | | 379 | 1000 | 1 | 10/29/2022 00:11 | WG1950716 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/29/2022 00:11 | WG1950716 |
| Sulfate | U | | 594 | 5000 | 1 | 10/29/2022 00:11 | WG1950716 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 11900 | | 102 | 1000 | 1 | 11/13/2022 09:44 | WG1958042 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 3020 | | 28.1 | 100 | 1 | 11/11/2022 22:20 | WG1956357 |
| Manganese | 2070 | | 0.704 | 5.00 | 1 | 11/11/2022 22:20 | WG1956357 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 29400 | | 2.87 | 6.78 | 10 | 11/02/2022 15:58 | WG1953104 |
| Ethane | 613 | | 0.296 | 1.29 | 1 | 11/02/2022 12:42 | WG1952606 |
| Ethene | 104 | | 0.422 | 1.27 | 1 | 11/02/2022 12:42 | WG1952606 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 10/31/2022 20:11 | WG1951841 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| Benzene | 0.188 | | 0.0160 | 0.0400 | 1 | 10/31/2022 20:11 | WG1951841 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 10/31/2022 20:11 | WG1951841 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,2-Dibromoethane | U | J4 | 0.0210 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | J4 | 0.0400 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| cis-1,2-Dichloroethene | 0.0630 | J | 0.0276 | 0.100 | 1 | 11/02/2022 20:01 | WG1952435 |
| trans-1,2-Dichloroethene | 0.556 | | 0.0572 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 10/31/2022 20:11 | WG1951841 |
| Ethylbenzene | 0.0460 | J | 0.0212 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 10/31/2022 20:11 | WG1951841 |
| Isopropylbenzene | 0.0720 | J | 0.0345 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 10/31/2022 20:11 | WG1951841 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 10/31/2022 20:11 | WG1951841 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 10/31/2022 20:11 | WG1951841 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 10/31/2022 20:11 | WG1951841 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| n-Propylbenzene | U | J4 | 0.0472 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| Styrene | U | | 0.109 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/02/2022 20:01 | WG1952435 |
| Toluene | 0.122 | J | 0.0500 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| Trichloroethene | 0.0460 | | 0.0160 | 0.0400 | 1 | 11/02/2022 20:01 | WG1952435 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/02/2022 20:01 | WG1952435 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| Vinyl chloride | 0.629 | | 0.0273 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 10/31/2022 20:11 | WG1951841 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| Tetrahydrofuran | 3.77 | | 0.0900 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 10/31/2022 20:11 | WG1951841 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *10/31/2022 20:11* | WG1951841 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/02/2022 20:01* | WG1952435 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *10/31/2022 20:11* | WG1951841 |
| *(S) 4-Bromofluorobenzene* | *93.8* | | | *67.0-138* | | *11/02/2022 20:01* | WG1952435 |
| *(S) 1,2-Dichloroethane-d4* | *100* | | | *70.0-130* | | *10/31/2022 20:11* | WG1951841 |
| *(S) 1,2-Dichloroethane-d4* | *111* | | | *70.0-130* | | *11/02/2022 20:01* | WG1952435 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 1090000 | | 8450 | 20000 | 1 | 11/09/2022 15:48 | WG1956194 |

Sample Narrative:

L1551413-02 WG1956194: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 86400 | | 379 | 1000 | 1 | 10/29/2022 00:24 | WG1950716 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/29/2022 00:24 | WG1950716 |
| Sulfate | 3690 | J | 594 | 5000 | 1 | 10/29/2022 00:24 | WG1950716 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 29100 | | 102 | 1000 | 1 | 11/13/2022 10:50 | WG1958042 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 14700 | | 28.1 | 100 | 1 | 11/11/2022 22:23 | WG1956357 |
| Manganese | 3680 | | 0.704 | 5.00 | 1 | 11/11/2022 22:23 | WG1956357 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 28200 | | 2.87 | 6.78 | 10 | 11/02/2022 16:01 | WG1953104 |
| Ethane | 196 | | 0.296 | 1.29 | 1 | 11/02/2022 13:37 | WG1952606 |
| Ethene | 57.6 | | 0.422 | 1.27 | 1 | 11/02/2022 13:37 | WG1952606 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 3.08 | C5 | 0.548 | 1.00 | 1 | 10/31/2022 20:30 | WG1951841 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| Benzene | 0.0260 | J | 0.0160 | 0.0400 | 1 | 10/31/2022 20:30 | WG1951841 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 10/31/2022 20:30 | WG1951841 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| Chloroethane | 1.40 | | 0.0432 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,2-Dibromoethane | U | J4 | 0.0210 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | J4 | 0.0400 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,1-Dichloroethene | 0.108 | | 0.0200 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| cis-1,2-Dichloroethene | 22.3 | | 0.0276 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| trans-1,2-Dichloroethene | 1.25 | | 0.0572 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 10/31/2022 20:30 | WG1951841 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 10/31/2022 20:30 | WG1951841 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 10/31/2022 20:30 | WG1951841 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 10/31/2022 20:30 | WG1951841 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 10/31/2022 20:30 | WG1951841 |
| Methyl tert-butyl ether | 0.0180 | J | 0.0118 | 0.0400 | 1 | 10/31/2022 20:30 | WG1951841 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| n-Propylbenzene | U | J4 | 0.0472 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| Styrene | U | | 0.109 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| Tetrachloroethene | 2.38 | | 0.0280 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| Trichloroethene | 0.997 | | 0.0160 | 0.0400 | 1 | 10/31/2022 20:30 | WG1951841 |
| Trichlorofluoromethane | U | | 0.200 | 1.00 | 10 | 11/02/2022 20:20 | WG1952435 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| Vinyl chloride | 157 | | 0.273 | 1.00 | 10 | 11/02/2022 20:20 | WG1952435 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 10/31/2022 20:30 | WG1951841 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 10/31/2022 20:30 | WG1951841 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *10/31/2022 20:30* | WG1951841 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/02/2022 20:20* | WG1952435 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *10/31/2022 20:30* | WG1951841 |
| *(S) 4-Bromofluorobenzene* | *92.3* | | | *67.0-138* | | *11/02/2022 20:20* | WG1952435 |
| *(S) 1,2-Dichloroethane-d4* | *101* | | | *70.0-130* | | *10/31/2022 20:30* | WG1951841 |
| *(S) 1,2-Dichloroethane-d4* | *112* | | | *70.0-130* | | *11/02/2022 20:20* | WG1952435 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 1000000 | | 8450 | 20000 | 1 | 11/09/2022 15:52 | WG1956194 |

Sample Narrative:

L1551413-03 WG1956194: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 82800 | | 379 | 1000 | 1 | 10/29/2022 00:38 | WG1950716 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/29/2022 00:38 | WG1950716 |
| Sulfate | U | | 594 | 5000 | 1 | 10/29/2022 00:38 | WG1950716 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 18800 | | 102 | 1000 | 1 | 11/13/2022 11:12 | WG1958042 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 15900 | | 28.1 | 100 | 1 | 11/11/2022 22:26 | WG1956357 |
| Manganese | 2840 | | 0.704 | 5.00 | 1 | 11/11/2022 22:26 | WG1956357 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 32200 | | 2.87 | 6.78 | 10 | 11/02/2022 16:04 | WG1953104 |
| Ethane | 567 | | 0.296 | 1.29 | 1 | 11/02/2022 13:40 | WG1952606 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/02/2022 13:40 | WG1952606 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 0.637 | J J4 | 0.548 | 1.00 | 1 | 11/02/2022 20:39 | WG1952435 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| Benzene | 0.0220 | J | 0.0160 | 0.0400 | 1 | 10/31/2022 20:50 | WG1951841 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 10/31/2022 20:50 | WG1951841 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| Chloroethane | 0.219 | | 0.0432 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,2-Dibromoethane | U | J4 | 0.0210 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | J4 | 0.0400 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| cis-1,2-Dichloroethene | 0.0740 | J | 0.0276 | 0.100 | 1 | 11/02/2022 20:39 | WG1952435 |
| trans-1,2-Dichloroethene | 1.22 | | 0.0572 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 10/31/2022 20:50 | WG1951841 |
| Ethylbenzene | 0.0680 | J | 0.0212 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 10/31/2022 20:50 | WG1951841 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 10/31/2022 20:50 | WG1951841 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 10/31/2022 20:50 | WG1951841 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 10/31/2022 20:50 | WG1951841 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 10/31/2022 20:50 | WG1951841 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| n-Propylbenzene | U | J4 | 0.0472 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| Styrene | U | | 0.109 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| Tetrachloroethene | 1.41 | | 0.0280 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| Toluene | 0.107 | J | 0.0500 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| Trichloroethene | 0.0220 | J | 0.0160 | 0.0400 | 1 | 11/02/2022 20:39 | WG1952435 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/02/2022 20:39 | WG1952435 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| Vinyl chloride | 0.0940 | J | 0.0273 | 0.100 | 1 | 11/02/2022 20:39 | WG1952435 |
| Xylenes, Total | 0.224 | J | 0.191 | 0.260 | 1 | 10/31/2022 20:50 | WG1951841 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 10/31/2022 20:50 | WG1951841 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *10/31/2022 20:50* | WG1951841 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/02/2022 20:39* | WG1952435 |
| *(S) 4-Bromofluorobenzene* | *93.9* | | | *67.0-138* | | *10/31/2022 20:50* | WG1951841 |
| *(S) 4-Bromofluorobenzene* | *92.9* | | | *67.0-138* | | *11/02/2022 20:39* | WG1952435 |
| *(S) 1,2-Dichloroethane-d4* | *102* | | | *70.0-130* | | *10/31/2022 20:50* | WG1951841 |
| *(S) 1,2-Dichloroethane-d4* | *111* | | | *70.0-130* | | *11/02/2022 20:39* | WG1952435 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 840000 | | 8450 | 20000 | 1 | 11/09/2022 15:57 | WG1956194 |

Sample Narrative:

L1551413-04 WG1956194: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 68600 | | 379 | 1000 | 1 | 10/29/2022 00:52 | WG1950716 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/29/2022 00:52 | WG1950716 |
| Sulfate | U | | 594 | 5000 | 1 | 10/29/2022 00:52 | WG1950716 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 16400 | | 102 | 1000 | 1 | 11/13/2022 11:33 | WG1958042 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 11400 | | 28.1 | 100 | 1 | 11/11/2022 21:46 | WG1956357 |
| Manganese | 2290 | | 0.704 | 5.00 | 1 | 11/11/2022 21:46 | WG1956357 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 28900 | | 2.87 | 6.78 | 10 | 11/02/2022 16:09 | WG1953104 |
| Ethane | 590 | | 0.296 | 1.29 | 1 | 11/02/2022 13:44 | WG1952606 |
| Ethene | 30.1 | | 0.422 | 1.27 | 1 | 11/02/2022 13:44 | WG1952606 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 2.62 | C5 | 0.548 | 1.00 | 1 | 10/31/2022 21:09 | WG1951841 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| Benzene | 0.0230 | J | 0.0160 | 0.0400 | 1 | 10/31/2022 21:09 | WG1951841 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 10/31/2022 21:09 | WG1951841 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| Chloroethane | 0.258 | | 0.0432 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,2-Dibromoethane | U | J4 | 0.0210 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | J4 | 0.0400 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| cis-1,2-Dichloroethene | 0.211 | | 0.0276 | 0.100 | 1 | 11/02/2022 20:58 | WG1952435 |
| trans-1,2-Dichloroethene | 1.07 | | 0.0572 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 10/31/2022 21:09 | WG1951841 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 10/31/2022 21:09 | WG1951841 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 10/31/2022 21:09 | WG1951841 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 10/31/2022 21:09 | WG1951841 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 10/31/2022 21:09 | WG1951841 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 10/31/2022 21:09 | WG1951841 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| n-Propylbenzene | U | J4 | 0.0472 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| Styrene | U | | 0.109 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/02/2022 20:58 | WG1952435 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| Trichloroethene | 0.0200 | J | 0.0160 | 0.0400 | 1 | 11/02/2022 20:58 | WG1952435 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/02/2022 20:58 | WG1952435 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| Vinyl chloride | 0.668 | | 0.0273 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 10/31/2022 21:09 | WG1951841 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 10/31/2022 21:09 | WG1951841 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *10/31/2022 21:09* | WG1951841 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/02/2022 20:58* | WG1952435 |
| *(S) 4-Bromofluorobenzene* | *97.8* | | | *67.0-138* | | *10/31/2022 21:09* | WG1951841 |
| *(S) 4-Bromofluorobenzene* | *94.3* | | | *67.0-138* | | *11/02/2022 20:58* | WG1952435 |
| *(S) 1,2-Dichloroethane-d4* | *99.9* | | | *70.0-130* | | *10/31/2022 21:09* | WG1951841 |
| *(S) 1,2-Dichloroethane-d4* | *114* | | | *70.0-130* | | *11/02/2022 20:58* | WG1952435 |

## Method Blank (MB)

(MB) R3859186-2 11/09/22 14:41

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1551542-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1551542-01 11/09/22 14:49 • (DUP) R3859186-3 11/09/22 14:57

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 515000 | 531000 | 1 | 3.20 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

## L1551542-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1551542-02 11/09/22 16:30 • (DUP) R3859186-4 11/09/22 16:45

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 1270000 | 1280000 | 1 | 0.734 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3859186-1 11/09/22 14:37

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 101000 | 101 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3854881-1 10/28/22 10:28

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Chloride, Dissolved | U | | 379 | 1000 |
| Nitrate, Dissolved | U | | 48.0 | 100 |
| Sulfate, Dissolved | U | | 594 | 5000 |

## L1551303-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1551303-01 10/28/22 18:14 • (DUP) R3854881-3 10/28/22 18:28

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Chloride, Dissolved | 24200 | 23300 | 1 | 3.74 | | 15 |
| Nitrate, Dissolved | 2750 | 2670 | 1 | 2.78 | | 15 |
| Sulfate, Dissolved | 9880 | 9480 | 1 | 4.22 | | 15 |

## L1551408-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1551408-02 10/28/22 23:02 • (DUP) R3854881-6 10/28/22 23:16

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Chloride, Dissolved | 25900 | 26400 | 1 | 1.66 | | 15 |
| Nitrate, Dissolved | U | U | 1 | 0.000 | | 15 |
| Sulfate, Dissolved | 29900 | 30200 | 1 | 0.832 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3854881-2 10/28/22 10:41

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Chloride, Dissolved | 40000 | 40200 | 100 | 80.0-120 | |
| Nitrate, Dissolved | 8000 | 7760 | 97.0 | 80.0-120 | |
| Sulfate, Dissolved | 40000 | 39800 | 99.6 | 80.0-120 | |

## L1551303-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1551303-01 10/28/22 18:14 • (MS) R3854881-4 10/28/22 18:42 • (MSD) R3854881-5 10/28/22 18:56

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride, Dissolved | 50000 | 24200 | 70100 | 73100 | 91.9 | 97.8 | 1 | 80.0-120 | | | 4.15 | 15 |
| Nitrate, Dissolved | 5000 | 2750 | 7070 | 7380 | 86.5 | 92.7 | 1 | 80.0-120 | | | 4.24 | 15 |
| Sulfate, Dissolved | 50000 | 9880 | 55100 | 58000 | 90.3 | 96.2 | 1 | 80.0-120 | | | 5.16 | 15 |

## L1551408-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1551408-02 10/28/22 23:02 • (MS) R3854881-7 10/28/22 23:30

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride, Dissolved | 50000 | 25900 | 75600 | 99.4 | 1 | 80.0-120 | |
| Nitrate, Dissolved | 5000 | U | 4670 | 93.4 | 1 | 80.0-120 | |
| Sulfate, Dissolved | 50000 | 29900 | 77100 | 94.3 | 1 | 80.0-120 | |

## Method Blank (MB)

(MB) R3860485-2 11/13/22 08:40

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 208 | J | 102 | 1000 |

## L1551642-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1551642-02 11/13/22 17:24 • (DUP) R3860485-7 11/13/22 17:40

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 735 | 724 | 1 | 1.44 | J | 20 |

## L1551642-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1551642-03 11/13/22 17:56 • (DUP) R3860485-8 11/13/22 18:12

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 664 | 581 | 1 | 13.3 | J | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3860485-1 11/13/22 08:24

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 78300 | 104 | 85.0-115 | |

## L1551413-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1551413-01 11/13/22 09:44 • (MS) R3860485-3 11/13/22 10:06 • (MSD) R3860485-4 11/13/22 10:28

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 11900 | 63100 | 64000 | 102 | 104 | 1 | 80.0-120 | | | 1.45 | 20 |

## L1551421-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1551421-02 11/13/22 12:55 • (MS) R3860485-5 11/13/22 13:16 • (MSD) R3860485-6 11/13/22 13:38

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 3220 | 54700 | 53900 | 103 | 101 | 1 | 80.0-120 | | | 1.33 | 20 |

## Method Blank (MB)

(MB) R3860278-1 11/11/22 21:39

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3860278-2 11/11/22 21:43

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Iron | 5000 | 4980 | 99.7 | 80.0-120 | |
| Manganese | 50.0 | 48.8 | 97.5 | 80.0-120 | |

## L1551413-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1551413-04 11/11/22 21:46 • (MS) R3860278-4 11/11/22 21:53 • (MSD) R3860278-5 11/11/22 21:56

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iron | 5000 | 11400 | 16000 | 15900 | 91.5 | 90.5 | 1 | 75.0-125 | | | 0.337 | 20 |
| Manganese | 50.0 | 2290 | 2320 | 2310 | 54.3 | 39.9 | 1 | 75.0-125 | V | V | 0.310 | 20 |

## Method Blank (MB)

(MB) R3856142-2 11/02/22 11:06

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1551388-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1551388-06 11/02/22 11:37 • (DUP) R3856142-3 11/02/22 12:07

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1551623-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1551623-01 11/02/22 14:15 • (DUP) R3856142-4 11/02/22 14:26

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3856142-1 11/02/22 11:00 • (LCSD) R3856142-5 11/02/22 15:04

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Ethane | 129 | 125 | 124 | 96.9 | 96.1 | 85.0-115 | | | 0.803 | 20 |
| Ethene | 127 | 127 | 126 | 100 | 99.2 | 85.0-115 | | | 0.791 | 20 |

## Method Blank (MB)

(MB) R3856225-2 11/02/22 15:36

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Methane | U | | 0.287 | 0.678 |

## L1551374-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1551374-02 11/02/22 15:44 • (DUP) R3856225-3 11/02/22 16:11

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | 10800 | 11000 | 10 | 1.83 | | 20 |

## L1551832-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1551832-01 11/02/22 16:22 • (DUP) R3856225-4 11/02/22 16:39

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3856225-1 11/02/22 15:34 • (LCSD) R3856225-7 11/02/22 16:47

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 69.1 | 71.8 | 102 | 106 | 85.0-115 | | | 3.83 | 20 |

## L1551837-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1551837-01 11/02/22 16:37 • (MS) R3856225-5 11/02/22 16:42 • (MSD) R3856225-6 11/02/22 16:44

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 74.3 | 154 | 152 | 118 | 115 | 1 | 85.0-115 | J5 | | 1.31 | 20 |

## Method Blank (MB)

(MB) R3855442-3 10/31/22 12:25

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3855442-3 10/31/22 12:25

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *102* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *107* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *100* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3855442-1 10/31/22 09:55 • (LCSD) R3855442-2 10/31/22 10:14

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 35.0 | 35.0 | 140 | 140 | 10.0-160 | | | 0.000 | 31 |
| Acrylonitrile | 25.0 | 32.4 | 33.8 | 130 | 135 | 45.0-153 | | | 4.23 | 22 |
| Benzene | 5.00 | 5.67 | 5.38 | 113 | 108 | 70.0-123 | | | 5.25 | 20 |
| Bromobenzene | 5.00 | 5.77 | 5.51 | 115 | 110 | 73.0-121 | | | 4.61 | 20 |
| Bromodichloromethane | 5.00 | 5.96 | 5.78 | 119 | 116 | 73.0-121 | | | 3.07 | 20 |
| Bromoform | 5.00 | 6.35 | 6.07 | 127 | 121 | 64.0-132 | | | 4.51 | 20 |
| Bromomethane | 5.00 | 4.48 | 4.11 | 89.6 | 82.2 | 56.0-147 | | | 8.61 | 20 |
| n-Butylbenzene | 5.00 | 5.41 | 5.04 | 108 | 101 | 68.0-135 | | | 7.08 | 20 |
| sec-Butylbenzene | 5.00 | 5.96 | 5.63 | 119 | 113 | 74.0-130 | | | 5.69 | 20 |
| tert-Butylbenzene | 5.00 | 5.87 | 5.40 | 117 | 108 | 75.0-127 | | | 8.34 | 20 |
| Carbon tetrachloride | 5.00 | 5.89 | 5.62 | 118 | 112 | 66.0-128 | | | 4.69 | 20 |
| Chlorobenzene | 5.00 | 5.72 | 5.28 | 114 | 106 | 76.0-128 | | | 8.00 | 20 |
| Chlorodibromomethane | 5.00 | 6.29 | 6.02 | 126 | 120 | 74.0-127 | | | 4.39 | 20 |
| Chloroethane | 5.00 | 4.97 | 4.73 | 99.4 | 94.6 | 61.0-134 | | | 4.95 | 20 |
| Chloroform | 5.00 | 5.54 | 5.37 | 111 | 107 | 72.0-123 | | | 3.12 | 20 |
| Chloromethane | 5.00 | 5.26 | 4.87 | 105 | 97.4 | 51.0-138 | | | 7.70 | 20 |
| 2-Chlorotoluene | 5.00 | 5.92 | 5.30 | 118 | 106 | 75.0-124 | | | 11.1 | 20 |
| 4-Chlorotoluene | 5.00 | 5.91 | 5.39 | 118 | 108 | 75.0-124 | | | 9.20 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 6.08 | 6.28 | 122 | 126 | 59.0-130 | | | 3.24 | 20 |
| 1,2-Dibromoethane | 5.00 | 6.46 | 6.43 | 129 | 129 | 74.0-128 | J4 | J4 | 0.465 | 20 |
| Dibromomethane | 5.00 | 6.16 | 6.27 | 123 | 125 | 75.0-122 | J4 | J4 | 1.77 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 5.96 | 5.83 | 119 | 117 | 76.0-124 | | | 2.21 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 6.15 | 5.81 | 123 | 116 | 76.0-125 | | | 5.69 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 5.47 | 5.13 | 109 | 103 | 77.0-121 | | | 6.42 | 20 |
| Dichlorodifluoromethane | 5.00 | 5.70 | 5.71 | 114 | 114 | 43.0-156 | | | 0.175 | 20 |
| 1,1-Dichloroethane | 5.00 | 5.62 | 5.15 | 112 | 103 | 70.0-127 | | | 8.73 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.97 | 5.05 | 99.4 | 101 | 65.0-131 | | | 1.60 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.36 | 5.04 | 107 | 101 | 65.0-131 | | | 6.15 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.90 | 5.57 | 118 | 111 | 73.0-125 | | | 5.75 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.41 | 5.12 | 108 | 102 | 71.0-125 | | | 5.51 | 20 |
| 1,2-Dichloropropane | 5.00 | 5.84 | 5.54 | 117 | 111 | 74.0-125 | | | 5.27 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.82 | 5.27 | 116 | 105 | 73.0-125 | | | 9.92 | 20 |
| 1,3-Dichloropropane | 5.00 | 6.11 | 5.95 | 122 | 119 | 80.0-125 | | | 2.65 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 5.17 | 5.04 | 103 | 101 | 76.0-127 | | | 2.55 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 5.43 | 5.07 | 109 | 101 | 73.0-127 | | | 6.86 | 20 |
| 2,2-Dichloropropane | 5.00 | 6.53 | 6.48 | 131 | 130 | 59.0-135 | | | 0.769 | 20 |
| Di-isopropyl ether | 5.00 | 5.58 | 5.53 | 112 | 111 | 60.0-136 | | | 0.900 | 20 |
| Ethylbenzene | 5.00 | 5.36 | 4.75 | 107 | 95.0 | 74.0-126 | | | 12.1 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 5.84 | 5.58 | 117 | 112 | 57.0-150 | | | 4.55 | 20 |
| Isopropylbenzene | 5.00 | 6.11 | 5.45 | 122 | 109 | 72.0-127 | | | 11.4 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3855442-1 10/31/22 09:55 • (LCSD) R3855442-2 10/31/22 10:14

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 6.22 | 5.76 | 124 | 115 | 72.0-133 | | | 7.68 | 20 |
| 2-Butanone (MEK) | 25.0 | 22.5 | 23.7 | 90.0 | 94.8 | 30.0-160 | | | 5.19 | 24 |
| Methylene Chloride | 5.00 | 5.44 | 5.39 | 109 | 108 | 68.0-123 | | | 0.923 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 27.4 | 27.0 | 110 | 108 | 56.0-143 | | | 1.47 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.53 | 5.64 | 111 | 113 | 66.0-132 | | | 1.97 | 20 |
| Naphthalene | 5.00 | 5.17 | 5.36 | 103 | 107 | 59.0-130 | | | 3.61 | 20 |
| n-Propylbenzene | 5.00 | 6.39 | 5.77 | 128 | 115 | 74.0-126 | J4 | | 10.2 | 20 |
| Styrene | 5.00 | 5.90 | 5.84 | 118 | 117 | 72.0-127 | | | 1.02 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 6.04 | 5.80 | 121 | 116 | 74.0-129 | | | 4.05 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 5.84 | 5.56 | 117 | 111 | 68.0-128 | | | 4.91 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.80 | 5.10 | 116 | 102 | 61.0-139 | | | 12.8 | 20 |
| Tetrachloroethene | 5.00 | 5.70 | 5.04 | 114 | 101 | 70.0-136 | | | 12.3 | 20 |
| Toluene | 5.00 | 5.54 | 5.13 | 111 | 103 | 75.0-121 | | | 7.69 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 5.45 | 5.53 | 109 | 111 | 59.0-139 | | | 1.46 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 5.61 | 5.65 | 112 | 113 | 62.0-137 | | | 0.710 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.86 | 5.59 | 117 | 112 | 69.0-126 | | | 4.72 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 6.13 | 5.96 | 123 | 119 | 78.0-123 | | | 2.81 | 20 |
| Trichloroethene | 5.00 | 5.89 | 5.47 | 118 | 109 | 76.0-126 | | | 7.39 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 6.25 | 6.10 | 125 | 122 | 67.0-129 | | | 2.43 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 6.20 | 5.36 | 124 | 107 | 70.0-126 | | | 14.5 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.73 | 5.28 | 115 | 106 | 74.0-124 | | | 8.17 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.52 | 5.02 | 110 | 100 | 73.0-127 | | | 9.49 | 20 |
| Vinyl chloride | 5.00 | 5.47 | 5.00 | 109 | 100 | 63.0-134 | | | 8.98 | 20 |
| Xylenes, Total | 15.0 | 16.4 | 14.8 | 109 | 98.7 | 72.0-127 | | | 10.3 | 20 |
| Ethyl ether | 5.00 | 5.43 | 5.52 | 109 | 110 | 64.0-137 | | | 1.64 | 20 |
| Tetrahydrofuran | 5.00 | 5.71 | 5.54 | 114 | 111 | 37.0-146 | | | 3.02 | 24 |
| Iodomethane | 25.0 | 28.2 | 26.6 | 113 | 106 | 74.0-134 | | | 5.84 | 20 |
| Allyl chloride | 25.0 | 27.8 | 25.8 | 111 | 103 | 70.0-131 | | | 7.46 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 4.70 | 4.65 | 94.0 | 93.0 | 45.0-143 | | | 1.07 | 20 |
| *(S) Toluene-d8* | | | | *100* | *102* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *106* | *110* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *96.8* | *99.8* | *70.0-130* | | | | |

## L1549355-22 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1549355-22 10/31/22 16:56 • (MS) R3855442-4 10/31/22 22:08 • (MSD) R3855442-5 10/31/22 22:28

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 3.13 | 36.3 | 36.0 | 133 | 131 | 1 | 10.0-160 | | | 0.830 | 40 |
| Acrylonitrile | 25.0 | U | 31.1 | 32.3 | 124 | 129 | 1 | 10.0-160 | | | 3.79 | 40 |
| Benzene | 5.00 | 0.0460 | 4.43 | 3.72 | 87.7 | 73.5 | 1 | 10.0-149 | | | 17.4 | 37 |
| Bromobenzene | 5.00 | U | 4.50 | 4.04 | 90.0 | 80.8 | 1 | 10.0-156 | | | 10.8 | 38 |
| Bromodichloromethane | 5.00 | U | 4.84 | 4.42 | 96.8 | 88.4 | 1 | 10.0-143 | | | 9.07 | 37 |
| Bromoform | 5.00 | U | 5.22 | 5.02 | 104 | 100 | 1 | 10.0-146 | | | 3.91 | 36 |
| Bromomethane | 5.00 | U | 3.35 | 2.77 | 67.0 | 55.4 | 1 | 10.0-149 | | | 19.0 | 38 |
| n-Butylbenzene | 5.00 | U | 3.67 | 3.25 | 73.4 | 65.0 | 1 | 10.0-160 | | | 12.1 | 40 |
| sec-Butylbenzene | 5.00 | U | 4.51 | 3.87 | 90.2 | 77.4 | 1 | 10.0-159 | | | 15.3 | 39 |
| tert-Butylbenzene | 5.00 | U | 4.64 | 3.86 | 92.8 | 77.2 | 1 | 10.0-156 | | | 18.4 | 39 |
| Carbon tetrachloride | 5.00 | U | 4.89 | 3.83 | 97.8 | 76.6 | 1 | 10.0-145 | | | 24.3 | 37 |
| Chlorobenzene | 5.00 | U | 4.38 | 3.89 | 87.6 | 77.8 | 1 | 10.0-152 | | | 11.9 | 39 |
| Chlorodibromomethane | 5.00 | U | 5.02 | 4.77 | 100 | 95.4 | 1 | 10.0-146 | | | 5.11 | 37 |
| Chloroethane | 5.00 | U | 3.85 | 3.33 | 77.0 | 66.6 | 1 | 10.0-146 | | | 14.5 | 40 |
| Chloroform | 5.00 | 0.547 | 5.10 | 4.47 | 91.1 | 78.5 | 1 | 10.0-146 | | | 13.2 | 37 |
| Chloromethane | 5.00 | U | 3.90 | 3.26 | 78.0 | 65.2 | 1 | 10.0-159 | | | 17.9 | 37 |
| 2-Chlorotoluene | 5.00 | U | 4.83 | 3.93 | 96.6 | 78.6 | 1 | 10.0-159 | | | 20.5 | 38 |
| 4-Chlorotoluene | 5.00 | U | 4.34 | 3.79 | 86.8 | 75.8 | 1 | 10.0-155 | | | 13.5 | 39 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | U | 5.56 | 5.60 | 111 | 112 | 1 | 10.0-151 | | | 0.717 | 39 |
| 1,2-Dibromoethane | 5.00 | U | 5.18 | 5.18 | 104 | 104 | 1 | 10.0-148 | | | 0.000 | 34 |
| Dibromomethane | 5.00 | U | 4.55 | 4.90 | 91.0 | 98.0 | 1 | 10.0-147 | | | 7.41 | 35 |
| 1,2-Dichlorobenzene | 5.00 | U | 4.77 | 4.37 | 95.4 | 87.4 | 1 | 10.0-155 | | | 8.75 | 37 |
| 1,3-Dichlorobenzene | 5.00 | U | 4.78 | 4.21 | 95.6 | 84.2 | 1 | 10.0-153 | | | 12.7 | 38 |
| 1,4-Dichlorobenzene | 5.00 | U | 4.16 | 3.68 | 83.2 | 73.6 | 1 | 10.0-151 | | | 12.2 | 38 |
| Dichlorodifluoromethane | 5.00 | U | 3.68 | 2.81 | 73.6 | 56.2 | 1 | 10.0-160 | | | 26.8 | 35 |
| 1,1-Dichloroethane | 5.00 | 0.140 | 4.66 | 4.03 | 90.4 | 77.8 | 1 | 10.0-147 | | | 14.5 | 37 |
| 1,2-Dichloroethane | 5.00 | U | 4.42 | 4.12 | 88.4 | 82.4 | 1 | 10.0-148 | | | 7.03 | 35 |
| 1,1-Dichloroethene | 5.00 | 0.604 | 4.92 | 3.86 | 86.3 | 65.1 | 1 | 10.0-155 | | | 24.1 | 37 |
| cis-1,2-Dichloroethene | 5.00 | 383 | 384 | 373 | 20.0 | 0.000 | 1 | 10.0-149 | E | E V | 2.91 | 37 |
| trans-1,2-Dichloroethene | 5.00 | 0.762 | 4.40 | 3.76 | 72.8 | 60.0 | 1 | 10.0-150 | | | 15.7 | 37 |
| 1,2-Dichloropropane | 5.00 | U | 4.72 | 3.85 | 94.4 | 77.0 | 1 | 10.0-148 | | | 20.3 | 37 |
| 1,1-Dichloropropene | 5.00 | U | 4.14 | 3.45 | 82.8 | 69.0 | 1 | 10.0-153 | | | 18.2 | 35 |
| 1,3-Dichloropropane | 5.00 | U | 5.06 | 4.81 | 101 | 96.2 | 1 | 10.0-154 | | | 5.07 | 35 |
| cis-1,3-Dichloropropene | 5.00 | U | 3.43 | 3.01 | 68.6 | 60.2 | 1 | 10.0-151 | | | 13.0 | 37 |
| trans-1,3-Dichloropropene | 5.00 | U | 3.87 | 3.78 | 77.4 | 75.6 | 1 | 10.0-148 | | | 2.35 | 37 |
| 2,2-Dichloropropane | 5.00 | U | 3.46 | 2.80 | 69.2 | 56.0 | 1 | 10.0-138 | | | 21.1 | 36 |
| Di-isopropyl ether | 5.00 | U | 5.00 | 4.59 | 100 | 91.8 | 1 | 10.0-147 | | | 8.55 | 36 |
| Ethylbenzene | 5.00 | U | 3.97 | 3.46 | 79.4 | 69.2 | 1 | 10.0-160 | | | 13.7 | 38 |
| Hexachloro-1,3-butadiene | 5.00 | U | 3.76 | 3.35 | 75.2 | 67.0 | 1 | 10.0-160 | | | 11.5 | 40 |
| Isopropylbenzene | 5.00 | U | 4.59 | 3.93 | 91.8 | 78.6 | 1 | 10.0-155 | | | 15.5 | 38 |

## L1549355-22 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1549355-22 10/31/22 16:56 • (MS) R3855442-4 10/31/22 22:08 • (MSD) R3855442-5 10/31/22 22:28

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | U | 4.71 | 3.91 | 94.2 | 78.2 | 1 | 10.0-160 | | | 18.6 | 40 |
| 2-Butanone (MEK) | 25.0 | U | 22.6 | 28.3 | 90.4 | 113 | 1 | 10.0-160 | | | 22.4 | 40 |
| Methylene Chloride | 5.00 | U | 4.53 | 3.84 | 90.6 | 76.8 | 1 | 10.0-141 | | | 16.5 | 37 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | U | 25.1 | 26.8 | 100 | 107 | 1 | 10.0-160 | | | 6.55 | 35 |
| Methyl tert-butyl ether | 5.00 | U | 4.93 | 4.58 | 98.6 | 91.6 | 1 | 11.0-147 | | | 7.36 | 35 |
| Naphthalene | 5.00 | U | 3.87 | 3.99 | 77.4 | 79.8 | 1 | 10.0-160 | | | 3.05 | 36 |
| n-Propylbenzene | 5.00 | U | 4.77 | 4.03 | 95.4 | 80.6 | 1 | 10.0-158 | | | 16.8 | 38 |
| Styrene | 5.00 | U | 4.49 | 4.06 | 89.8 | 81.2 | 1 | 10.0-160 | | | 10.1 | 40 |
| 1,1,1,2-Tetrachloroethane | 5.00 | U | 5.12 | 4.67 | 102 | 93.4 | 1 | 10.0-149 | | | 9.19 | 39 |
| 1,1,2,2-Tetrachloroethane | 5.00 | U | 5.51 | 5.37 | 110 | 107 | 1 | 10.0-160 | | | 2.57 | 35 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | U | 4.71 | 3.91 | 94.2 | 78.2 | 1 | 10.0-160 | | | 18.6 | 36 |
| Tetrachloroethene | 5.00 | U | 4.22 | 3.50 | 84.4 | 70.0 | 1 | 10.0-156 | | | 18.7 | 39 |
| Toluene | 5.00 | U | 4.07 | 3.53 | 81.4 | 70.6 | 1 | 10.0-156 | | | 14.2 | 38 |
| 1,2,3-Trichlorobenzene | 5.00 | U | 4.26 | 3.88 | 85.2 | 77.6 | 1 | 10.0-160 | | | 9.34 | 40 |
| 1,2,4-Trichlorobenzene | 5.00 | U | 3.93 | 3.85 | 78.6 | 77.0 | 1 | 10.0-160 | | | 2.06 | 40 |
| 1,1,1-Trichloroethane | 5.00 | 0.0940 | 4.80 | 3.88 | 94.1 | 75.7 | 1 | 10.0-144 | | | 21.2 | 35 |
| 1,1,2-Trichloroethane | 5.00 | U | 5.15 | 4.98 | 103 | 99.6 | 1 | 10.0-160 | | | 3.36 | 35 |
| Trichloroethene | 5.00 | 369 | 379 | 370 | 200 | 20.0 | 1 | 10.0-156 | E V | E | 2.40 | 38 |
| 1,2,3-Trichloropropane | 5.00 | U | 5.60 | 5.35 | 112 | 107 | 1 | 10.0-156 | | | 4.57 | 35 |
| 1,2,4-Trimethylbenzene | 5.00 | U | 4.61 | 3.96 | 92.2 | 79.2 | 1 | 10.0-160 | | | 15.2 | 36 |
| 1,2,3-Trimethylbenzene | 5.00 | U | 4.54 | 3.92 | 90.8 | 78.4 | 1 | 10.0-160 | | | 14.7 | 36 |
| 1,3,5-Trimethylbenzene | 5.00 | U | 4.05 | 3.37 | 81.0 | 67.4 | 1 | 10.0-160 | | | 18.3 | 38 |
| Vinyl chloride | 5.00 | 0.976 | 5.18 | 4.24 | 84.1 | 65.3 | 1 | 10.0-160 | | | 20.0 | 37 |
| Xylenes, Total | 15.0 | U | 12.2 | 10.7 | 81.3 | 71.3 | 1 | 10.0-160 | | | 13.1 | 38 |
| Ethyl ether | 5.00 | U | 4.57 | 4.49 | 91.4 | 89.8 | 1 | 10.0-160 | | | 1.77 | 31 |
| Tetrahydrofuran | 5.00 | U | 3.66 | 4.69 | 73.2 | 93.8 | 1 | 10.0-158 | | | 24.7 | 33 |
| Iodomethane | 25.0 | U | 21.1 | 17.8 | 84.4 | 71.2 | 1 | 10.0-160 | | | 17.0 | 38 |
| Allyl chloride | 25.0 | U | 20.0 | 16.2 | 80.0 | 64.8 | 1 | 10.0-160 | | | 21.0 | 30 |
| trans-1,4-Dichloro-2-butene | 5.00 | U | 2.38 | 3.22 | 47.6 | 64.4 | 1 | 10.0-152 | | | 30.0 | 36 |
| *(S) Toluene-d8* | | | | | *95.1* | *99.6* | | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | | *108* | *109* | | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | | *99.8* | *98.3* | | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R3856420-2 11/02/22 12:30

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *94.8* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *111* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3856420-1 11/02/22 11:51 • (LCSD) R3856420-3 11/02/22 14:26

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 45.9 | 42.8 | 184 | 171 | 10.0-160 | J4 | J4 | 6.99 | 31 |
| cis-1,2-Dichloroethene | 5.00 | 4.16 | 3.82 | 83.2 | 76.4 | 73.0-125 | | | 8.52 | 20 |
| Tetrachloroethene | 5.00 | 4.22 | 4.06 | 84.4 | 81.2 | 70.0-136 | | | 3.86 | 20 |
| Trichloroethene | 5.00 | 4.05 | 3.90 | 81.0 | 78.0 | 76.0-126 | | | 3.77 | 20 |
| Trichlorofluoromethane | 5.00 | 5.09 | 4.95 | 102 | 99.0 | 61.0-142 | | | 2.79 | 20 |
| Vinyl chloride | 5.00 | 5.13 | 5.13 | 103 | 103 | 63.0-134 | | | 0.000 | 20 |
| *(S) Toluene-d8* | | | | *104* | *103* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *93.9* | *93.0* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *115* | *111* | *70.0-130* | | | | |

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| C5 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded high. Data is likely to show a high bias concerning the result. |
| E | The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL). |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J4 | The associated batch QC was outside the established quality control range for accuracy. |
| J5 | The sample matrix interfered with the ability to make any accurate determination; spike value is high. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Company Name/Address:
**PES Environmental, Inc.- WA**

**2101 Fourth Ave., Suite 1310**
**Seattle, WA 98121**

Billing Information:
**Attn: Accounts Payable**
**2101 4th Avenue, Suite 1310**
**Seattle, WA 98121**

Pres Chk

Report to:
**Brian O'Neal/Bill Haldeman**

Email To:
**Shannon.McKernan@nv5.com;brian.oneal@nv5**

Project Description:
**American Linen**

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: **206-529-3980**

Client Project # 1413001.10.701.02

Lab Project # **PESENVSWA-ALP**

Collected by (print): IRS

Site/Facility ID #

P.O. # 1413001.10.701.02
**443018-1413001.05.601**

Collected by (signature):

Immediately Packed on Ice N ___ Y X

***Rush?*** (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | | | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-173-102722 | Grab | GW | — | 10-27-22 | 1120 | 9 | X | X | X | X | | X | X | X | | | | -01 |
| MW-174-102722 | " | GW | — | " | 1302 | 9 | X | X | X | X | | X | X | X | | | | -02 |
| MW-175-102722 | " | GW | — | " | 1355 | 9 | X | X | X | X | | X | X | X | | | | -03 |
| MW-176-102722 | " | GW | — | " | 1444 | 9 | X | X | X | X | | X | X | X | | | | -04 |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1551413

**A101**

Acctnum: **PESENVSWA**
Template: **T218236**
Prelogin: **P957562**
PM: **546 - Jared Starkey**
PB:

Shipped Via:

* Matrix:
**SS** - Soil **AIR** - Air **F** - Filter
**GW** - Groundwater **B** - Bioassay
**WW** - WasteWater
**DW** - Drinking Water
**OT** - Other

**Remarks:**

pH ____ Temp ____
Flow ____ Other ____

Samples returned via:
__ UPS __ FedEx __ Courier ____

Tracking # 6094 5459 7034

| Relinquished by: (Signature) | Date: | Time: | Received by: (Signature) |
|---|---|---|---|
| | 10-27-22 | 1540 | Natalie Weisdon |
| Relinquished by: (Signature) Natalie Weisdon | 10/27/22 | 1650 | Received by: (Signature) |
| Relinquished by: (Signature) | Date: | Time: | Received for lab by: (Signature) |

Trip Blank Received: Yes / (No) HCL / MeoH TBR

Temp: MMA2°C 0.6 to 0.6 Bottles Received: 36

Date: 10/28/22 Time: 900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)

Sample Receipt Checklist

| | | |
|---|---|---|
| COC Seal Present/Intact: | NP | Y N |
| COC Signed/Accurate: | | Y N |
| Bottles arrive intact: | | Y N |
| Correct bottles used: | | Y N |
| Sufficient volume sent: | | Y N |
| If Applicable | | |
| VOA Zero Headspace: | | Y N |
| Preservation Correct/Checked: | | Y N |
| RAD Screen <0.5 mR/hr: | | Y N |

# ANALYTICAL REPORT

November 15, 2022



## PES Environmental, Inc.- WA

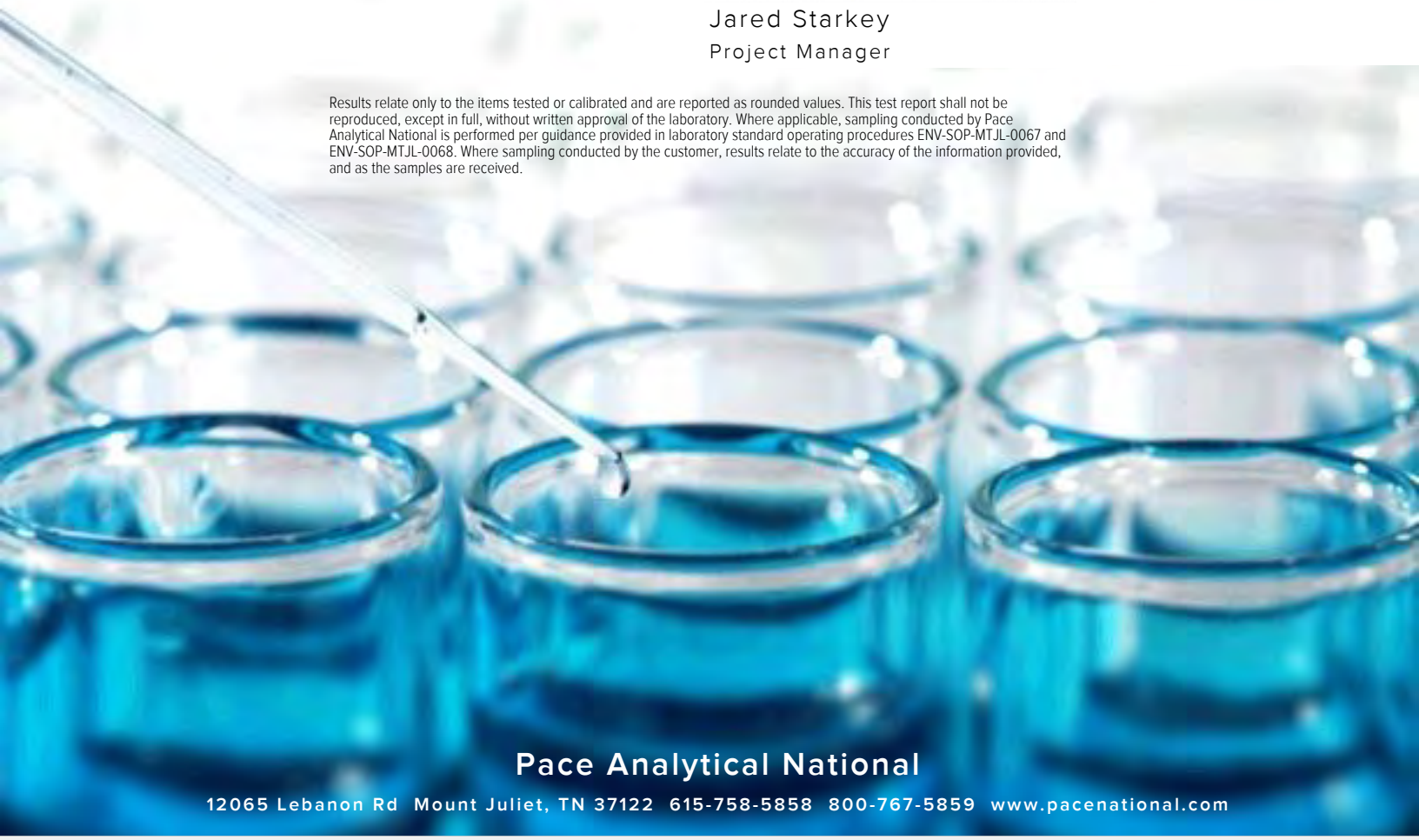
| | |
|---|---|
| Sample Delivery Group: | L1551843 |
| Samples Received: | 10/29/2022 |
| Project Number: | 1413001.10.701.02 |
| Description: | American Linen |

Report To: Brian O'Neal/Bill Haldeman
2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## MW-165-102822 L1551843-01 GW

Collected by: ARS | Collected date/time: 10/28/22 10:06 | Received date/time: 10/29/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1956248 | 1 | 11/10/22 13:21 | 11/10/22 13:21 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1951135 | 1 | 10/29/22 22:14 | 10/29/22 22:14 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1958045 | 1 | 11/14/22 19:29 | 11/14/22 19:29 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957857 | 1 | 11/11/22 09:35 | 11/11/22 16:46 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953618 | 1 | 11/03/22 09:38 | 11/03/22 09:38 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953876 | 10 | 11/03/22 14:09 | 11/03/22 14:09 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1953300 | 5 | 11/03/22 03:40 | 11/03/22 03:40 | DWR | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1953741 | 20 | 11/04/22 01:23 | 11/04/22 01:23 | ACG | Mt. Juliet, TN |

## MW-166-102822 L1551843-02 GW

Collected by: ARS | Collected date/time: 10/28/22 11:04 | Received date/time: 10/29/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1956248 | 1 | 11/10/22 13:26 | 11/10/22 13:26 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1951135 | 1 | 10/29/22 22:29 | 10/29/22 22:29 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1958045 | 1 | 11/14/22 19:51 | 11/14/22 19:51 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957857 | 1 | 11/11/22 09:35 | 11/11/22 16:50 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953618 | 1 | 11/03/22 09:42 | 11/03/22 09:42 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953876 | 10 | 11/03/22 14:12 | 11/03/22 14:12 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1953300 | 5 | 11/03/22 04:01 | 11/03/22 04:01 | DWR | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1953741 | 50 | 11/04/22 01:42 | 11/04/22 01:42 | GLN | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1954372 | 1000 | 11/04/22 19:28 | 11/04/22 19:28 | JHH | Mt. Juliet, TN |

## MW-168-102822 L1551843-03 GW

Collected by: ARS | Collected date/time: 10/28/22 10:23 | Received date/time: 10/29/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1956248 | 1 | 11/10/22 13:39 | 11/10/22 13:39 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1951135 | 1 | 10/29/22 22:44 | 10/29/22 22:44 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1958045 | 1 | 11/14/22 20:10 | 11/14/22 20:10 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957857 | 1 | 11/11/22 09:35 | 11/11/22 16:53 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953618 | 1 | 11/03/22 09:46 | 11/03/22 09:46 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953876 | 10 | 11/03/22 14:15 | 11/03/22 14:15 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1953300 | 1 | 11/03/22 00:10 | 11/03/22 00:10 | DWR | Mt. Juliet, TN |

## MW-978-102822 L1551843-04 GW

Collected by: ARS | Collected date/time: 10/28/22 08:00 | Received date/time: 10/29/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1956248 | 1 | 11/10/22 13:45 | 11/10/22 13:45 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1951135 | 1 | 10/29/22 23:29 | 10/29/22 23:29 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1958045 | 1 | 11/14/22 20:46 | 11/14/22 20:46 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957857 | 1 | 11/11/22 09:35 | 11/11/22 17:19 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953618 | 1 | 11/03/22 09:51 | 11/03/22 09:51 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953876 | 10 | 11/03/22 14:18 | 11/03/22 14:18 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1953300 | 1 | 11/03/22 00:31 | 11/03/22 00:31 | DWR | Mt. Juliet, TN |

## MW-167-102822 L1551843-05 GW

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| ARS | 10/28/22 12:03 | 10/29/22 09:00 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1956248 | 1 | 11/10/22 13:50 | 11/10/22 13:50 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1951135 | 1 | 10/29/22 23:44 | 10/29/22 23:44 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1958045 | 1 | 11/14/22 21:06 | 11/14/22 21:06 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957857 | 1 | 11/11/22 09:35 | 11/11/22 17:22 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953618 | 1 | 11/03/22 09:55 | 11/03/22 09:55 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1953300 | 1 | 11/03/22 00:52 | 11/03/22 00:52 | DWR | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 610000 | | 8450 | 20000 | 1 | 11/10/2022 13:21 | WG1956248 |

Sample Narrative:

L1551843-01 WG1956248: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 56700 | | 379 | 1000 | 1 | 10/29/2022 22:14 | WG1951135 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/29/2022 22:14 | WG1951135 |
| Sulfate | 5350 | | 594 | 5000 | 1 | 10/29/2022 22:14 | WG1951135 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 25400 | | 102 | 1000 | 1 | 11/14/2022 19:29 | WG1958045 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 18400 | | 28.1 | 100 | 1 | 11/11/2022 16:46 | WG1957857 |
| Manganese | 3410 | | 0.704 | 5.00 | 1 | 11/11/2022 16:46 | WG1957857 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 33300 | | 2.87 | 6.78 | 10 | 11/03/2022 14:09 | WG1953876 |
| Ethane | 712 | | 0.296 | 1.29 | 1 | 11/03/2022 09:38 | WG1953618 |
| Ethene | 446 | | 0.422 | 1.27 | 1 | 11/03/2022 09:38 | WG1953618 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 2.74 | 5.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Acrylonitrile | U | | 0.380 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| Benzene | 0.220 | | 0.0800 | 0.200 | 5 | 11/03/2022 03:40 | WG1953300 |
| Bromobenzene | U | | 0.210 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| Bromodichloromethane | U | | 0.158 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| Bromoform | U | | 1.20 | 5.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Bromomethane | U | | 0.740 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| n-Butylbenzene | U | | 0.765 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| sec-Butylbenzene | 0.865 | J | 0.505 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| tert-Butylbenzene | U | | 0.310 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Carbon tetrachloride | U | | 0.216 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Chlorobenzene | U | | 0.115 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| Chlorodibromomethane | U | | 0.0900 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| Chloroethane | U | | 0.216 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Chloroform | U | | 0.0830 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| Chloromethane | U | | 0.278 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| 2-Chlorotoluene | U | | 0.184 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| 4-Chlorotoluene | U | | 0.226 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,2-Dibromo-3-Chloropropane | U | C3 | 1.02 | 5.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,2-Dibromoethane | U | | 0.105 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.200 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,2-Dichlorobenzene | U | | 0.290 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,3-Dichlorobenzene | U | | 0.340 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,4-Dichlorobenzene | U | | 0.394 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Dichlorodifluoromethane | U | | 0.164 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,1-Dichloroethane | U | | 0.115 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,2-Dichloroethane | U | | 0.0950 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,1-Dichloroethene | 0.815 | | 0.100 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| cis-1,2-Dichloroethene | 858 | | 0.552 | 2.00 | 20 | 11/04/2022 01:23 | WG1953741 |
| trans-1,2-Dichloroethene | 14.9 | | 0.286 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,2-Dichloropropane | U | | 0.254 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,1-Dichloropropene | U | | 0.140 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,3-Dichloropropane | U | | 0.350 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| cis-1,3-Dichloropropene | U | | 0.136 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| trans-1,3-Dichloropropene | U | | 0.306 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 2,2-Dichloropropane | U | | 0.159 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| Di-isopropyl ether | U | | 0.0700 | 0.200 | 5 | 11/03/2022 03:40 | WG1953300 |
| Ethylbenzene | U | | 0.106 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| Hexachloro-1,3-butadiene | U | | 2.54 | 5.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Isopropylbenzene | 0.185 | J J4 | 0.173 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| p-Isopropyltoluene | 1.92 | | 0.466 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 2-Butanone (MEK) | U | | 2.50 | 5.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Methylene Chloride | 1.49 | J | 1.33 | 5.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 4-Methyl-2-pentanone (MIBK) | U | | 2.00 | 5.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Methyl tert-butyl ether | U | | 0.0590 | 0.200 | 5 | 11/03/2022 03:40 | WG1953300 |
| Naphthalene | 3.45 | | 0.620 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| n-Propylbenzene | 1.91 | C5 | 0.236 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Styrene | U | | 0.545 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,1,1,2-Tetrachloroethane | U | | 0.100 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0780 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.135 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| Tetrachloroethene | U | | 0.140 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| Toluene | U | | 0.250 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,2,3-Trichlorobenzene | U | | 0.125 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,2,4-Trichlorobenzene | U | | 0.965 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,1,1-Trichloroethane | U | | 0.0550 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,1,2-Trichloroethane | U | | 0.177 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| Trichloroethene | U | | 0.0800 | 0.200 | 5 | 11/03/2022 03:40 | WG1953300 |
| Trichlorofluoromethane | U | | 0.100 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,2,3-Trichloropropane | U | | 1.02 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,2,4-Trimethylbenzene | 4.58 | | 0.232 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,2,3-Trimethylbenzene | 1.13 | | 0.230 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,3,5-Trimethylbenzene | U | | 0.216 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Vinyl chloride | 797 | | 0.546 | 2.00 | 20 | 11/04/2022 01:23 | WG1953741 |
| Xylenes, Total | 1.44 | | 0.955 | 1.30 | 5 | 11/03/2022 03:40 | WG1953300 |
| Ethyl Ether | U | | 0.0850 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| Tetrahydrofuran | 2.61 | J3 | 0.450 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| Iodomethane | U | | 1.21 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| Allyl chloride | U | | 2.90 | 5.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Trans-1,4-Dichloro-2-butene | U | J3 | 0.280 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/03/2022 03:40* | WG1953300 |
| *(S) Toluene-d8* | *98.7* | | | *75.0-131* | | *11/04/2022 01:23* | WG1953741 |
| *(S) 4-Bromofluorobenzene* | *110* | | | *67.0-138* | | *11/03/2022 03:40* | WG1953300 |
| *(S) 4-Bromofluorobenzene* | *90.9* | | | *67.0-138* | | *11/04/2022 01:23* | WG1953741 |
| *(S) 1,2-Dichloroethane-d4* | *93.6* | | | *70.0-130* | | *11/03/2022 03:40* | WG1953300 |
| *(S) 1,2-Dichloroethane-d4* | *105* | | | *70.0-130* | | *11/04/2022 01:23* | WG1953741 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |

Sample Narrative:

L1551843-01 WG1953300: Target compounds too high to run at a lower dilution.

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 757000 | | 8450 | 20000 | 1 | 11/10/2022 13:26 | WG1956248 |

Sample Narrative:

L1551843-02 WG1956248: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 89500 | | 379 | 1000 | 1 | 10/29/2022 22:29 | WG1951135 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/29/2022 22:29 | WG1951135 |
| Sulfate | 18100 | | 594 | 5000 | 1 | 10/29/2022 22:29 | WG1951135 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 46700 | | 102 | 1000 | 1 | 11/14/2022 19:51 | WG1958045 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 33900 | | 28.1 | 100 | 1 | 11/11/2022 16:50 | WG1957857 |
| Manganese | 1580 | | 0.704 | 5.00 | 1 | 11/11/2022 16:50 | WG1957857 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 30100 | | 2.87 | 6.78 | 10 | 11/03/2022 14:12 | WG1953876 |
| Ethane | 480 | | 0.296 | 1.29 | 1 | 11/03/2022 09:42 | WG1953618 |
| Ethene | 1930 | | 0.422 | 1.27 | 1 | 11/03/2022 09:42 | WG1953618 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 7.41 | | 2.74 | 5.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Acrylonitrile | U | | 0.380 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| Benzene | 0.130 | J | 0.0800 | 0.200 | 5 | 11/03/2022 04:01 | WG1953300 |
| Bromobenzene | U | | 0.210 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| Bromodichloromethane | U | | 0.158 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| Bromoform | U | | 1.20 | 5.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Bromomethane | U | | 0.740 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| n-Butylbenzene | U | | 0.765 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| sec-Butylbenzene | U | | 0.505 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| tert-Butylbenzene | U | | 0.310 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Carbon tetrachloride | U | | 0.216 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Chlorobenzene | U | | 0.115 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| Chlorodibromomethane | U | | 0.0900 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| Chloroethane | U | | 0.216 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Chloroform | U | | 0.0830 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| Chloromethane | U | | 0.278 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| 2-Chlorotoluene | U | | 0.184 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| 4-Chlorotoluene | U | | 0.226 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,2-Dibromo-3-Chloropropane | U | C3 | 1.02 | 5.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,2-Dibromoethane | U | | 0.105 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.200 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,2-Dichlorobenzene | U | | 0.290 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,3-Dichlorobenzene | U | | 0.340 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,4-Dichlorobenzene | U | | 0.394 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Dichlorodifluoromethane | U | | 0.164 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,1-Dichloroethane | U | | 0.115 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,2-Dichloroethane | U | | 0.0950 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,1-Dichloroethene | 13.9 | | 0.100 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| cis-1,2-Dichloroethene | 12000 | | 27.6 | 100 | 1000 | 11/04/2022 19:28 | WG1954372 |
| trans-1,2-Dichloroethene | 49.7 | | 0.286 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,2-Dichloropropane | U | | 0.254 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,1-Dichloropropene | U | | 0.140 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,3-Dichloropropane | U | | 0.350 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| cis-1,3-Dichloropropene | U | | 0.136 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| trans-1,3-Dichloropropene | U | | 0.306 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 2,2-Dichloropropane | U | | 0.159 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| Di-isopropyl ether | U | | 0.0700 | 0.200 | 5 | 11/03/2022 04:01 | WG1953300 |
| Ethylbenzene | U | | 0.106 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| Hexachloro-1,3-butadiene | U | | 2.54 | 5.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Isopropylbenzene | U | J4 | 0.173 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| p-Isopropyltoluene | 0.870 | J | 0.466 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 2-Butanone (MEK) | U | | 2.50 | 5.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Methylene Chloride | U | | 1.33 | 5.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 4-Methyl-2-pentanone (MIBK) | U | | 2.00 | 5.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Methyl tert-butyl ether | U | | 0.0590 | 0.200 | 5 | 11/03/2022 04:01 | WG1953300 |
| Naphthalene | U | | 0.620 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| n-Propylbenzene | 0.310 | J | 0.236 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Styrene | U | | 0.545 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,1,1,2-Tetrachloroethane | U | | 0.100 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0780 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.135 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| Tetrachloroethene | U | | 0.140 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| Toluene | U | | 0.250 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,2,3-Trichlorobenzene | U | | 0.125 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,2,4-Trichlorobenzene | U | | 0.965 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,1,1-Trichloroethane | U | | 0.0550 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,1,2-Trichloroethane | U | | 0.177 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| Trichloroethene | U | | 0.0800 | 0.200 | 5 | 11/03/2022 04:01 | WG1953300 |
| Trichlorofluoromethane | U | | 0.100 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,2,3-Trichloropropane | U | | 1.02 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,2,4-Trimethylbenzene | 0.705 | J | 0.232 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,2,3-Trimethylbenzene | U | | 0.230 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,3,5-Trimethylbenzene | U | | 0.216 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Vinyl chloride | 4810 | | 1.36 | 5.00 | 50 | 11/04/2022 01:42 | WG1953741 |
| Xylenes, Total | U | | 0.955 | 1.30 | 5 | 11/03/2022 04:01 | WG1953300 |
| Ethyl Ether | U | | 0.0850 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| Tetrahydrofuran | U | J3 | 0.450 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| Iodomethane | U | | 1.21 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| Allyl chloride | U | | 2.90 | 5.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Trans-1,4-Dichloro-2-butene | U | J3 | 0.280 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| *(S) Toluene-d8* | *111* | | | *75.0-131* | | *11/03/2022 04:01* | WG1953300 |
| *(S) Toluene-d8* | *100* | | | *75.0-131* | | *11/04/2022 01:42* | WG1953741 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/04/2022 19:28* | WG1954372 |
| *(S) 4-Bromofluorobenzene* | *112* | | | *67.0-138* | | *11/03/2022 04:01* | WG1953300 |
| *(S) 4-Bromofluorobenzene* | *86.4* | | | *67.0-138* | | *11/04/2022 01:42* | WG1953741 |
| *(S) 4-Bromofluorobenzene* | *104* | | | *67.0-138* | | *11/04/2022 19:28* | WG1954372 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| *(S) 1,2-Dichloroethane-d4* | *95.8* | | | *70.0-130* | | *11/03/2022 04:01* | WG1953300 |
| *(S) 1,2-Dichloroethane-d4* | *106* | | | *70.0-130* | | *11/04/2022 01:42* | WG1953741 |
| *(S) 1,2-Dichloroethane-d4* | *99.4* | | | *70.0-130* | | *11/04/2022 19:28* | WG1954372 |

Sample Narrative:

L1551843-02 WG1953300: Target compounds too high to run at a lower dilution.

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 434000 | | 8450 | 20000 | 1 | 11/10/2022 13:39 | WG1956248 |

Sample Narrative:

L1551843-03 WG1956248: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 35900 | | 379 | 1000 | 1 | 10/29/2022 22:44 | WG1951135 |
| Nitrate | 206 | | 48.0 | 100 | 1 | 10/29/2022 22:44 | WG1951135 |
| Sulfate | 4280 | J | 594 | 5000 | 1 | 10/29/2022 22:44 | WG1951135 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 10300 | | 102 | 1000 | 1 | 11/14/2022 20:10 | WG1958045 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 2820 | | 28.1 | 100 | 1 | 11/11/2022 16:53 | WG1957857 |
| Manganese | 1180 | | 0.704 | 5.00 | 1 | 11/11/2022 16:53 | WG1957857 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 12800 | | 2.87 | 6.78 | 10 | 11/03/2022 14:15 | WG1953876 |
| Ethane | 276 | | 0.296 | 1.29 | 1 | 11/03/2022 09:46 | WG1953618 |
| Ethene | 32.7 | | 0.422 | 1.27 | 1 | 11/03/2022 09:46 | WG1953618 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/03/2022 00:10 | WG1953300 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| Benzene | 0.0190 | J | 0.0160 | 0.0400 | 1 | 11/03/2022 00:10 | WG1953300 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 00:10 | WG1953300 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| Chloroethane | 0.427 | | 0.0432 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,2-Dibromo-3-Chloropropane | U | C3 | 0.204 | 1.00 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| cis-1,2-Dichloroethene | 2.93 | | 0.0276 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| trans-1,2-Dichloroethene | 0.0850 | J | 0.0572 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 00:10 | WG1953300 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 00:10 | WG1953300 |
| Isopropylbenzene | U | J4 | 0.0345 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 00:10 | WG1953300 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 00:10 | WG1953300 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 00:10 | WG1953300 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 00:10 | WG1953300 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| Tetrachloroethene | 0.147 | | 0.0280 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| Toluene | 0.191 | J | 0.0500 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 00:10 | WG1953300 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| Vinyl chloride | 6.68 | | 0.0273 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 00:10 | WG1953300 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| Tetrahydrofuran | 0.492 | J J3 | 0.0900 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 00:10 | WG1953300 |
| Trans-1,4-Dichloro-2-butene | U | J3 | 0.0560 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| *(S) Toluene-d8* | *111* | | | *75.0-131* | | *11/03/2022 00:10* | WG1953300 |
| *(S) 4-Bromofluorobenzene* | *116* | | | *67.0-138* | | *11/03/2022 00:10* | WG1953300 |
| *(S) 1,2-Dichloroethane-d4* | *93.9* | | | *70.0-130* | | *11/03/2022 00:10* | WG1953300 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 439000 | | 8450 | 20000 | 1 | 11/10/2022 13:45 | WG1956248 |

Sample Narrative:

L1551843-04 WG1956248: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 36400 | | 379 | 1000 | 1 | 10/29/2022 23:29 | WG1951135 |
| Nitrate | 171 | | 48.0 | 100 | 1 | 10/29/2022 23:29 | WG1951135 |
| Sulfate | 4260 | J | 594 | 5000 | 1 | 10/29/2022 23:29 | WG1951135 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 10300 | | 102 | 1000 | 1 | 11/14/2022 20:46 | WG1958045 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 2710 | | 28.1 | 100 | 1 | 11/11/2022 17:19 | WG1957857 |
| Manganese | 1160 | | 0.704 | 5.00 | 1 | 11/11/2022 17:19 | WG1957857 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 13100 | | 2.87 | 6.78 | 10 | 11/03/2022 14:18 | WG1953876 |
| Ethane | 264 | | 0.296 | 1.29 | 1 | 11/03/2022 09:51 | WG1953618 |
| Ethene | 31.8 | | 0.422 | 1.27 | 1 | 11/03/2022 09:51 | WG1953618 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.92 | | 0.548 | 1.00 | 1 | 11/03/2022 00:31 | WG1953300 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 00:31 | WG1953300 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 00:31 | WG1953300 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| Chloroethane | 0.402 | | 0.0432 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,2-Dibromo-3-Chloropropane | U | C3 | 0.204 | 1.00 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| cis-1,2-Dichloroethene | 2.68 | | 0.0276 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| trans-1,2-Dichloroethene | 0.0870 | J | 0.0572 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 00:31 | WG1953300 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 00:31 | WG1953300 |
| Isopropylbenzene | U | J4 | 0.0345 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 00:31 | WG1953300 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 00:31 | WG1953300 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 00:31 | WG1953300 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 00:31 | WG1953300 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| Tetrachloroethene | 0.0840 | J | 0.0280 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| Toluene | 0.114 | J | 0.0500 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 00:31 | WG1953300 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| Vinyl chloride | 6.56 | | 0.0273 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 00:31 | WG1953300 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| Tetrahydrofuran | 0.567 | J3 | 0.0900 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 00:31 | WG1953300 |
| Trans-1,4-Dichloro-2-butene | U | J3 | 0.0560 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/03/2022 00:31* | WG1953300 |
| *(S) 4-Bromofluorobenzene* | *108* | | | *67.0-138* | | *11/03/2022 00:31* | WG1953300 |
| *(S) 1,2-Dichloroethane-d4* | *95.7* | | | *70.0-130* | | *11/03/2022 00:31* | WG1953300 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 392000 | | 8450 | 20000 | 1 | 11/10/2022 13:50 | WG1956248 |

Sample Narrative:

L1551843-05 WG1956248: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 33800 | | 379 | 1000 | 1 | 10/29/2022 23:44 | WG1951135 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/29/2022 23:44 | WG1951135 |
| Sulfate | 16900 | | 594 | 5000 | 1 | 10/29/2022 23:44 | WG1951135 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 10200 | | 102 | 1000 | 1 | 11/14/2022 21:06 | WG1958045 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 2350 | | 28.1 | 100 | 1 | 11/11/2022 17:22 | WG1957857 |
| Manganese | 569 | | 0.704 | 5.00 | 1 | 11/11/2022 17:22 | WG1957857 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 5840 | | 0.287 | 0.678 | 1 | 11/03/2022 09:55 | WG1953618 |
| Ethane | 90.9 | | 0.296 | 1.29 | 1 | 11/03/2022 09:55 | WG1953618 |
| Ethene | 1.42 | | 0.422 | 1.27 | 1 | 11/03/2022 09:55 | WG1953618 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 1.74 | | 0.548 | 1.00 | 1 | 11/03/2022 00:52 | WG1953300 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 00:52 | WG1953300 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 00:52 | WG1953300 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,2-Dibromo-3-Chloropropane | U | C3 | 0.204 | 1.00 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| cis-1,2-Dichloroethene | 0.184 | | 0.0276 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 00:52 | WG1953300 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 00:52 | WG1953300 |
| Isopropylbenzene | U | J4 | 0.0345 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 00:52 | WG1953300 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 00:52 | WG1953300 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 00:52 | WG1953300 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 00:52 | WG1953300 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| Tetrachloroethene | 0.192 | | 0.0280 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| Toluene | 0.186 | J | 0.0500 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 00:52 | WG1953300 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| Vinyl chloride | 0.138 | | 0.0273 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 00:52 | WG1953300 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| Tetrahydrofuran | 0.386 | J J3 | 0.0900 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 00:52 | WG1953300 |
| Trans-1,4-Dichloro-2-butene | U | J3 | 0.0560 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| *(S) Toluene-d8* | *112* | | | *75.0-131* | | *11/03/2022 00:52* | WG1953300 |
| *(S) 4-Bromofluorobenzene* | *115* | | | *67.0-138* | | *11/03/2022 00:52* | WG1953300 |
| *(S) 1,2-Dichloroethane-d4* | *96.6* | | | *70.0-130* | | *11/03/2022 00:52* | WG1953300 |

## Method Blank (MB)

(MB) R3859789-2 11/10/22 11:36

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1551837-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1551837-01 11/10/22 12:44 • (DUP) R3859789-4 11/10/22 12:53

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 66800 | 65600 | 1 | 1.77 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

## L1551847-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1551847-01 11/10/22 13:55 • (DUP) R3859789-6 11/10/22 13:59

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 96800 | 100000 | 1 | 3.43 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3859789-1 11/10/22 11:20

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 99700 | 99.7 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3854648-1 10/29/22 10:09

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1551837-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1551837-01 10/29/22 20:30 • (DUP) R3854648-3 10/29/22 20:45

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 20300 | 20100 | 1 | 0.672 | | 15 |
| Nitrate | U | U | 1 | 0.000 | | 15 |
| Sulfate | 5030 | 5030 | 1 | 0.0557 | | 15 |

## L1551843-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1551843-05 10/29/22 23:44 • (DUP) R3854648-6 10/29/22 23:59

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 33800 | 33700 | 1 | 0.176 | | 15 |
| Nitrate | U | U | 1 | 0.000 | | 15 |
| Sulfate | 16900 | 16900 | 1 | 0.0882 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3854648-2 10/29/22 10:24

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 40300 | 101 | 80.0-120 | |
| Nitrate | 8000 | 7830 | 97.9 | 80.0-120 | |
| Sulfate | 40000 | 41100 | 103 | 80.0-120 | |

## L1551837-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1551837-01 10/29/22 20:30 • (MS) R3854648-4 10/29/22 21:00 • (MSD) R3854648-5 10/29/22 21:15

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 20300 | 69500 | 69300 | 98.5 | 98.1 | 1 | 80.0-120 | | | 0.322 | 15 |
| Nitrate | 5000 | U | 5000 | 4980 | 99.9 | 99.5 | 1 | 80.0-120 | | | 0.409 | 15 |
| Sulfate | 50000 | 5030 | 55400 | 55400 | 101 | 101 | 1 | 80.0-120 | | | 0.00830 | 15 |

## L1551843-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1551843-05 10/29/22 23:44 • (MS) R3854648-7 10/30/22 00:14

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 33800 | 84500 | 101 | 1 | 80.0-120 | |
| Nitrate | 5000 | U | 5160 | 103 | 1 | 80.0-120 | |
| Sulfate | 50000 | 16900 | 68900 | 104 | 1 | 80.0-120 | |

## Method Blank (MB)

(MB) R3860948-2 11/14/22 15:11

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 223 | J | 102 | 1000 |

## L1551843-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1551843-03 11/14/22 20:10 • (DUP) R3860948-6 11/14/22 20:28

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 10300 | 10400 | 1 | 0.484 | | 20 |

## L1551843-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1551843-05 11/14/22 21:06 • (DUP) R3860948-7 11/14/22 21:26

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 10200 | 10200 | 1 | 0.0980 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3860948-1 11/14/22 14:55

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 79400 | 106 | 85.0-115 | |

## L1551832-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1551832-01 11/14/22 15:27 • (MS) R3860948-3 11/14/22 15:49 • (MSD) R3860948-4 11/14/22 16:09

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 545 | 59700 | 60100 | 118 | 119 | 1 | 80.0-120 | | | 0.534 | 20 |

## L1551832-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1551832-02 11/14/22 16:25 • (MS) R3860948-5 11/14/22 16:47

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 906 | 60600 | 119 | 1 | 80.0-120 | |

## Method Blank (MB)

(MB) R3860174-1 11/11/22 15:35

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3860174-2 11/11/22 15:38

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Iron | 5000 | 5000 | 100 | 80.0-120 | |
| Manganese | 50.0 | 50.8 | 102 | 80.0-120 | |

## L1551730-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1551730-04 11/11/22 15:42 • (MS) R3860174-4 11/11/22 15:49 • (MSD) R3860174-5 11/11/22 15:52

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iron | 5000 | 100 | 5180 | 5100 | 102 | 99.9 | 1 | 75.0-125 | | | 1.67 | 20 |
| Manganese | 50.0 | 172 | 223 | 224 | 103 | 105 | 1 | 75.0-125 | | | 0.429 | 20 |

## Method Blank (MB)

(MB) R3856455-2 11/03/22 09:26

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1552019-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1552019-03 11/03/22 10:05 • (DUP) R3856455-3 11/03/22 10:08

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1552019-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1552019-13 11/03/22 11:02 • (DUP) R3856455-4 11/03/22 11:04

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3856455-1 11/03/22 09:22 • (LCSD) R3856455-5 11/03/22 11:07

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 69.1 | 72.2 | 102 | 106 | 85.0-115 | | | 4.39 | 20 |
| Ethane | 129 | 124 | 128 | 96.1 | 99.2 | 85.0-115 | | | 3.17 | 20 |
| Ethene | 127 | 126 | 129 | 99.2 | 102 | 85.0-115 | | | 2.35 | 20 |

## Method Blank (MB)

(MB) R3856713-2 11/03/22 14:02

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Methane | U | | 0.287 | 0.678 |

## L1552019-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1552019-09 11/03/22 14:49 • (DUP) R3856713-3 11/03/22 14:53

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | 7940 | 9650 | 10 | 19.4 | | 20 |

## L1552420-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552420-01 11/03/22 15:26 • (DUP) R3856713-4 11/03/22 15:43

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | 369 | 393 | 1 | 6.30 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3856713-1 11/03/22 14:00 • (LCSD) R3856713-5 11/03/22 15:50

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 72.7 | 68.8 | 107 | 101 | 85.0-115 | | | 5.51 | 20 |

## Method Blank (MB)

(MB) R3856381-3 11/02/22 21:15

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3856381-3 11/02/22 21:15

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *113* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *91.3* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3856381-1 11/02/22 19:44 • (LCSD) R3856381-2 11/02/22 20:05

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 21.1 | 19.4 | 84.4 | 77.6 | 10.0-160 | | | 8.40 | 31 |
| Acrylonitrile | 25.0 | 26.2 | 25.9 | 105 | 104 | 45.0-153 | | | 1.15 | 22 |
| Benzene | 5.00 | 4.97 | 5.00 | 99.4 | 100 | 70.0-123 | | | 0.602 | 20 |
| Bromobenzene | 5.00 | 5.08 | 5.27 | 102 | 105 | 73.0-121 | | | 3.67 | 20 |
| Bromodichloromethane | 5.00 | 4.42 | 4.67 | 88.4 | 93.4 | 73.0-121 | | | 5.50 | 20 |
| Bromoform | 5.00 | 4.26 | 4.11 | 85.2 | 82.2 | 64.0-132 | | | 3.58 | 20 |
| Bromomethane | 5.00 | 4.12 | 4.49 | 82.4 | 89.8 | 56.0-147 | | | 8.59 | 20 |
| n-Butylbenzene | 5.00 | 5.10 | 5.38 | 102 | 108 | 68.0-135 | | | 5.34 | 20 |
| sec-Butylbenzene | 5.00 | 4.98 | 5.01 | 99.6 | 100 | 74.0-130 | | | 0.601 | 20 |
| tert-Butylbenzene | 5.00 | 4.47 | 4.50 | 89.4 | 90.0 | 75.0-127 | | | 0.669 | 20 |
| Carbon tetrachloride | 5.00 | 4.57 | 4.80 | 91.4 | 96.0 | 66.0-128 | | | 4.91 | 20 |
| Chlorobenzene | 5.00 | 5.65 | 5.45 | 113 | 109 | 76.0-128 | | | 3.60 | 20 |
| Chlorodibromomethane | 5.00 | 4.46 | 4.62 | 89.2 | 92.4 | 74.0-127 | | | 3.52 | 20 |
| Chloroethane | 5.00 | 4.41 | 4.32 | 88.2 | 86.4 | 61.0-134 | | | 2.06 | 20 |
| Chloroform | 5.00 | 5.11 | 4.91 | 102 | 98.2 | 72.0-123 | | | 3.99 | 20 |
| Chloromethane | 5.00 | 4.85 | 4.68 | 97.0 | 93.6 | 51.0-138 | | | 3.57 | 20 |
| 2-Chlorotoluene | 5.00 | 4.66 | 5.07 | 93.2 | 101 | 75.0-124 | | | 8.43 | 20 |
| 4-Chlorotoluene | 5.00 | 5.27 | 5.83 | 105 | 117 | 75.0-124 | | | 10.1 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 3.77 | 3.89 | 75.4 | 77.8 | 59.0-130 | | | 3.13 | 20 |
| 1,2-Dibromoethane | 5.00 | 4.51 | 4.81 | 90.2 | 96.2 | 74.0-128 | | | 6.44 | 20 |
| Dibromomethane | 5.00 | 4.76 | 4.76 | 95.2 | 95.2 | 75.0-122 | | | 0.000 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 5.43 | 5.67 | 109 | 113 | 76.0-124 | | | 4.32 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 5.68 | 5.81 | 114 | 116 | 76.0-125 | | | 2.26 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 5.31 | 5.55 | 106 | 111 | 77.0-121 | | | 4.42 | 20 |
| Dichlorodifluoromethane | 5.00 | 4.19 | 4.11 | 83.8 | 82.2 | 43.0-156 | | | 1.93 | 20 |
| 1,1-Dichloroethane | 5.00 | 5.11 | 5.07 | 102 | 101 | 70.0-127 | | | 0.786 | 20 |
| 1,2-Dichloroethane | 5.00 | 5.18 | 5.16 | 104 | 103 | 65.0-131 | | | 0.387 | 20 |
| 1,1-Dichloroethene | 5.00 | 4.84 | 4.73 | 96.8 | 94.6 | 65.0-131 | | | 2.30 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.11 | 5.14 | 102 | 103 | 73.0-125 | | | 0.585 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 4.82 | 4.91 | 96.4 | 98.2 | 71.0-125 | | | 1.85 | 20 |
| 1,2-Dichloropropane | 5.00 | 4.88 | 5.14 | 97.6 | 103 | 74.0-125 | | | 5.19 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.22 | 4.94 | 104 | 98.8 | 73.0-125 | | | 5.51 | 20 |
| 1,3-Dichloropropane | 5.00 | 4.83 | 4.87 | 96.6 | 97.4 | 80.0-125 | | | 0.825 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 4.05 | 4.24 | 81.0 | 84.8 | 76.0-127 | | | 4.58 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 4.32 | 4.44 | 86.4 | 88.8 | 73.0-127 | | | 2.74 | 20 |
| 2,2-Dichloropropane | 5.00 | 4.40 | 4.31 | 88.0 | 86.2 | 59.0-135 | | | 2.07 | 20 |
| Di-isopropyl ether | 5.00 | 5.58 | 5.60 | 112 | 112 | 60.0-136 | | | 0.358 | 20 |
| Ethylbenzene | 5.00 | 5.92 | 5.92 | 118 | 118 | 74.0-126 | | | 0.000 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 4.19 | 4.27 | 83.8 | 85.4 | 57.0-150 | | | 1.89 | 20 |
| Isopropylbenzene | 5.00 | 6.40 | 6.18 | 128 | 124 | 72.0-127 | J4 | | 3.50 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3856381-1 11/02/22 19:44 • (LCSD) R3856381-2 11/02/22 20:05

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.17 | 5.09 | 103 | 102 | 72.0-133 | | | 1.56 | 20 |
| 2-Butanone (MEK) | 25.0 | 24.1 | 22.6 | 96.4 | 90.4 | 30.0-160 | | | 6.42 | 24 |
| Methylene Chloride | 5.00 | 5.22 | 5.12 | 104 | 102 | 68.0-123 | | | 1.93 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 29.2 | 28.8 | 117 | 115 | 56.0-143 | | | 1.38 | 20 |
| Methyl tert-butyl ether | 5.00 | 4.79 | 4.70 | 95.8 | 94.0 | 66.0-132 | | | 1.90 | 20 |
| Naphthalene | 5.00 | 4.90 | 5.09 | 98.0 | 102 | 59.0-130 | | | 3.80 | 20 |
| n-Propylbenzene | 5.00 | 6.18 | 6.31 | 124 | 126 | 74.0-126 | | | 2.08 | 20 |
| Styrene | 5.00 | 5.86 | 5.76 | 117 | 115 | 72.0-127 | | | 1.72 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.83 | 6.14 | 117 | 123 | 74.0-129 | | | 5.18 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 5.10 | 5.56 | 102 | 111 | 68.0-128 | | | 8.63 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 4.75 | 4.67 | 95.0 | 93.4 | 61.0-139 | | | 1.70 | 20 |
| Tetrachloroethene | 5.00 | 5.81 | 5.76 | 116 | 115 | 70.0-136 | | | 0.864 | 20 |
| Toluene | 5.00 | 5.98 | 5.89 | 120 | 118 | 75.0-121 | | | 1.52 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.43 | 4.94 | 88.6 | 98.8 | 59.0-139 | | | 10.9 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.51 | 4.79 | 90.2 | 95.8 | 62.0-137 | | | 6.02 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.17 | 5.13 | 103 | 103 | 69.0-126 | | | 0.777 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.31 | 5.35 | 106 | 107 | 78.0-123 | | | 0.750 | 20 |
| Trichloroethene | 5.00 | 5.26 | 5.26 | 105 | 105 | 76.0-126 | | | 0.000 | 20 |
| Trichlorofluoromethane | 5.00 | 4.00 | 4.19 | 80.0 | 83.8 | 61.0-142 | | | 4.64 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 5.14 | 5.01 | 103 | 100 | 67.0-129 | | | 2.56 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.65 | 5.71 | 113 | 114 | 70.0-126 | | | 1.06 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.20 | 5.19 | 104 | 104 | 74.0-124 | | | 0.192 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.34 | 5.27 | 107 | 105 | 73.0-127 | | | 1.32 | 20 |
| Vinyl chloride | 5.00 | 5.12 | 5.12 | 102 | 102 | 63.0-134 | | | 0.000 | 20 |
| Xylenes, Total | 15.0 | 17.8 | 17.3 | 119 | 115 | 72.0-127 | | | 2.85 | 20 |
| Ethyl ether | 5.00 | 5.33 | 5.36 | 107 | 107 | 64.0-137 | | | 0.561 | 20 |
| Tetrahydrofuran | 5.00 | 5.13 | 6.58 | 103 | 132 | 37.0-146 | | J3 | 24.8 | 24 |
| Iodomethane | 25.0 | 23.5 | 23.0 | 94.0 | 92.0 | 74.0-134 | | | 2.15 | 20 |
| Allyl chloride | 25.0 | 25.0 | 24.6 | 100 | 98.4 | 70.0-131 | | | 1.61 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 4.44 | 6.62 | 88.8 | 132 | 45.0-143 | | J3 | 39.4 | 20 |
| *(S) Toluene-d8* | | | | *110* | *112* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *107* | *109* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *91.7* | *93.8* | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R3856921-2 11/03/22 20:00

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| cis-1,2-Dichloroethene | 0.0720 | J | 0.0276 | 0.100 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| *(S) Toluene-d8* | *97.4* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *87.3* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *102* | | | *70.0-130* |

## Laboratory Control Sample (LCS)

(LCS) R3856921-1 11/03/22 18:33

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 5.00 | 5.07 | 101 | 73.0-125 | |
| Vinyl chloride | 5.00 | 4.45 | 89.0 | 63.0-134 | |
| *(S) Toluene-d8* | | | *94.0* | *75.0-131* | |
| *(S) 4-Bromofluorobenzene* | | | *90.3* | *67.0-138* | |
| *(S) 1,2-Dichloroethane-d4* | | | *106* | *70.0-130* | |

## Method Blank (MB)

(MB) R3858855-3 11/04/22 11:02

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *100* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3858855-1 11/04/22 09:46 • (LCSD) R3858855-2 11/04/22 10:05

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| cis-1,2-Dichloroethene | 5.00 | 4.60 | 4.75 | 92.0 | 95.0 | 73.0-125 | | | 3.21 | 20 |
| *(S) Toluene-d8* | | | | *105* | *105* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *103* | *103* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *98.6* | *98.1* | *70.0-130* | | | | |

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| C3 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable. |
| C5 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded high. Data is likely to show a high bias concerning the result. |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J3 | The associated batch QC was outside the established quality control range for precision. |
| J4 | The associated batch QC was outside the established quality control range for accuracy. |

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LAO000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**
2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Billing Information:
Attn: Accounts Payable
2101 4th Avenue, Suite 1310
Seattle, WA 98121

Pres Chk

Report to: Brian O'Neal/Bill Haldeman

Email To: Shannon.McKernan@nv5.com;brian.oneal@nv5

Project Description: American Linen

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: 206-529-3980

Client Project # 14130001.10.701.02

Lab Project # PESENVSWA-ALP

Collected by (print): ATS

Site/Facility ID #

P.O. # 14130001.10.701.02 ~~443018-1413001.05.601~~

Collected by (signature):

Immediately Packed on Ice N ___ Y X

*Rush?* (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 (2) | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl (2) | V8260ULLC 40mlAmb-HCl | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-165-102822 | Grab | GW | — | 10-28-22 | 1006 | 9 | X | X | X | X | | X | X | X | | 01 |
| MW-166-102822 | | GW | — | | 1104 | | X | X | X | X | | X | X | X | | 02 |
| MW-168-102822 | | GW | — | | 1023 | | X | X | X | X | | X | X | X | | 03 |
| MW-978-102822 | | GW | — | | 0800 | | X | X | X | X | | X | X | X | | 04 |
| MW-167-102822 | | GW | — | | 1203 | | X | X | X | X | | X | X | X | | 05 |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | ATS | | | | | | | | | | | | |
| | | GW | | 10-28-22 | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1551843

Table J141

Acctnum: PESENVSWA
Template: T218236
Prelogin: P957562
PM: 546 - Jared Starkey
PB:

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

pH ____ Temp ____
Flow ____ Other ____

Samples returned via: __ UPS __ FedEx __ Courier ____

Tracking # 6094 5459 7284

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) |
|---|---|---|---|
| | 10-28-22 | 13:39 | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) |

Trip Blank Received: Yes / (No) HCL / MeoH TBR

Temp: 1.7+0=1.7 °C Bottles Received: 45

Date: 10/29/22 Time: 9:00

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

# ANALYTICAL REPORT

November 18, 2022



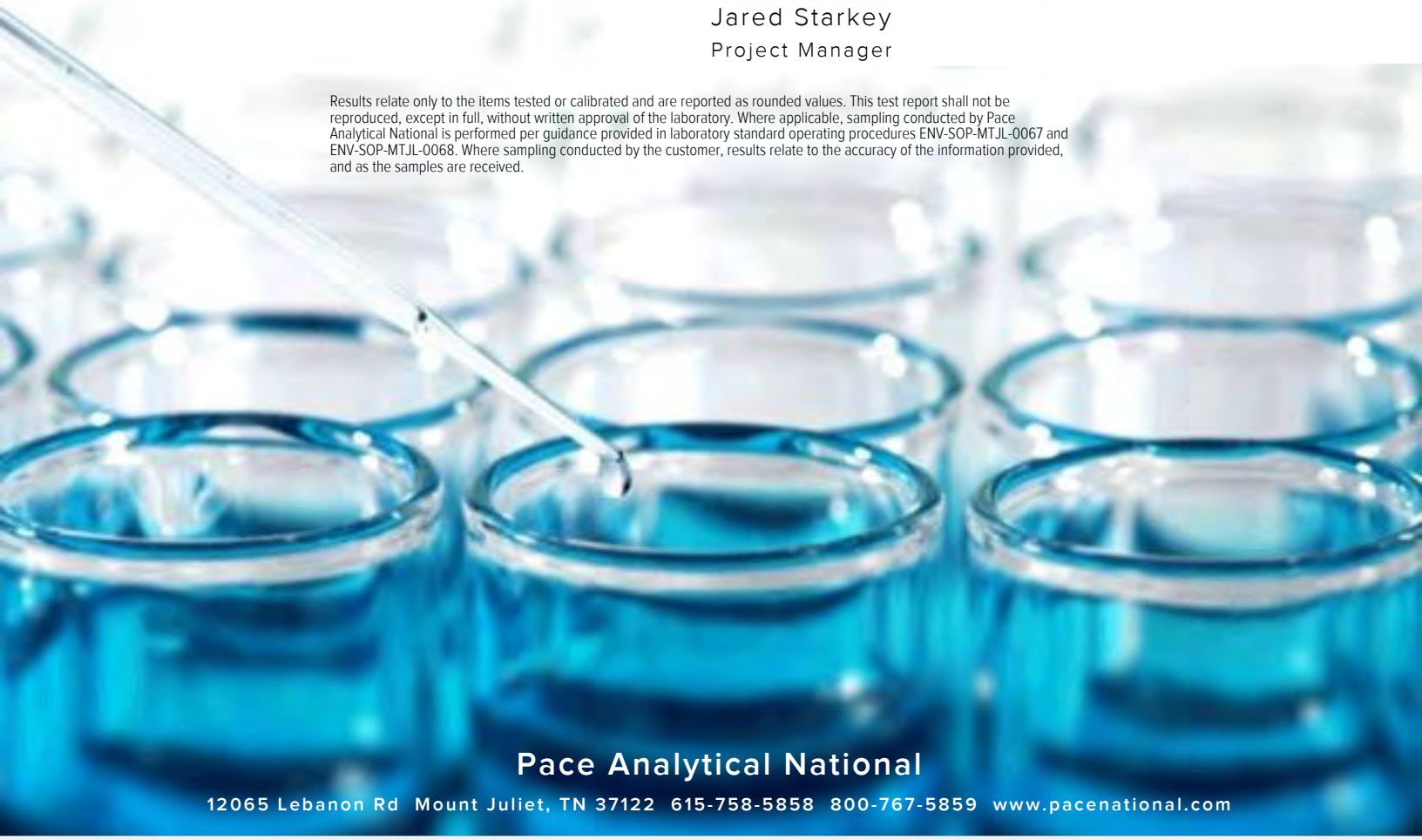
## PES Environmental, Inc.- WA

| | |
|---|---|
| Sample Delivery Group: | L1552392 |
| Samples Received: | 11/01/2022 |
| Project Number: | 1413.001.10.701.02 |
| Description: | American Linen |
| Report To: | Brian O'Neal/Bill Haldeman |
| | 2101 Fourth Ave., Suite 1310 |
| | Seattle, WA 98121 |

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## MW121-103122 L1552392-01 GW

Collected by: ARS | Collected date/time: 10/31/22 14:42 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957551 | 1 | 11/11/22 14:55 | 11/11/22 14:55 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953513 | 5 | 11/03/22 05:10 | 11/03/22 05:10 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959289 | 1 | 11/17/22 16:07 | 11/17/22 16:07 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957859 | 1 | 11/12/22 10:14 | 11/13/22 12:18 | SJM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method NWTPHGX | WG1954579 | 1 | 11/05/22 01:01 | 11/05/22 01:01 | MGF | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953648 | 1 | 11/03/22 11:32 | 11/03/22 11:32 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1953994 | 1 | 11/03/22 15:21 | 11/03/22 15:21 | ADM | Mt. Juliet, TN |

## MW-330-103122 L1552392-02 GW

Collected by: ARS | Collected date/time: 10/31/22 14:33 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957551 | 1 | 11/11/22 15:04 | 11/11/22 15:04 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1952474 | 1 | 11/01/22 18:49 | 11/01/22 18:49 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959289 | 1 | 11/17/22 16:42 | 11/17/22 16:42 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957859 | 1 | 11/12/22 10:14 | 11/13/22 12:21 | SJM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953648 | 1 | 11/03/22 11:35 | 11/03/22 11:35 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1953994 | 1 | 11/03/22 15:40 | 11/03/22 15:40 | ADM | Mt. Juliet, TN |

## MW-301-103122 L1552392-03 GW

Collected by: ARS | Collected date/time: 10/31/22 13:14 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957551 | 1 | 11/11/22 15:15 | 11/11/22 15:15 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1952474 | 1 | 11/01/22 19:02 | 11/01/22 19:02 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959289 | 1 | 11/17/22 16:59 | 11/17/22 16:59 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957859 | 1 | 11/12/22 10:14 | 11/13/22 12:25 | SJM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method NWTPHGX | WG1954579 | 1 | 11/05/22 01:22 | 11/05/22 01:22 | MGF | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953648 | 1 | 11/03/22 11:39 | 11/03/22 11:39 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1953994 | 1 | 11/03/22 15:59 | 11/03/22 15:59 | ADM | Mt. Juliet, TN |

## MW-981-103122 L1552392-04 GW

Collected by: ARS | Collected date/time: 10/31/22 12:00 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957551 | 1 | 11/11/22 15:19 | 11/11/22 15:19 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1952474 | 1 | 11/01/22 19:15 | 11/01/22 19:15 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959289 | 1 | 11/17/22 17:16 | 11/17/22 17:16 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957860 | 1 | 11/11/22 14:18 | 11/12/22 15:36 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method NWTPHGX | WG1954579 | 1 | 11/05/22 01:42 | 11/05/22 01:42 | MGF | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953648 | 1 | 11/03/22 11:42 | 11/03/22 11:42 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1953994 | 1 | 11/03/22 16:17 | 11/03/22 16:17 | ADM | Mt. Juliet, TN |

## MW124-103122 L1552392-05 GW

Collected by: ARS | Collected date/time: 10/31/22 09:40 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957551 | 1 | 11/11/22 15:23 | 11/11/22 15:23 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1952474 | 1 | 11/01/22 19:54 | 11/01/22 19:54 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959289 | 1 | 11/17/22 17:32 | 11/17/22 17:32 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957860 | 1 | 11/11/22 14:18 | 11/12/22 15:49 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953648 | 1 | 11/03/22 11:47 | 11/03/22 11:47 | JAP | Mt. Juliet, TN |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## MW124-103122 L1552392-05 GW

Collected by: ARS | Collected date/time: 10/31/22 09:40 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1955004 | 1 | 11/05/22 23:07 | 11/05/22 23:07 | JAH | Mt. Juliet, TN |

## MW102-103122 L1552392-06 GW

Collected by: ARS | Collected date/time: 10/31/22 12:17 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957551 | 1 | 11/11/22 15:28 | 11/11/22 15:28 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1952474 | 1 | 11/01/22 20:06 | 11/01/22 20:06 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959754 | 1 | 11/15/22 17:52 | 11/15/22 17:52 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957860 | 1 | 11/11/22 14:18 | 11/12/22 15:53 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953648 | 1 | 11/03/22 11:52 | 11/03/22 11:52 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1955004 | 1 | 11/05/22 23:26 | 11/05/22 23:26 | JAH | Mt. Juliet, TN |

## MW-190-103122 L1552392-07 GW

Collected by: ARS | Collected date/time: 10/31/22 11:24 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957551 | 1 | 11/11/22 15:32 | 11/11/22 15:32 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1952474 | 1 | 11/01/22 20:19 | 11/01/22 20:19 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959754 | 1 | 11/15/22 18:50 | 11/15/22 18:50 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957860 | 1 | 11/11/22 14:18 | 11/12/22 15:56 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953648 | 1 | 11/03/22 11:55 | 11/03/22 11:55 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1955004 | 1 | 11/05/22 23:45 | 11/05/22 23:45 | JAH | Mt. Juliet, TN |

## MW-189-103122 L1552392-08 GW

Collected by: ARS | Collected date/time: 10/31/22 10:37 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957551 | 1 | 11/11/22 15:37 | 11/11/22 15:37 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1952474 | 1 | 11/01/22 20:32 | 11/01/22 20:32 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959754 | 1 | 11/15/22 20:01 | 11/15/22 20:01 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957860 | 1 | 11/11/22 14:18 | 11/12/22 15:59 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953648 | 1 | 11/03/22 11:58 | 11/03/22 11:58 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1955004 | 1 | 11/06/22 00:04 | 11/06/22 00:04 | JAH | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 806000 | | 8450 | 20000 | 1 | 11/11/2022 14:55 | WG1957551 |

Sample Narrative:

L1552392-01 WG1957551: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Sulfate | 218000 | | 2970 | 25000 | 5 | 11/03/2022 05:10 | WG1953513 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 9260 | | 102 | 1000 | 1 | 11/17/2022 16:07 | WG1959289 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 8600 | | 28.1 | 100 | 1 | 11/13/2022 12:18 | WG1957859 |
| Manganese | 7550 | | 0.704 | 5.00 | 1 | 11/13/2022 12:18 | WG1957859 |

## Volatile Organic Compounds (GC) by Method NWTPHGX

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Gasoline Range Organics-NWTPH | U | | 31.6 | 100 | 1 | 11/05/2022 01:01 | WG1954579 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *94.0* | | | *78.0-120* | | *11/05/2022 01:01* | WG1954579 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 524 | | 0.287 | 0.678 | 1 | 11/03/2022 11:32 | WG1953648 |
| Ethane | 3.04 | | 0.296 | 1.29 | 1 | 11/03/2022 11:32 | WG1953648 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/03/2022 11:32 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/03/2022 15:21 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 15:21 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 15:21 | WG1953994 |
| Bromomethane | U | C3 | 0.148 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 15:21 | WG1953994 |
| Ethylbenzene | 0.0330 | J | 0.0212 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 15:21 | WG1953994 |
| Isopropylbenzene | 0.0740 | J | 0.0345 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| p-Isopropyltoluene | 0.156 | J | 0.0932 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 15:21 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 15:21 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 15:21 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 15:21 | WG1953994 |
| Naphthalene | 1.46 | | 0.124 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| n-Propylbenzene | 0.0860 | J | 0.0472 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 15:21 | WG1953994 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,2,4-Trimethylbenzene | 0.259 | | 0.0464 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,3,5-Trimethylbenzene | 0.194 | J | 0.0432 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| Vinyl chloride | 1.03 | | 0.0273 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 15:21 | WG1953994 |
| Ethyl Ether | 0.105 | | 0.0170 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| Tetrahydrofuran | 0.332 | J | 0.0900 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 15:21 | WG1953994 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *11/03/2022 15:21* | WG1953994 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/03/2022 15:21* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *95.2* | | | *70.0-130* | | *11/03/2022 15:21* | WG1953994 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 148000 | | 8450 | 20000 | 1 | 11/11/2022 15:04 | WG1957551 |

Sample Narrative:

L1552392-02 WG1957551: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 24700 | | 379 | 1000 | 1 | 11/01/2022 18:49 | WG1952474 |
| Nitrate | 51.6 | J | 48.0 | 100 | 1 | 11/01/2022 18:49 | WG1952474 |
| Sulfate | 51400 | | 594 | 5000 | 1 | 11/01/2022 18:49 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1830 | B | 102 | 1000 | 1 | 11/17/2022 16:42 | WG1959289 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1370 | | 28.1 | 100 | 1 | 11/13/2022 12:21 | WG1957859 |
| Manganese | 1860 | | 0.704 | 5.00 | 1 | 11/13/2022 12:21 | WG1957859 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 22.5 | | 0.287 | 0.678 | 1 | 11/03/2022 11:35 | WG1953648 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/03/2022 11:35 | WG1953648 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/03/2022 11:35 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/03/2022 15:40 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 15:40 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 15:40 | WG1953994 |
| Bromomethane | U | C3 | 0.148 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 15:40 | WG1953994 |
| Ethylbenzene | 0.0350 | J | 0.0212 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 15:40 | WG1953994 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 15:40 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 15:40 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 15:40 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 15:40 | WG1953994 |
| Naphthalene | 0.357 | J | 0.124 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| Toluene | 0.107 | J | 0.0500 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 15:40 | WG1953994 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,2,4-Trimethylbenzene | 0.0710 | J | 0.0464 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 15:40 | WG1953994 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 15:40 | WG1953994 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| *(S) Toluene-d8* | *101* | | | *75.0-131* | | *11/03/2022 15:40* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/03/2022 15:40* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *100* | | | *70.0-130* | | *11/03/2022 15:40* | WG1953994 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 143000 | | 8450 | 20000 | 1 | 11/11/2022 15:15 | WG1957551 |

Sample Narrative:

L1552392-03 WG1957551: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 75600 | | 379 | 1000 | 1 | 11/01/2022 19:02 | WG1952474 |
| Nitrate | 1450 | | 48.0 | 100 | 1 | 11/01/2022 19:02 | WG1952474 |
| Sulfate | 24200 | | 594 | 5000 | 1 | 11/01/2022 19:02 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 3620 | B | 102 | 1000 | 1 | 11/17/2022 16:59 | WG1959289 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 777 | | 28.1 | 100 | 1 | 11/13/2022 12:25 | WG1957859 |
| Manganese | 216 | | 0.704 | 5.00 | 1 | 11/13/2022 12:25 | WG1957859 |

## Volatile Organic Compounds (GC) by Method NWTPHGX

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | U | | 31.6 | 100 | 1 | 11/05/2022 01:22 | WG1954579 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *94.7* | | | *78.0-120* | | *11/05/2022 01:22* | WG1954579 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 62.9 | | 0.287 | 0.678 | 1 | 11/03/2022 11:39 | WG1953648 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/03/2022 11:39 | WG1953648 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/03/2022 11:39 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/03/2022 15:59 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 15:59 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 15:59 | WG1953994 |
| Bromomethane | U | C3 | 0.148 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| Chloroform | 0.0680 | J | 0.0166 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| cis-1,2-Dichloroethene | 0.114 | | 0.0276 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 15:59 | WG1953994 |
| Ethylbenzene | 0.0710 | J | 0.0212 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 15:59 | WG1953994 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 15:59 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 15:59 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 15:59 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 15:59 | WG1953994 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| Tetrachloroethene | 0.881 | | 0.0280 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| Toluene | 0.357 | | 0.0500 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| Trichloroethene | 0.112 | | 0.0160 | 0.0400 | 1 | 11/03/2022 15:59 | WG1953994 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| Xylenes, Total | 0.327 | | 0.191 | 0.260 | 1 | 11/03/2022 15:59 | WG1953994 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| Tetrahydrofuran | 1.74 | | 0.0900 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 15:59 | WG1953994 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *11/03/2022 15:59* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/03/2022 15:59* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *98.6* | | | *70.0-130* | | *11/03/2022 15:59* | WG1953994 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 142000 | | 8450 | 20000 | 1 | 11/11/2022 15:19 | WG1957551 |

Sample Narrative:

L1552392-04 WG1957551: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 76700 | | 379 | 1000 | 1 | 11/01/2022 19:15 | WG1952474 |
| Nitrate | 1450 | | 48.0 | 100 | 1 | 11/01/2022 19:15 | WG1952474 |
| Sulfate | 24600 | | 594 | 5000 | 1 | 11/01/2022 19:15 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 3530 | B | 102 | 1000 | 1 | 11/17/2022 17:16 | WG1959289 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 445 | | 28.1 | 100 | 1 | 11/12/2022 15:36 | WG1957860 |
| Manganese | 184 | | 0.704 | 5.00 | 1 | 11/12/2022 15:36 | WG1957860 |

## Volatile Organic Compounds (GC) by Method NWTPHGX

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Gasoline Range Organics-NWTPH | U | | 31.6 | 100 | 1 | 11/05/2022 01:42 | WG1954579 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *94.0* | | | *78.0-120* | | *11/05/2022 01:42* | WG1954579 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 97.0 | | 0.287 | 0.678 | 1 | 11/03/2022 11:42 | WG1953648 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/03/2022 11:42 | WG1953648 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/03/2022 11:42 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/03/2022 16:17 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 16:17 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 16:17 | WG1953994 |
| Bromomethane | U | C3 | 0.148 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| Chloroform | 0.0750 | J | 0.0166 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| cis-1,2-Dichloroethene | 0.123 | | 0.0276 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 16:17 | WG1953994 |
| Ethylbenzene | 0.0420 | J | 0.0212 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 16:17 | WG1953994 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 16:17 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 16:17 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 16:17 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 16:17 | WG1953994 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| Tetrachloroethene | 1.14 | | 0.0280 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| Toluene | 0.260 | | 0.0500 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| Trichloroethene | 0.122 | | 0.0160 | 0.0400 | 1 | 11/03/2022 16:17 | WG1953994 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| Xylenes, Total | 0.246 | J | 0.191 | 0.260 | 1 | 11/03/2022 16:17 | WG1953994 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| Tetrahydrofuran | 1.65 | | 0.0900 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 16:17 | WG1953994 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| *(S) Toluene-d8* | *101* | | | *75.0-131* | | *11/03/2022 16:17* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/03/2022 16:17* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *94.2* | | | *70.0-130* | | *11/03/2022 16:17* | WG1953994 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 165000 | | 8450 | 20000 | 1 | 11/11/2022 15:23 | WG1957551 |

Sample Narrative:

L1552392-05 WG1957551: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 4640 | | 379 | 1000 | 1 | 11/01/2022 19:54 | WG1952474 |
| Nitrate | 77.8 | J | 48.0 | 100 | 1 | 11/01/2022 19:54 | WG1952474 |
| Sulfate | U | | 594 | 5000 | 1 | 11/01/2022 19:54 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 2240 | B | 102 | 1000 | 1 | 11/17/2022 17:32 | WG1959289 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 131 | | 28.1 | 100 | 1 | 11/12/2022 15:49 | WG1957860 |
| Manganese | 282 | | 0.704 | 5.00 | 1 | 11/12/2022 15:49 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 9.47 | | 0.287 | 0.678 | 1 | 11/03/2022 11:47 | WG1953648 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/03/2022 11:47 | WG1953648 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/03/2022 11:47 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/05/2022 23:07 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 23:07 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 23:07 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 23:07 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 23:07 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 23:07 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 23:07 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 23:07 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 23:07 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| Toluene | 0.117 | J | 0.0500 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 23:07 | WG1955004 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 23:07 | WG1955004 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 23:07 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/05/2022 23:07* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/05/2022 23:07* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *100* | | | *70.0-130* | | *11/05/2022 23:07* | WG1955004 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 142000 | | 8450 | 20000 | 1 | 11/11/2022 15:28 | WG1957551 |

Sample Narrative:

L1552392-06 WG1957551: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 5070 | | 379 | 1000 | 1 | 11/01/2022 20:06 | WG1952474 |
| Nitrate | 75.1 | J | 48.0 | 100 | 1 | 11/01/2022 20:06 | WG1952474 |
| Sulfate | 2450 | J | 594 | 5000 | 1 | 11/01/2022 20:06 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1500 | B | 102 | 1000 | 1 | 11/15/2022 17:52 | WG1959754 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 212 | | 28.1 | 100 | 1 | 11/12/2022 15:53 | WG1957860 |
| Manganese | 40.2 | | 0.704 | 5.00 | 1 | 11/12/2022 15:53 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 2.66 | | 0.287 | 0.678 | 1 | 11/03/2022 11:52 | WG1953648 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/03/2022 11:52 | WG1953648 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/03/2022 11:52 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/05/2022 23:26 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 23:26 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 23:26 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 23:26 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 23:26 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 23:26 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 23:26 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 23:26 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 23:26 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| Toluene | 0.174 | J | 0.0500 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 23:26 | WG1955004 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 23:26 | WG1955004 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 23:26 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/05/2022 23:26* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/05/2022 23:26* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *99.0* | | | *70.0-130* | | *11/05/2022 23:26* | WG1955004 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 174000 | | 8450 | 20000 | 1 | 11/11/2022 15:32 | WG1957551 |

Sample Narrative:

L1552392-07 WG1957551: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 17300 | | 379 | 1000 | 1 | 11/01/2022 20:19 | WG1952474 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/01/2022 20:19 | WG1952474 |
| Sulfate | 40200 | | 594 | 5000 | 1 | 11/01/2022 20:19 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 5820 | | 102 | 1000 | 1 | 11/15/2022 18:50 | WG1959754 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 1750 | | 28.1 | 100 | 1 | 11/12/2022 15:56 | WG1957860 |
| Manganese | 861 | | 0.704 | 5.00 | 1 | 11/12/2022 15:56 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 6190 | | 0.287 | 0.678 | 1 | 11/03/2022 11:55 | WG1953648 |
| Ethane | 8.53 | | 0.296 | 1.29 | 1 | 11/03/2022 11:55 | WG1953648 |
| Ethene | 26.9 | | 0.422 | 1.27 | 1 | 11/03/2022 11:55 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 1.53 | | 0.548 | 1.00 | 1 | 11/05/2022 23:45 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 23:45 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 23:45 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| Chloroethane | 0.816 | | 0.0432 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,1-Dichloroethene | 0.156 | | 0.0200 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| cis-1,2-Dichloroethene | 78.7 | | 0.0276 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| trans-1,2-Dichloroethene | 0.0980 | J | 0.0572 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 23:45 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 23:45 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 23:45 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 23:45 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 23:45 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 23:45 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| Toluene | 0.122 | J | 0.0500 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 23:45 | WG1955004 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| Vinyl chloride | 64.4 | | 0.0273 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 23:45 | WG1955004 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 23:45 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/05/2022 23:45* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *98.6* | | | *67.0-138* | | *11/05/2022 23:45* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *97.8* | | | *70.0-130* | | *11/05/2022 23:45* | WG1955004 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 252000 | | 8450 | 20000 | 1 | 11/11/2022 15:37 | WG1957551 |

Sample Narrative:

L1552392-08 WG1957551: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 20700 | | 379 | 1000 | 1 | 11/01/2022 20:32 | WG1952474 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/01/2022 20:32 | WG1952474 |
| Sulfate | 46800 | | 594 | 5000 | 1 | 11/01/2022 20:32 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 6060 | | 102 | 1000 | 1 | 11/15/2022 20:01 | WG1959754 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1660 | | 28.1 | 100 | 1 | 11/12/2022 15:59 | WG1957860 |
| Manganese | 1170 | | 0.704 | 5.00 | 1 | 11/12/2022 15:59 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 3830 | | 0.287 | 0.678 | 1 | 11/03/2022 11:58 | WG1953648 |
| Ethane | 7.34 | | 0.296 | 1.29 | 1 | 11/03/2022 11:58 | WG1953648 |
| Ethene | 59.3 | | 0.422 | 1.27 | 1 | 11/03/2022 11:58 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 2.48 | | 0.548 | 1.00 | 1 | 11/06/2022 00:04 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 00:04 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/06/2022 00:04 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| cis-1,2-Dichloroethene | 3.00 | | 0.0276 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/06/2022 00:04 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/06/2022 00:04 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/06/2022 00:04 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/06/2022 00:04 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/06/2022 00:04 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/06/2022 00:04 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| Toluene | 0.0870 | J | 0.0500 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 00:04 | WG1955004 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| Vinyl chloride | 26.8 | | 0.0273 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/06/2022 00:04 | WG1955004 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/06/2022 00:04 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/06/2022 00:04* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *99.9* | | | *67.0-138* | | *11/06/2022 00:04* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *101* | | | *70.0-130* | | *11/06/2022 00:04* | WG1955004 |

## Method Blank (MB)

(MB) R3860383-2 11/11/22 14:26

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1552392-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552392-01 11/11/22 14:55 • (DUP) R3860383-4 11/11/22 15:00

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 806000 | 803000 | 1 | 0.360 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

## L1552408-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1552408-07 11/11/22 16:12 • (DUP) R3860383-6 11/11/22 16:17

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 144000 | 146000 | 1 | 1.05 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3860383-1 11/11/22 14:22

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 102000 | 102 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3855921-1 11/01/22 11:00

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1552392-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552392-01 11/01/22 17:58 • (DUP) R3855921-3 11/01/22 18:11

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 28200 | 27400 | 1 | 2.65 | | 15 |
| Nitrate | 2990 | 2920 | 1 | 2.40 | | 15 |

## L1552420-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1552420-04 11/01/22 23:32 • (DUP) R3855921-6 11/01/22 23:44

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 79100 | 79900 | 1 | 0.986 | | 15 |
| Nitrate | U | U | 1 | 0.000 | | 15 |
| Sulfate | U | U | 1 | 0.000 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3855921-2 11/01/22 11:13

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 39900 | 99.6 | 80.0-120 | |
| Nitrate | 8000 | 7860 | 98.2 | 80.0-120 | |
| Sulfate | 40000 | 40300 | 101 | 80.0-120 | |

## L1552392-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552392-01 11/01/22 17:58 • (MS) R3855921-4 11/01/22 18:24 • (MSD) R3855921-5 11/01/22 18:37

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 28200 | 75700 | 76900 | 95.0 | 97.5 | 1 | 80.0-120 | | | 1.62 | 15 |
| Nitrate | 5000 | 2990 | 7430 | 7560 | 88.7 | 91.4 | 1 | 80.0-120 | | | 1.78 | 15 |

## L1552420-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1552420-04 11/01/22 23:32 • (MS) R3855921-7 11/01/22 23:57

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 79100 | 122000 | 85.9 | 1 | 80.0-120 | |
| Nitrate | 5000 | U | 4290 | 85.8 | 1 | 80.0-120 | |
| Sulfate | 50000 | U | 44200 | 88.4 | 1 | 80.0-120 | |

## Method Blank (MB)

(MB) R3856763-1 11/03/22 02:28

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Sulfate | U | | 594 | 5000 |

## L1553153-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1553153-06 11/03/22 03:55 • (DUP) R3856763-3 11/03/22 04:08

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Sulfate | 2750 | 2750 | 1 | 0.189 | J | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3856763-2 11/03/22 02:40

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Sulfate | 40000 | 40900 | 102 | 80.0-120 | |

## L1553153-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553153-06 11/03/22 03:55 • (MS) R3856763-4 11/03/22 04:20 • (MSD) R3856763-5 11/03/22 04:57

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Sulfate | 50000 | 2750 | 54400 | 54800 | 103 | 104 | 1 | 80.0-120 | | | 0.672 | 15 |

## Method Blank (MB)

(MB) R3862528-2 11/17/22 07:10

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 378 | J | 102 | 1000 |

## L1552392-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552392-01 11/17/22 16:07 • (DUP) R3862528-6 11/17/22 16:26

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 9260 | 9270 | 1 | 0.0864 | | 20 |

## L1552392-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1552392-05 11/17/22 17:32 • (DUP) R3862528-7 11/17/22 17:48

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2240 | 2300 | 1 | 2.47 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3862528-1 11/17/22 06:54

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 73700 | 98.3 | 85.0-115 | |

## L1552019-13 Original Sample (OS) • Matrix Spike (MS)

(OS) L1552019-13 11/17/22 10:20 • (MS) R3862528-3 11/17/22 10:42

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 1990 | 60700 | 117 | 1 | 80.0-120 | |

## L1552292-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552292-02 11/17/22 13:56 • (MS) R3862528-4 11/17/22 14:17 • (MSD) R3862528-5 11/17/22 14:38

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 516 | 60500 | 60800 | 120 | 121 | 1 | 80.0-120 | | J5 | 0.544 | 20 |

## Method Blank (MB)

(MB) R3861620-2 11/15/22 08:15

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 382 | J | 102 | 1000 |

## L1552392-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1552392-07 11/15/22 18:50 • (DUP) R3861620-5 11/15/22 19:07

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 5820 | 5690 | 1 | 2.33 | | 20 |

## L1552408-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1552408-05 11/15/22 22:23 • (DUP) R3861620-8 11/15/22 22:48

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 15700 | 15600 | 1 | 0.319 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3861620-1 11/15/22 07:59

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 79800 | 106 | 85.0-115 | |

## L1552392-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552392-06 11/15/22 17:52 • (MS) R3861620-3 11/15/22 18:13 • (MSD) R3861620-4 11/15/22 18:33

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 1500 | 52000 | 53200 | 101 | 103 | 1 | 80.0-120 | | | 2.24 | 20 |

## L1552392-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552392-08 11/15/22 20:01 • (MS) R3861620-6 11/15/22 20:23 • (MSD) R3861620-7 11/15/22 20:44

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 6060 | 56200 | 56700 | 100 | 101 | 1 | 80.0-120 | | | 0.992 | 20 |

## Method Blank (MB)

(MB) R3860404-1 11/13/22 10:37

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3860404-2 11/13/22 10:40

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Iron | 5000 | 5320 | 106 | 80.0-120 | |
| Manganese | 50.0 | 51.4 | 103 | 80.0-120 | |

## L1552002-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552002-21 11/13/22 10:43 • (MS) R3860404-4 11/13/22 10:50 • (MSD) R3860404-5 11/13/22 10:53

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | % | % | | % | | | % | % |
| Iron | 5000 | | 5670 | 5800 | 103 | 105 | 1 | 75.0-125 | | | 2.26 | 20 |
| Manganese | 50.0 | | 103 | 104 | 94.7 | 98.3 | 1 | 75.0-125 | | | 1.76 | 20 |

## Method Blank (MB)

(MB) R3860332-1 11/12/22 15:29

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3860332-2 11/12/22 15:32

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Iron | 5000 | 5260 | 105 | 80.0-120 | |
| Manganese | 50.0 | 53.4 | 107 | 80.0-120 | |

## L1552392-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552392-04 11/12/22 15:36 • (MS) R3860332-4 11/12/22 15:42 • (MSD) R3860332-5 11/12/22 15:46

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Iron | 5000 | 445 | 5490 | 5770 | 101 | 107 | 1 | 75.0-125 | | | 4.93 | 20 |
| Manganese | 50.0 | 184 | 238 | 238 | 108 | 108 | 1 | 75.0-125 | | | 0.151 | 20 |

## Method Blank (MB)

(MB) R3858889-3 11/04/22 23:51

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | U | | 31.6 | 100 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *93.5* | | | *78.0-120* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3858889-1 11/04/22 22:44 • (LCSD) R3858889-2 11/04/22 23:10

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | 5500 | 5750 | 5890 | 105 | 107 | 70.0-124 | | | 2.41 | 20 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | *110* | *110* | *78.0-120* | | | | |

## Method Blank (MB)

(MB) R3856526-2 11/03/22 11:17

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1552292-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552292-01 11/03/22 11:25 • (DUP) R3856526-3 11/03/22 11:49

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1552392-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1552392-06 11/03/22 11:52 • (DUP) R3856526-4 11/03/22 12:27

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 2.66 | 2.73 | 1 | 2.60 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3856526-1 11/03/22 11:13 • (LCSD) R3856526-5 11/03/22 12:30

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 72.3 | 76.4 | 107 | 113 | 85.0-115 | | | 5.51 | 20 |
| Ethane | 129 | 126 | 135 | 97.7 | 105 | 85.0-115 | | | 6.90 | 20 |
| Ethene | 127 | 127 | 135 | 100 | 106 | 85.0-115 | | | 6.11 | 20 |

## Method Blank (MB)

(MB) R3857691-3 11/03/22 14:11

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3857691-3 11/03/22 14:11

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *101* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *107* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *102* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3857691-1 11/03/22 11:32 • (LCSD) R3857691-2 11/03/22 11:51

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 30.4 | 30.2 | 122 | 121 | 10.0-160 | | | 0.660 | 31 |
| Acrylonitrile | 25.0 | 27.5 | 27.4 | 110 | 110 | 45.0-153 | | | 0.364 | 22 |
| Benzene | 5.00 | 5.05 | 5.29 | 101 | 106 | 70.0-123 | | | 4.64 | 20 |
| Bromobenzene | 5.00 | 5.28 | 5.64 | 106 | 113 | 73.0-121 | | | 6.59 | 20 |
| Bromodichloromethane | 5.00 | 5.36 | 5.60 | 107 | 112 | 73.0-121 | | | 4.38 | 20 |
| Bromoform | 5.00 | 5.01 | 5.29 | 100 | 106 | 64.0-132 | | | 5.44 | 20 |
| Bromomethane | 5.00 | 3.79 | 4.09 | 75.8 | 81.8 | 56.0-147 | | | 7.61 | 20 |
| n-Butylbenzene | 5.00 | 4.92 | 5.33 | 98.4 | 107 | 68.0-135 | | | 8.00 | 20 |
| sec-Butylbenzene | 5.00 | 5.27 | 5.62 | 105 | 112 | 74.0-130 | | | 6.43 | 20 |
| tert-Butylbenzene | 5.00 | 6.26 | 5.71 | 125 | 114 | 75.0-127 | | | 9.19 | 20 |
| Carbon tetrachloride | 5.00 | 5.02 | 5.09 | 100 | 102 | 66.0-128 | | | 1.38 | 20 |
| Chlorobenzene | 5.00 | 4.93 | 5.10 | 98.6 | 102 | 76.0-128 | | | 3.39 | 20 |
| Chlorodibromomethane | 5.00 | 5.17 | 5.32 | 103 | 106 | 74.0-127 | | | 2.86 | 20 |
| Chloroethane | 5.00 | 4.89 | 5.10 | 97.8 | 102 | 61.0-134 | | | 4.20 | 20 |
| Chloroform | 5.00 | 4.87 | 5.03 | 97.4 | 101 | 72.0-123 | | | 3.23 | 20 |
| Chloromethane | 5.00 | 4.77 | 5.16 | 95.4 | 103 | 51.0-138 | | | 7.85 | 20 |
| 2-Chlorotoluene | 5.00 | 5.21 | 5.46 | 104 | 109 | 75.0-124 | | | 4.69 | 20 |
| 4-Chlorotoluene | 5.00 | 5.62 | 5.96 | 112 | 119 | 75.0-124 | | | 5.87 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 5.00 | 5.58 | 100 | 112 | 59.0-130 | | | 11.0 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.02 | 5.32 | 100 | 106 | 74.0-128 | | | 5.80 | 20 |
| Dibromomethane | 5.00 | 5.09 | 5.26 | 102 | 105 | 75.0-122 | | | 3.29 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 4.93 | 5.53 | 98.6 | 111 | 76.0-124 | | | 11.5 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 5.06 | 5.59 | 101 | 112 | 76.0-125 | | | 9.95 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 4.99 | 5.31 | 99.8 | 106 | 77.0-121 | | | 6.21 | 20 |
| Dichlorodifluoromethane | 5.00 | 3.86 | 4.07 | 77.2 | 81.4 | 43.0-156 | | | 5.30 | 20 |
| 1,1-Dichloroethane | 5.00 | 4.85 | 5.10 | 97.0 | 102 | 70.0-127 | | | 5.03 | 20 |
| 1,2-Dichloroethane | 5.00 | 5.19 | 5.30 | 104 | 106 | 65.0-131 | | | 2.10 | 20 |
| 1,1-Dichloroethene | 5.00 | 4.91 | 4.97 | 98.2 | 99.4 | 65.0-131 | | | 1.21 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 4.95 | 5.12 | 99.0 | 102 | 73.0-125 | | | 3.38 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 4.78 | 5.06 | 95.6 | 101 | 71.0-125 | | | 5.69 | 20 |
| 1,2-Dichloropropane | 5.00 | 4.87 | 5.03 | 97.4 | 101 | 74.0-125 | | | 3.23 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.00 | 5.18 | 100 | 104 | 73.0-125 | | | 3.54 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.11 | 5.28 | 102 | 106 | 80.0-125 | | | 3.27 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 4.98 | 5.15 | 99.6 | 103 | 76.0-127 | | | 3.36 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 5.18 | 5.24 | 104 | 105 | 73.0-127 | | | 1.15 | 20 |
| 2,2-Dichloropropane | 5.00 | 5.26 | 4.87 | 105 | 97.4 | 59.0-135 | | | 7.70 | 20 |
| Di-isopropyl ether | 5.00 | 5.03 | 5.09 | 101 | 102 | 60.0-136 | | | 1.19 | 20 |
| Ethylbenzene | 5.00 | 4.64 | 5.15 | 92.8 | 103 | 74.0-126 | | | 10.4 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 5.05 | 6.05 | 101 | 121 | 57.0-150 | | | 18.0 | 20 |
| Isopropylbenzene | 5.00 | 4.86 | 5.12 | 97.2 | 102 | 72.0-127 | | | 5.21 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3857691-1 11/03/22 11:32 • (LCSD) R3857691-2 11/03/22 11:51

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.13 | 5.52 | 103 | 110 | 72.0-133 | | | 7.32 | 20 |
| 2-Butanone (MEK) | 25.0 | 29.1 | 29.1 | 116 | 116 | 30.0-160 | | | 0.000 | 24 |
| Methylene Chloride | 5.00 | 4.76 | 5.10 | 95.2 | 102 | 68.0-123 | | | 6.90 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 27.3 | 27.5 | 109 | 110 | 56.0-143 | | | 0.730 | 20 |
| Methyl tert-butyl ether | 5.00 | 4.88 | 4.86 | 97.6 | 97.2 | 66.0-132 | | | 0.411 | 20 |
| Naphthalene | 5.00 | 4.59 | 5.28 | 91.8 | 106 | 59.0-130 | | | 14.0 | 20 |
| n-Propylbenzene | 5.00 | 5.38 | 5.75 | 108 | 115 | 74.0-126 | | | 6.65 | 20 |
| Styrene | 5.00 | 4.85 | 4.97 | 97.0 | 99.4 | 72.0-127 | | | 2.44 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 4.99 | 5.23 | 99.8 | 105 | 74.0-129 | | | 4.70 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 5.61 | 5.94 | 112 | 119 | 68.0-128 | | | 5.71 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 4.55 | 4.54 | 91.0 | 90.8 | 61.0-139 | | | 0.220 | 20 |
| Tetrachloroethene | 5.00 | 4.93 | 5.16 | 98.6 | 103 | 70.0-136 | | | 4.56 | 20 |
| Toluene | 5.00 | 4.95 | 5.24 | 99.0 | 105 | 75.0-121 | | | 5.69 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.78 | 5.20 | 95.6 | 104 | 59.0-139 | | | 8.42 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.60 | 5.31 | 92.0 | 106 | 62.0-137 | | | 14.3 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.27 | 5.39 | 105 | 108 | 69.0-126 | | | 2.25 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 4.83 | 5.08 | 96.6 | 102 | 78.0-123 | | | 5.05 | 20 |
| Trichloroethene | 5.00 | 5.07 | 5.21 | 101 | 104 | 76.0-126 | | | 2.72 | 20 |
| Trichlorofluoromethane | 5.00 | 4.16 | 4.29 | 83.2 | 85.8 | 61.0-142 | | | 3.08 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 5.48 | 5.54 | 110 | 111 | 67.0-129 | | | 1.09 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.18 | 5.42 | 104 | 108 | 70.0-126 | | | 4.53 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 4.63 | 4.97 | 92.6 | 99.4 | 74.0-124 | | | 7.08 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.07 | 5.30 | 101 | 106 | 73.0-127 | | | 4.44 | 20 |
| Vinyl chloride | 5.00 | 4.38 | 4.75 | 87.6 | 95.0 | 63.0-134 | | | 8.11 | 20 |
| Xylenes, Total | 15.0 | 14.8 | 13.9 | 98.7 | 92.7 | 72.0-127 | | | 6.27 | 20 |
| Ethyl ether | 5.00 | 4.66 | 4.82 | 93.2 | 96.4 | 64.0-137 | | | 3.38 | 20 |
| Tetrahydrofuran | 5.00 | 5.53 | 5.22 | 111 | 104 | 37.0-146 | | | 5.77 | 24 |
| Iodomethane | 25.0 | 25.0 | 25.6 | 100 | 102 | 74.0-134 | | | 2.37 | 20 |
| Allyl chloride | 25.0 | 25.5 | 26.2 | 102 | 105 | 70.0-131 | | | 2.71 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 5.97 | 5.89 | 119 | 118 | 45.0-143 | | | 1.35 | 20 |
| *(S) Toluene-d8* | | | | *101* | *102* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *101* | *99.4* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *101* | *99.1* | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R3859513-3 11/05/22 21:34

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3859513-3 11/05/22 21:34

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | 0.294 | J | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *99.6* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859513-1 11/05/22 20:17 • (LCSD) R3859513-2 11/05/22 20:37

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 24.6 | 25.2 | 98.4 | 101 | 10.0-160 | | | 2.41 | 31 |
| Acrylonitrile | 25.0 | 26.6 | 27.4 | 106 | 110 | 45.0-153 | | | 2.96 | 22 |
| Benzene | 5.00 | 5.01 | 4.81 | 100 | 96.2 | 70.0-123 | | | 4.07 | 20 |
| Bromobenzene | 5.00 | 4.96 | 4.84 | 99.2 | 96.8 | 73.0-121 | | | 2.45 | 20 |
| Bromodichloromethane | 5.00 | 5.29 | 5.20 | 106 | 104 | 73.0-121 | | | 1.72 | 20 |
| Bromoform | 5.00 | 4.82 | 4.73 | 96.4 | 94.6 | 64.0-132 | | | 1.88 | 20 |
| Bromomethane | 5.00 | 4.21 | 4.19 | 84.2 | 83.8 | 56.0-147 | | | 0.476 | 20 |
| n-Butylbenzene | 5.00 | 5.21 | 5.12 | 104 | 102 | 68.0-135 | | | 1.74 | 20 |
| sec-Butylbenzene | 5.00 | 5.28 | 5.02 | 106 | 100 | 74.0-130 | | | 5.05 | 20 |
| tert-Butylbenzene | 5.00 | 5.12 | 5.01 | 102 | 100 | 75.0-127 | | | 2.17 | 20 |
| Carbon tetrachloride | 5.00 | 5.34 | 4.85 | 107 | 97.0 | 66.0-128 | | | 9.62 | 20 |
| Chlorobenzene | 5.00 | 4.85 | 4.63 | 97.0 | 92.6 | 76.0-128 | | | 4.64 | 20 |
| Chlorodibromomethane | 5.00 | 5.20 | 4.91 | 104 | 98.2 | 74.0-127 | | | 5.74 | 20 |
| Chloroethane | 5.00 | 4.51 | 4.54 | 90.2 | 90.8 | 61.0-134 | | | 0.663 | 20 |
| Chloroform | 5.00 | 5.24 | 4.82 | 105 | 96.4 | 72.0-123 | | | 8.35 | 20 |
| Chloromethane | 5.00 | 4.49 | 4.06 | 89.8 | 81.2 | 51.0-138 | | | 10.1 | 20 |
| 2-Chlorotoluene | 5.00 | 5.41 | 4.91 | 108 | 98.2 | 75.0-124 | | | 9.69 | 20 |
| 4-Chlorotoluene | 5.00 | 5.38 | 5.08 | 108 | 102 | 75.0-124 | | | 5.74 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.55 | 4.49 | 91.0 | 89.8 | 59.0-130 | | | 1.33 | 20 |
| 1,2-Dibromoethane | 5.00 | 4.77 | 4.82 | 95.4 | 96.4 | 74.0-128 | | | 1.04 | 20 |
| Dibromomethane | 5.00 | 5.31 | 5.02 | 106 | 100 | 75.0-122 | | | 5.61 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 4.90 | 4.78 | 98.0 | 95.6 | 76.0-124 | | | 2.48 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 4.97 | 4.81 | 99.4 | 96.2 | 76.0-125 | | | 3.27 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 4.68 | 4.62 | 93.6 | 92.4 | 77.0-121 | | | 1.29 | 20 |
| Dichlorodifluoromethane | 5.00 | 3.94 | 3.81 | 78.8 | 76.2 | 43.0-156 | | | 3.35 | 20 |
| 1,1-Dichloroethane | 5.00 | 4.99 | 4.90 | 99.8 | 98.0 | 70.0-127 | | | 1.82 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.57 | 4.52 | 91.4 | 90.4 | 65.0-131 | | | 1.10 | 20 |
| 1,1-Dichloroethene | 5.00 | 4.85 | 4.60 | 97.0 | 92.0 | 65.0-131 | | | 5.29 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 4.95 | 4.92 | 99.0 | 98.4 | 73.0-125 | | | 0.608 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 4.90 | 4.69 | 98.0 | 93.8 | 71.0-125 | | | 4.38 | 20 |
| 1,2-Dichloropropane | 5.00 | 4.96 | 4.91 | 99.2 | 98.2 | 74.0-125 | | | 1.01 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.10 | 4.76 | 102 | 95.2 | 73.0-125 | | | 6.90 | 20 |
| 1,3-Dichloropropane | 5.00 | 4.72 | 4.68 | 94.4 | 93.6 | 80.0-125 | | | 0.851 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 4.99 | 4.87 | 99.8 | 97.4 | 76.0-127 | | | 2.43 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 4.81 | 4.74 | 96.2 | 94.8 | 73.0-127 | | | 1.47 | 20 |
| 2,2-Dichloropropane | 5.00 | 5.28 | 5.19 | 106 | 104 | 59.0-135 | | | 1.72 | 20 |
| Di-isopropyl ether | 5.00 | 5.06 | 5.10 | 101 | 102 | 60.0-136 | | | 0.787 | 20 |
| Ethylbenzene | 5.00 | 5.00 | 4.63 | 100 | 92.6 | 74.0-126 | | | 7.68 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 4.64 | 4.93 | 92.8 | 98.6 | 57.0-150 | | | 6.06 | 20 |
| Isopropylbenzene | 5.00 | 5.61 | 5.11 | 112 | 102 | 72.0-127 | | | 9.33 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859513-1 11/05/22 20:17 • (LCSD) R3859513-2 11/05/22 20:37

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.37 | 5.08 | 107 | 102 | 72.0-133 | | | 5.55 | 20 |
| 2-Butanone (MEK) | 25.0 | 26.7 | 27.3 | 107 | 109 | 30.0-160 | | | 2.22 | 24 |
| Methylene Chloride | 5.00 | 4.70 | 4.32 | 94.0 | 86.4 | 68.0-123 | | | 8.43 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 28.9 | 28.8 | 116 | 115 | 56.0-143 | | | 0.347 | 20 |
| Methyl tert-butyl ether | 5.00 | 4.78 | 4.96 | 95.6 | 99.2 | 66.0-132 | | | 3.70 | 20 |
| Naphthalene | 5.00 | 4.64 | 4.63 | 92.8 | 92.6 | 59.0-130 | | | 0.216 | 20 |
| n-Propylbenzene | 5.00 | 5.65 | 5.01 | 113 | 100 | 74.0-126 | | | 12.0 | 20 |
| Styrene | 5.00 | 5.19 | 4.92 | 104 | 98.4 | 72.0-127 | | | 5.34 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.05 | 4.84 | 101 | 96.8 | 74.0-129 | | | 4.25 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.74 | 5.05 | 94.8 | 101 | 68.0-128 | | | 6.33 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.21 | 4.95 | 104 | 99.0 | 61.0-139 | | | 5.12 | 20 |
| Tetrachloroethene | 5.00 | 5.03 | 4.86 | 101 | 97.2 | 70.0-136 | | | 3.44 | 20 |
| Toluene | 5.00 | 4.96 | 4.73 | 99.2 | 94.6 | 75.0-121 | | | 4.75 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.79 | 4.84 | 95.8 | 96.8 | 59.0-139 | | | 1.04 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.51 | 4.54 | 90.2 | 90.8 | 62.0-137 | | | 0.663 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.35 | 4.97 | 107 | 99.4 | 69.0-126 | | | 7.36 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 4.96 | 4.90 | 99.2 | 98.0 | 78.0-123 | | | 1.22 | 20 |
| Trichloroethene | 5.00 | 4.94 | 4.58 | 98.8 | 91.6 | 76.0-126 | | | 7.56 | 20 |
| Trichlorofluoromethane | 5.00 | 5.39 | 5.18 | 108 | 104 | 61.0-142 | | | 3.97 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 4.75 | 4.86 | 95.0 | 97.2 | 67.0-129 | | | 2.29 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.25 | 4.89 | 105 | 97.8 | 70.0-126 | | | 7.10 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.02 | 4.97 | 100 | 99.4 | 74.0-124 | | | 1.00 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.22 | 5.10 | 104 | 102 | 73.0-127 | | | 2.33 | 20 |
| Vinyl chloride | 5.00 | 4.63 | 4.32 | 92.6 | 86.4 | 63.0-134 | | | 6.93 | 20 |
| Xylenes, Total | 15.0 | 15.2 | 14.5 | 101 | 96.7 | 72.0-127 | | | 4.71 | 20 |
| Ethyl ether | 5.00 | 4.80 | 4.80 | 96.0 | 96.0 | 64.0-137 | | | 0.000 | 20 |
| Tetrahydrofuran | 5.00 | 4.99 | 4.87 | 99.8 | 97.4 | 37.0-146 | | | 2.43 | 24 |
| Iodomethane | 25.0 | 23.7 | 23.2 | 94.8 | 92.8 | 74.0-134 | | | 2.13 | 20 |
| Allyl chloride | 25.0 | 24.8 | 24.0 | 99.2 | 96.0 | 70.0-131 | | | 3.28 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 4.15 | 4.55 | 83.0 | 91.0 | 45.0-143 | | | 9.20 | 20 |
| *(S) Toluene-d8* | | | | *105* | *104* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *102* | *99.2* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *101* | *103* | *70.0-130* | | | | |

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| B | The same analyte is found in the associated blank. |
| C3 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable. |
| C4 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result. |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J5 | The sample matrix interfered with the ability to make any accurate determination; spike value is high. |

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Billing Information:
Attn: Accounts Payable
2101 4th Avenue, Suite 1310
Seattle, WA 98121

Pres Chk

Report to:
Brian O'Neal/Bill Haldeman

Email To:
Shannon.McKernan@nv5.com;brian.oneal@nv5

Project Description:
American Linen

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: 206-529-3980

Client Project #
1413.001.10.701.02

Lab Project #
PESENVSWA-ALP

Collected by (print):
AZS

Site/Facility ID #

P.O. #
443018-1413001.05.601

Collected by (signature):

Quote #

Immediately Packed on Ice N ___ Y X

*Rush?* (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Analysis / Container / Preservative

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FE,MNG 250mlHDPE-HNO3 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | | | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW121-103122 | Grab | GW | — | 10-31-22 | 1442 | 9/12 | X | X | X | X | X | X | X | X | | | | -01 |
| MW-330-103122 | | GW | — | | 1433 | 9 | X | X | X | X | | X | X | X | | | | -02 |
| MW-301-103122 | | GW | — | | 1314 | 9/12 | X | X | X | X | X | X | X | X | | | | -03 |
| MW-981-103122 | | GW | — | | 1200 | 9/12 | X | X | X | X | X | X | X | X | | | | -04 |
| MW124-103122 | | GW | — | | 0940 | 9 | X | X | X | X | | X | X | X | | | | -05 |
| MW102-103122 | | GW | — | | 1217 | 9 | X | X | X | X | | X | X | X | | | | -06 |
| MW-190-103122 | | GW | — | | 1124 | 9 | X | X | X | X | | X | X | X | | | | -07 |
| MW-189-103122 | | GW | — | | 1037 | 9 | X | X | X | X | | X | X | X | | | | -08 |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1552392
D030

Acctnum: PESENVSWA
Template: T218236
Prelogin: P957562
PM: 546 - Jared Starkey
PB:
Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 6094 5469 7160

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / No HCL / MeoH TBR | If preservation required by Login: Date/Time |
|---|---|---|---|---|---|
| | 10-31-22 | 16:50 | | | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: 3.4+0=3.4 °C Bottles Received: 81 | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: 11-1-22 Time: 0900 | Hold: Condition: NCF / OK |

# ANALYTICAL REPORT

November 21, 2022



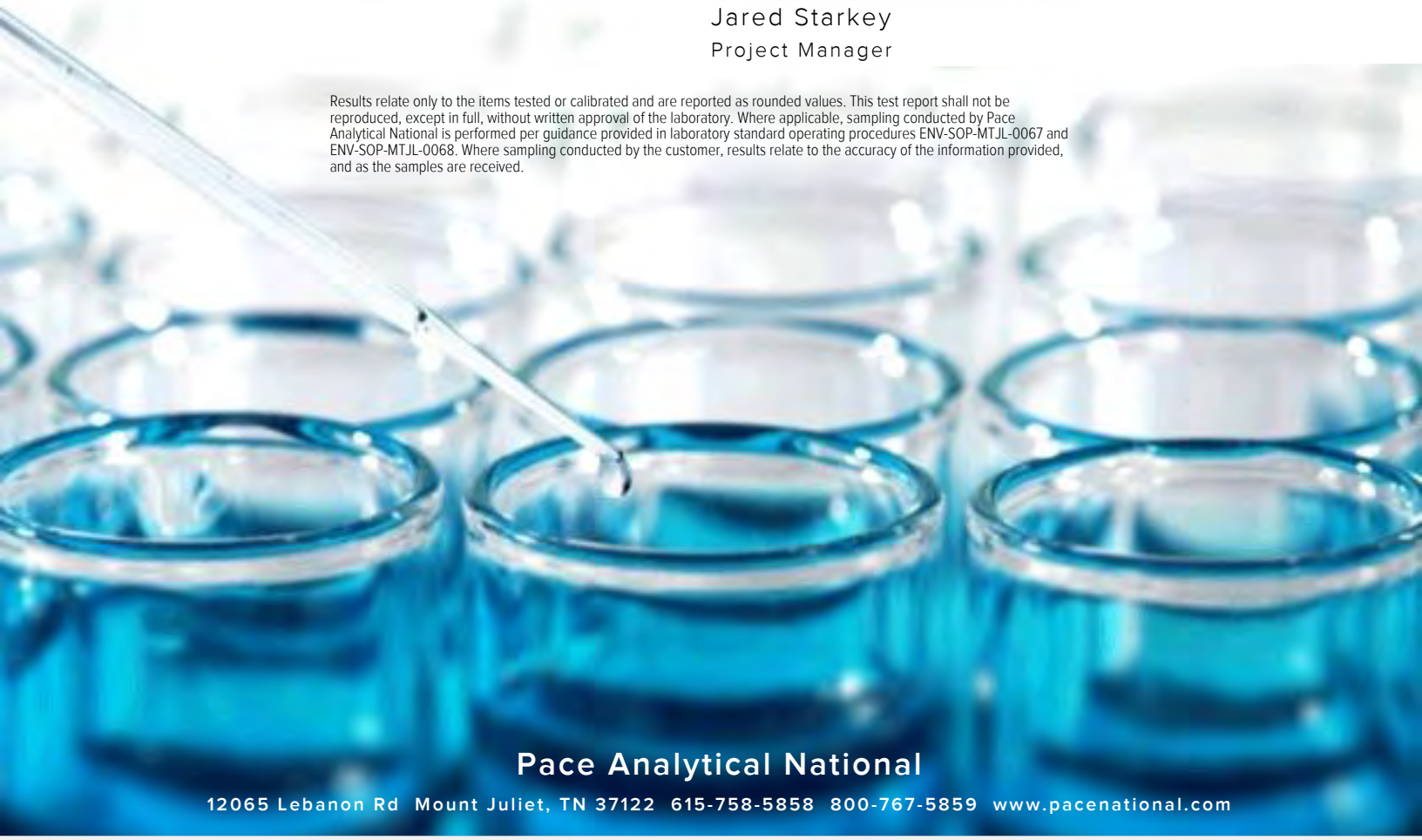
## PES Environmental, Inc.- WA

| | |
|---|---|
| Sample Delivery Group: | L1552408 |
| Samples Received: | 11/01/2022 |
| Project Number: | 1413001.10.701.02 |
| Description: | American Linen |
| Report To: | Brian O'Neal/Bill Haldeman |
| | 2101 Fourth Ave., Suite 1310 |
| | Seattle, WA 98121 |

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## MW-9-103122 L1552408-01 GW

Collected by: ARS | Collected date/time: 10/31/22 09:08 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957551 | 1 | 11/11/22 15:41 | 11/11/22 15:41 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1952474 | 1 | 11/01/22 20:45 | 11/01/22 20:45 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959754 | 1 | 11/15/22 21:01 | 11/15/22 21:01 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957860 | 1 | 11/11/22 14:18 | 11/12/22 16:10 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method NWTPHGX | WG1954579 | 1 | 11/05/22 02:03 | 11/05/22 02:03 | MGF | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953648 | 1 | 11/03/22 12:01 | 11/03/22 12:01 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1953994 | 1 | 11/03/22 17:53 | 11/03/22 17:53 | ADM | Mt. Juliet, TN |

## MW-156-103122 L1552408-02 GW

Collected by: ARS | Collected date/time: 10/31/22 10:31 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957551 | 1 | 11/11/22 15:45 | 11/11/22 15:45 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1952474 | 1 | 11/01/22 20:58 | 11/01/22 20:58 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959754 | 1 | 11/15/22 21:20 | 11/15/22 21:20 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957860 | 1 | 11/11/22 14:18 | 11/12/22 16:13 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953648 | 1 | 11/03/22 12:04 | 11/03/22 12:04 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953876 | 10 | 11/03/22 15:07 | 11/03/22 15:07 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1953994 | 1 | 11/03/22 18:12 | 11/03/22 18:12 | ADM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1955442 | 20 | 11/09/22 04:28 | 11/09/22 04:28 | JAH | Mt. Juliet, TN |

## MW120-103122 L1552408-03 GW

Collected by: ARS | Collected date/time: 10/31/22 09:45 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957551 | 1 | 11/11/22 15:49 | 11/11/22 15:49 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1952474 | 1 | 11/01/22 21:11 | 11/01/22 21:11 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959754 | 1 | 11/15/22 21:36 | 11/15/22 21:36 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957860 | 1 | 11/11/22 14:18 | 11/12/22 16:16 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953648 | 1 | 11/03/22 12:07 | 11/03/22 12:07 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1953994 | 1 | 11/03/22 18:31 | 11/03/22 18:31 | ADM | Mt. Juliet, TN |

## MW-142-103122 L1552408-04 GW

Collected by: ARS | Collected date/time: 10/31/22 11:21 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957551 | 1 | 11/11/22 16:00 | 11/11/22 16:00 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1952474 | 1 | 11/01/22 21:23 | 11/01/22 21:23 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959754 | 1 | 11/15/22 21:58 | 11/15/22 21:58 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957860 | 1 | 11/11/22 14:18 | 11/12/22 16:20 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953648 | 1 | 11/03/22 12:10 | 11/03/22 12:10 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953876 | 10 | 11/03/22 15:10 | 11/03/22 15:10 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1953994 | 1 | 11/03/22 18:50 | 11/03/22 18:50 | ADM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1955442 | 1 | 11/09/22 03:11 | 11/09/22 03:11 | JAH | Mt. Juliet, TN |

## MW-980-103122 L1552408-05 GW

Collected by: ARS | Collected date/time: 10/31/22 12:00 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957551 | 1 | 11/11/22 16:04 | 11/11/22 16:04 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1952474 | 1 | 11/01/22 21:36 | 11/01/22 21:36 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959754 | 1 | 11/15/22 22:23 | 11/15/22 22:23 | SJF | Mt. Juliet, TN |

## MW-980-103122 L1552408-05 GW

Collected by: ARS | Collected date/time: 10/31/22 12:00 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Metals (ICPMS) by Method 6020B | WG1957860 | 1 | 11/11/22 14:18 | 11/12/22 16:23 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953648 | 1 | 11/03/22 12:13 | 11/03/22 12:13 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953876 | 10 | 11/03/22 15:12 | 11/03/22 15:12 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1955442 | 5 | 11/09/22 04:48 | 11/09/22 04:48 | JAH | Mt. Juliet, TN |

## MW-159-103122 L1552408-06 GW

Collected by: ARS | Collected date/time: 10/31/22 12:02 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957551 | 1 | 11/11/22 16:08 | 11/11/22 16:08 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1952474 | 1 | 11/01/22 21:49 | 11/01/22 21:49 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962430 | 1 | 11/19/22 21:16 | 11/19/22 21:16 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957860 | 1 | 11/11/22 14:18 | 11/12/22 16:26 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953648 | 1 | 11/03/22 12:19 | 11/03/22 12:19 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953876 | 10 | 11/03/22 15:15 | 11/03/22 15:15 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1955442 | 1 | 11/09/22 03:31 | 11/09/22 03:31 | JAH | Mt. Juliet, TN |

## MW127-103122 L1552408-07 GW

Collected by: ARS | Collected date/time: 10/31/22 12:57 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957551 | 1 | 11/11/22 16:12 | 11/11/22 16:12 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1952474 | 1 | 11/01/22 22:28 | 11/01/22 22:28 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962430 | 1 | 11/19/22 22:12 | 11/19/22 22:12 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957860 | 1 | 11/11/22 14:18 | 11/12/22 16:30 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953648 | 1 | 11/03/22 12:22 | 11/03/22 12:22 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1953994 | 1 | 11/03/22 19:09 | 11/03/22 19:09 | ADM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1955442 | 1 | 11/09/22 03:50 | 11/09/22 03:50 | JAH | Mt. Juliet, TN |

## MW125-103122 L1552408-08 GW

Collected by: ARS | Collected date/time: 10/31/22 14:04 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957556 | 1 | 11/13/22 07:00 | 11/13/22 07:00 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1952474 | 1 | 11/01/22 22:40 | 11/01/22 22:40 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962430 | 1 | 11/19/22 23:05 | 11/19/22 23:05 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957860 | 1 | 11/11/22 14:18 | 11/12/22 16:33 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method NWTPHGX | WG1956886 | 1 | 11/10/22 07:48 | 11/10/22 07:48 | MGF | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953876 | 1 | 11/03/22 15:23 | 11/03/22 15:23 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1955442 | 1 | 11/09/22 04:09 | 11/09/22 04:09 | JAH | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Sample Delivery Group (SDG) Narrative

**pH outside of method requirement.**

| Lab Sample ID | Project Sample ID | Method |
|---|---|---|
| L1552408-04 | MW-142-103122 | 8260D |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 557000 | | 8450 | 20000 | 1 | 11/11/2022 15:41 | WG1957551 |

Sample Narrative:

L1552408-01 WG1957551: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 32600 | | 379 | 1000 | 1 | 11/01/2022 20:45 | WG1952474 |
| Nitrate | 1040 | | 48.0 | 100 | 1 | 11/01/2022 20:45 | WG1952474 |
| Sulfate | 9080 | | 594 | 5000 | 1 | 11/01/2022 20:45 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4250 | | 102 | 1000 | 1 | 11/15/2022 21:01 | WG1959754 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 12800 | | 28.1 | 100 | 1 | 11/12/2022 16:10 | WG1957860 |
| Manganese | 2810 | | 0.704 | 5.00 | 1 | 11/12/2022 16:10 | WG1957860 |

## Volatile Organic Compounds (GC) by Method NWTPHGX

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | U | | 31.6 | 100 | 1 | 11/05/2022 02:03 | WG1954579 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *94.7* | | | *78.0-120* | | *11/05/2022 02:03* | WG1954579 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 187 | | 0.287 | 0.678 | 1 | 11/03/2022 12:01 | WG1953648 |
| Ethane | 1.67 | | 0.296 | 1.29 | 1 | 11/03/2022 12:01 | WG1953648 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/03/2022 12:01 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.38 | C5 | 0.548 | 1.00 | 1 | 11/03/2022 17:53 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| Benzene | 0.0280 | J | 0.0160 | 0.0400 | 1 | 11/03/2022 17:53 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 17:53 | WG1953994 |
| Bromomethane | U | C3 | 0.148 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| cis-1,2-Dichloroethene | 0.0970 | J | 0.0276 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 17:53 | WG1953994 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 17:53 | WG1953994 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 17:53 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 17:53 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 17:53 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 17:53 | WG1953994 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 17:53 | WG1953994 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| Vinyl chloride | 0.342 | | 0.0273 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 17:53 | WG1953994 |
| Ethyl Ether | 0.220 | | 0.0170 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 17:53 | WG1953994 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *11/03/2022 17:53* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/03/2022 17:53* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *97.7* | | | *70.0-130* | | *11/03/2022 17:53* | WG1953994 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 354000 | | 8450 | 20000 | 1 | 11/11/2022 15:45 | WG1957551 |

Sample Narrative:

L1552408-02 WG1957551: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 43600 | | 379 | 1000 | 1 | 11/01/2022 20:58 | WG1952474 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/01/2022 20:58 | WG1952474 |
| Sulfate | 49500 | | 594 | 5000 | 1 | 11/01/2022 20:58 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 8450 | | 102 | 1000 | 1 | 11/15/2022 21:20 | WG1959754 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 4320 | | 28.1 | 100 | 1 | 11/12/2022 16:13 | WG1957860 |
| Manganese | 3630 | | 0.704 | 5.00 | 1 | 11/12/2022 16:13 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 19900 | | 2.87 | 6.78 | 10 | 11/03/2022 15:07 | WG1953876 |
| Ethane | 65.1 | | 0.296 | 1.29 | 1 | 11/03/2022 12:04 | WG1953648 |
| Ethene | 3.63 | | 0.422 | 1.27 | 1 | 11/03/2022 12:04 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/03/2022 18:12 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| Benzene | 0.184 | | 0.0160 | 0.0400 | 1 | 11/03/2022 18:12 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 18:12 | WG1953994 |
| Bromomethane | U | C3 | 0.148 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,1-Dichloroethane | 0.111 | | 0.0230 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,1-Dichloroethene | 2.32 | | 0.0200 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| cis-1,2-Dichloroethene | 523 | | 0.552 | 2.00 | 20 | 11/09/2022 04:28 | WG1955442 |
| trans-1,2-Dichloroethene | 3.23 | | 0.0572 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,2-Dichloropropane | 0.167 | J | 0.0508 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 18:12 | WG1953994 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 18:12 | WG1953994 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 18:12 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 18:12 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 18:12 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 18:12 | WG1953994 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| Tetrachloroethene | 648 | | 0.560 | 2.00 | 20 | 11/09/2022 04:28 | WG1955442 |
| Toluene | 0.0580 | J | 0.0500 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| Trichloroethene | 249 | | 0.320 | 0.800 | 20 | 11/09/2022 04:28 | WG1955442 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| Vinyl chloride | 0.757 | | 0.0273 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 18:12 | WG1953994 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| Tetrahydrofuran | 0.943 | | 0.0900 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 18:12 | WG1953994 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/03/2022 18:12* | WG1953994 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/09/2022 04:28* | WG1955442 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/03/2022 18:12* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *11/09/2022 04:28* | WG1955442 |
| *(S) 1,2-Dichloroethane-d4* | *95.6* | | | *70.0-130* | | *11/03/2022 18:12* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *97.4* | | | *70.0-130* | | *11/09/2022 04:28* | WG1955442 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 189000 | | 8450 | 20000 | 1 | 11/11/2022 15:49 | WG1957551 |

Sample Narrative:

L1552408-03 WG1957551: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 20700 | | 379 | 1000 | 1 | 11/01/2022 21:11 | WG1952474 |
| Nitrate | 1420 | | 48.0 | 100 | 1 | 11/01/2022 21:11 | WG1952474 |
| Sulfate | 79600 | | 594 | 5000 | 1 | 11/01/2022 21:11 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 1580 | B | 102 | 1000 | 1 | 11/15/2022 21:36 | WG1959754 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 5000 | | 28.1 | 100 | 1 | 11/12/2022 16:16 | WG1957860 |
| Manganese | 407 | | 0.704 | 5.00 | 1 | 11/12/2022 16:16 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 117 | | 0.287 | 0.678 | 1 | 11/03/2022 12:07 | WG1953648 |
| Ethane | 1.35 | | 0.296 | 1.29 | 1 | 11/03/2022 12:07 | WG1953648 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/03/2022 12:07 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/03/2022 18:31 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 18:31 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 18:31 | WG1953994 |
| Bromomethane | U | C3 | 0.148 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| Chloroform | 0.100 | J | 0.0166 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,1-Dichloroethane | 1.63 | | 0.0230 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,2-Dichloroethane | 0.260 | | 0.0190 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,1-Dichloroethene | 0.337 | | 0.0200 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| cis-1,2-Dichloroethene | 24.9 | | 0.0276 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| trans-1,2-Dichloroethene | 0.173 | J | 0.0572 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,2-Dichloropropane | 0.612 | | 0.0508 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 18:31 | WG1953994 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 18:31 | WG1953994 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 18:31 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 18:31 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 18:31 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 18:31 | WG1953994 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | 0.358 | | 0.0270 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| Tetrachloroethene | 61.8 | | 0.0280 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,1,1-Trichloroethane | 0.214 | | 0.0110 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| Trichloroethene | 17.7 | | 0.0160 | 0.0400 | 1 | 11/03/2022 18:31 | WG1953994 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| Vinyl chloride | 0.397 | | 0.0273 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 18:31 | WG1953994 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| Tetrahydrofuran | 0.373 | J | 0.0900 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 18:31 | WG1953994 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| *(S) Toluene-d8* | *103* | | | *75.0-131* | | *11/03/2022 18:31* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/03/2022 18:31* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *98.0* | | | *70.0-130* | | *11/03/2022 18:31* | WG1953994 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 1010000 | | 8450 | 20000 | 1 | 11/11/2022 16:00 | WG1957551 |

Sample Narrative:

L1552408-04 WG1957551: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 30900 | | 379 | 1000 | 1 | 11/01/2022 21:23 | WG1952474 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/01/2022 21:23 | WG1952474 |
| Sulfate | 15500 | | 594 | 5000 | 1 | 11/01/2022 21:23 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 16000 | | 102 | 1000 | 1 | 11/15/2022 21:58 | WG1959754 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 9360 | | 28.1 | 100 | 1 | 11/12/2022 16:20 | WG1957860 |
| Manganese | 5100 | | 0.704 | 5.00 | 1 | 11/12/2022 16:20 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 9630 | | 2.87 | 6.78 | 10 | 11/03/2022 15:10 | WG1953876 |
| Ethane | 37.3 | | 0.296 | 1.29 | 1 | 11/03/2022 12:10 | WG1953648 |
| Ethene | 13.1 | | 0.422 | 1.27 | 1 | 11/03/2022 12:10 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 2.33 | C5 | 0.548 | 1.00 | 1 | 11/03/2022 18:50 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| Benzene | 0.263 | | 0.0160 | 0.0400 | 1 | 11/03/2022 18:50 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 18:50 | WG1953994 |
| Bromomethane | U | C3 | 0.148 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,1-Dichloroethene | 0.0900 | J | 0.0200 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| cis-1,2-Dichloroethene | 19.1 | | 0.0276 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| trans-1,2-Dichloroethene | 0.233 | | 0.0572 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 18:50 | WG1953994 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 18:50 | WG1953994 |
| Isopropylbenzene | 0.0360 | J | 0.0345 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 18:50 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 18:50 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 18:50 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 18:50 | WG1953994 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 03:11 | WG1955442 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| Trichloroethene | 0.0850 | | 0.0160 | 0.0400 | 1 | 11/09/2022 03:11 | WG1955442 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| Vinyl chloride | 40.0 | | 0.0273 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 18:50 | WG1953994 |
| Ethyl Ether | 0.109 | | 0.0170 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| Tetrahydrofuran | 1.16 | | 0.0900 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 18:50 | WG1953994 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| *(S) Toluene-d8* | *103* | | | *75.0-131* | | *11/03/2022 18:50* | WG1953994 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/09/2022 03:11* | WG1955442 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/03/2022 18:50* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/09/2022 03:11* | WG1955442 |
| *(S) 1,2-Dichloroethane-d4* | *94.9* | | | *70.0-130* | | *11/03/2022 18:50* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *96.4* | | | *70.0-130* | | *11/09/2022 03:11* | WG1955442 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 1020000 | | 8450 | 20000 | 1 | 11/11/2022 16:04 | WG1957551 |

Sample Narrative:

L1552408-05 WG1957551: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 31200 | | 379 | 1000 | 1 | 11/01/2022 21:36 | WG1952474 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/01/2022 21:36 | WG1952474 |
| Sulfate | 16000 | | 594 | 5000 | 1 | 11/01/2022 21:36 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 15700 | | 102 | 1000 | 1 | 11/15/2022 22:23 | WG1959754 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 9210 | | 28.1 | 100 | 1 | 11/12/2022 16:23 | WG1957860 |
| Manganese | 5130 | | 0.704 | 5.00 | 1 | 11/12/2022 16:23 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 9280 | | 2.87 | 6.78 | 10 | 11/03/2022 15:12 | WG1953876 |
| Ethane | 37.1 | | 0.296 | 1.29 | 1 | 11/03/2022 12:13 | WG1953648 |
| Ethene | 12.8 | | 0.422 | 1.27 | 1 | 11/03/2022 12:13 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 2.74 | 5.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Acrylonitrile | U | | 0.380 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| Benzene | U | | 0.0800 | 0.200 | 5 | 11/09/2022 04:48 | WG1955442 |
| Bromobenzene | U | | 0.210 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| Bromodichloromethane | U | | 0.158 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| Bromoform | U | | 1.20 | 5.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Bromomethane | U | J3 | 0.740 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| n-Butylbenzene | U | | 0.765 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| sec-Butylbenzene | U | | 0.505 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| tert-Butylbenzene | U | | 0.310 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Carbon tetrachloride | U | | 0.216 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Chlorobenzene | U | | 0.115 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| Chlorodibromomethane | U | | 0.0900 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| Chloroethane | U | J3 | 0.216 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Chloroform | U | | 0.0830 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| Chloromethane | U | C3 | 0.278 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| 2-Chlorotoluene | U | J3 | 0.184 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| 4-Chlorotoluene | U | | 0.226 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,2-Dibromo-3-Chloropropane | U | | 1.02 | 5.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,2-Dibromoethane | U | | 0.105 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.200 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,2-Dichlorobenzene | U | | 0.290 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,3-Dichlorobenzene | U | | 0.340 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,4-Dichlorobenzene | U | | 0.394 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Dichlorodifluoromethane | U | C3 | 0.164 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,1-Dichloroethane | U | | 0.115 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,2-Dichloroethane | U | | 0.0950 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,1-Dichloroethene | U | | 0.100 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| cis-1,2-Dichloroethene | 22.3 | | 0.138 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| trans-1,2-Dichloroethene | U | | 0.286 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,2-Dichloropropane | U | | 0.254 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,1-Dichloropropene | U | | 0.140 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,3-Dichloropropane | U | | 0.350 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| cis-1,3-Dichloropropene | U | | 0.136 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| trans-1,3-Dichloropropene | U | | 0.306 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 2,2-Dichloropropane | U | | 0.159 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| Di-isopropyl ether | U | | 0.0700 | 0.200 | 5 | 11/09/2022 04:48 | WG1955442 |
| Ethylbenzene | U | | 0.106 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| Hexachloro-1,3-butadiene | U | | 2.54 | 5.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Isopropylbenzene | U | | 0.173 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| p-Isopropyltoluene | U | | 0.466 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 2-Butanone (MEK) | U | | 2.50 | 5.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Methylene Chloride | U | | 1.33 | 5.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 4-Methyl-2-pentanone (MIBK) | U | | 2.00 | 5.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Methyl tert-butyl ether | U | | 0.0590 | 0.200 | 5 | 11/09/2022 04:48 | WG1955442 |
| Naphthalene | U | | 0.620 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| n-Propylbenzene | U | | 0.236 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Styrene | U | | 0.545 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,1,1,2-Tetrachloroethane | U | | 0.100 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0780 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.135 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| Tetrachloroethene | 0.785 | | 0.140 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| Toluene | U | | 0.250 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.125 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.965 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,1,1-Trichloroethane | U | | 0.0550 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,1,2-Trichloroethane | U | | 0.177 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| Trichloroethene | U | | 0.0800 | 0.200 | 5 | 11/09/2022 04:48 | WG1955442 |
| Trichlorofluoromethane | U | | 0.100 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,2,3-Trichloropropane | U | | 1.02 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,2,4-Trimethylbenzene | U | | 0.232 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,2,3-Trimethylbenzene | U | | 0.230 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,3,5-Trimethylbenzene | U | | 0.216 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Vinyl chloride | 43.2 | | 0.137 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| Xylenes, Total | U | | 0.955 | 1.30 | 5 | 11/09/2022 04:48 | WG1955442 |
| Ethyl Ether | U | | 0.0850 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| Tetrahydrofuran | 1.35 | J | 0.450 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| Iodomethane | U | | 1.21 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| Allyl chloride | U | | 2.90 | 5.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Trans-1,4-Dichloro-2-butene | U | | 0.280 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/09/2022 04:48* | WG1955442 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/09/2022 04:48* | WG1955442 |
| *(S) 1,2-Dichloroethane-d4* | *93.8* | | | *70.0-130* | | *11/09/2022 04:48* | WG1955442 |

**Sample Narrative:**

L1552408-05 WG1955442: Lowest possible dilution due to sample foaming.

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 325000 | | 8450 | 20000 | 1 | 11/11/2022 16:08 | WG1957551 |

Sample Narrative:

L1552408-06 WG1957551: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 11600 | | 379 | 1000 | 1 | 11/01/2022 21:49 | WG1952474 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/01/2022 21:49 | WG1952474 |
| Sulfate | U | | 594 | 5000 | 1 | 11/01/2022 21:49 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 5260 | | 102 | 1000 | 1 | 11/19/2022 21:16 | WG1962430 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 6810 | | 28.1 | 100 | 1 | 11/12/2022 16:26 | WG1957860 |
| Manganese | 3700 | | 0.704 | 5.00 | 1 | 11/12/2022 16:26 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 12800 | | 2.87 | 6.78 | 10 | 11/03/2022 15:15 | WG1953876 |
| Ethane | 21.1 | | 0.296 | 1.29 | 1 | 11/03/2022 12:19 | WG1953648 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/03/2022 12:19 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 03:31 | WG1955442 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 03:31 | WG1955442 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 03:31 | WG1955442 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| Chloroethane | U | J3 | 0.0432 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| Chloromethane | U | C3 | 0.0556 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| 2-Chlorotoluene | U | J3 | 0.0368 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| cis-1,2-Dichloroethene | 0.448 | | 0.0276 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 03:31 | WG1955442 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 03:31 | WG1955442 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 03:31 | WG1955442 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 03:31 | WG1955442 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 03:31 | WG1955442 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 03:31 | WG1955442 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 03:31 | WG1955442 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| Vinyl chloride | 0.0960 | J | 0.0273 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 03:31 | WG1955442 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 03:31 | WG1955442 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| *(S) Toluene-d8* | *110* | | | *75.0-131* | | *11/09/2022 03:31* | WG1955442 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *11/09/2022 03:31* | WG1955442 |
| *(S) 1,2-Dichloroethane-d4* | *96.1* | | | *70.0-130* | | *11/09/2022 03:31* | WG1955442 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 144000 | | 8450 | 20000 | 1 | 11/11/2022 16:12 | WG1957551 |

Sample Narrative:

L1552408-07 WG1957551: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 26900 | | 379 | 1000 | 1 | 11/01/2022 22:28 | WG1952474 |
| Nitrate | 870 | | 48.0 | 100 | 1 | 11/01/2022 22:28 | WG1952474 |
| Sulfate | 53000 | | 594 | 5000 | 1 | 11/01/2022 22:28 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1180 | B | 102 | 1000 | 1 | 11/19/2022 22:12 | WG1962430 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 91.0 | J | 28.1 | 100 | 1 | 11/12/2022 16:30 | WG1957860 |
| Manganese | 158 | | 0.704 | 5.00 | 1 | 11/12/2022 16:30 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 7.97 | | 0.287 | 0.678 | 1 | 11/03/2022 12:22 | WG1953648 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/03/2022 12:22 | WG1953648 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/03/2022 12:22 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/03/2022 19:09 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 19:09 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 19:09 | WG1953994 |
| Bromomethane | U | C3 | 0.148 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,1-Dichloroethane | 0.397 | | 0.0230 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,1-Dichloroethene | 0.0480 | J | 0.0200 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| cis-1,2-Dichloroethene | 0.635 | | 0.0276 | 0.100 | 1 | 11/09/2022 03:50 | WG1955442 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,2-Dichloropropane | 0.0800 | J | 0.0508 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 19:09 | WG1953994 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 19:09 | WG1953994 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 19:09 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 19:09 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 19:09 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 19:09 | WG1953994 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 03:50 | WG1955442 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,1,1-Trichloroethane | 0.0990 | J | 0.0110 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 03:50 | WG1955442 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| Vinyl chloride | 0.169 | | 0.0273 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 19:09 | WG1953994 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 19:09 | WG1953994 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| *(S) Toluene-d8* | *103* | | | *75.0-131* | | *11/03/2022 19:09* | WG1953994 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/09/2022 03:50* | WG1955442 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/03/2022 19:09* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *98.6* | | | *67.0-138* | | *11/09/2022 03:50* | WG1955442 |
| *(S) 1,2-Dichloroethane-d4* | *93.9* | | | *70.0-130* | | *11/03/2022 19:09* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *96.0* | | | *70.0-130* | | *11/09/2022 03:50* | WG1955442 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 366000 | | 8450 | 20000 | 1 | 11/13/2022 07:00 | WG1957556 |

Sample Narrative:

L1552408-08 WG1957556: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 18600 | | 379 | 1000 | 1 | 11/01/2022 22:40 | WG1952474 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/01/2022 22:40 | WG1952474 |
| Sulfate | U | | 594 | 5000 | 1 | 11/01/2022 22:40 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 7920 | | 102 | 1000 | 1 | 11/19/2022 23:05 | WG1962430 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 9340 | | 28.1 | 100 | 1 | 11/12/2022 16:33 | WG1957860 |
| Manganese | 3220 | | 0.704 | 5.00 | 1 | 11/12/2022 16:33 | WG1957860 |

## Volatile Organic Compounds (GC) by Method NWTPHGX

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | 64.0 | B J | 31.6 | 100 | 1 | 11/10/2022 07:48 | WG1956886 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *101* | | | *78.0-120* | | *11/10/2022 07:48* | WG1956886 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 5620 | | 0.287 | 0.678 | 1 | 11/03/2022 15:23 | WG1953876 |
| Ethane | 1.70 | | 0.296 | 1.29 | 1 | 11/03/2022 15:23 | WG1953876 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/03/2022 15:23 | WG1953876 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 04:09 | WG1955442 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 04:09 | WG1955442 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 04:09 | WG1955442 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloroethane | U | J3 | 0.0432 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| Chloromethane | U | C3 | 0.0556 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| 2-Chlorotoluene | U | J3 | 0.0368 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 04:09 | WG1955442 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 04:09 | WG1955442 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 04:09 | WG1955442 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 04:09 | WG1955442 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 04:09 | WG1955442 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 04:09 | WG1955442 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 04:09 | WG1955442 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 04:09 | WG1955442 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 04:09 | WG1955442 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/09/2022 04:09* | WG1955442 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/09/2022 04:09* | WG1955442 |
| *(S) 1,2-Dichloroethane-d4* | *94.6* | | | *70.0-130* | | *11/09/2022 04:09* | WG1955442 |

## Method Blank (MB)

(MB) R3860383-2 11/11/22 14:26

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1552392-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552392-01 11/11/22 14:55 • (DUP) R3860383-4 11/11/22 15:00

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 806000 | 803000 | 1 | 0.360 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

## L1552408-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1552408-07 11/11/22 16:12 • (DUP) R3860383-6 11/11/22 16:17

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 144000 | 146000 | 1 | 1.05 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3860383-1 11/11/22 14:22

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 102000 | 102 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3860432-2 11/13/22 06:51

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:
BLANK: Endpoint pH 4.5

## L1552522-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552522-01 11/13/22 07:26 • (DUP) R3860432-4 11/13/22 07:30

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 81400 | 80400 | 1 | 1.14 | | 20 |

Sample Narrative:
OS: Endpoint pH 4.5 headspace
DUP: Endpoint pH 4.5

## L1552919-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552919-01 11/13/22 08:25 • (DUP) R3860432-6 11/13/22 08:29

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 871000 | 857000 | 1 | 1.63 | | 20 |

Sample Narrative:
OS: Endpoint pH 4.5 headspace
DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3860432-1 11/13/22 06:41

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 103000 | 103 | 90.0-110 | |

Sample Narrative:
LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3855921-1 11/01/22 11:00

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1552392-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552392-01 11/01/22 17:58 • (DUP) R3855921-3 11/01/22 18:11

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 28200 | 27400 | 1 | 2.65 | | 15 |
| Nitrate | 2990 | 2920 | 1 | 2.40 | | 15 |

## L1552420-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1552420-04 11/01/22 23:32 • (DUP) R3855921-6 11/01/22 23:44

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 79100 | 79900 | 1 | 0.986 | | 15 |
| Nitrate | U | U | 1 | 0.000 | | 15 |
| Sulfate | U | U | 1 | 0.000 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3855921-2 11/01/22 11:13

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 39900 | 99.6 | 80.0-120 | |
| Nitrate | 8000 | 7860 | 98.2 | 80.0-120 | |
| Sulfate | 40000 | 40300 | 101 | 80.0-120 | |

## L1552392-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552392-01 11/01/22 17:58 • (MS) R3855921-4 11/01/22 18:24 • (MSD) R3855921-5 11/01/22 18:37

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 28200 | 75700 | 76900 | 95.0 | 97.5 | 1 | 80.0-120 | | | 1.62 | 15 |
| Nitrate | 5000 | 2990 | 7430 | 7560 | 88.7 | 91.4 | 1 | 80.0-120 | | | 1.78 | 15 |

## L1552420-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1552420-04 11/01/22 23:32 • (MS) R3855921-7 11/01/22 23:57

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 79100 | 122000 | 85.9 | 1 | 80.0-120 | |
| Nitrate | 5000 | U | 4290 | 85.8 | 1 | 80.0-120 | |
| Sulfate | 50000 | U | 44200 | 88.4 | 1 | 80.0-120 | |

# QUALITY CONTROL SUMMARY

L1552408-01,02,03,04,05

## Method Blank (MB)

(MB) R3861620-2 11/15/22 08:15

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 382 | J | 102 | 1000 |

## L1552392-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1552392-07 11/15/22 18:50 • (DUP) R3861620-5 11/15/22 19:07

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 5820 | 5690 | 1 | 2.33 | | 20 |

## L1552408-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1552408-05 11/15/22 22:23 • (DUP) R3861620-8 11/15/22 22:48

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 15700 | 15600 | 1 | 0.319 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3861620-1 11/15/22 07:59

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 79800 | 106 | 85.0-115 | |

## L1552392-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552392-06 11/15/22 17:52 • (MS) R3861620-3 11/15/22 18:13 • (MSD) R3861620-4 11/15/22 18:33

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 1500 | 52000 | 53200 | 101 | 103 | 1 | 80.0-120 | | | 2.24 | 20 |

## L1552392-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552392-08 11/15/22 20:01 • (MS) R3861620-6 11/15/22 20:23 • (MSD) R3861620-7 11/15/22 20:44

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 6060 | 56200 | 56700 | 100 | 101 | 1 | 80.0-120 | | | 0.992 | 20 |

## Method Blank (MB)

(MB) R3863117-2 11/19/22 10:06

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 357 | J | 102 | 1000 |

## L1552408-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1552408-08 11/19/22 23:05 • (DUP) R3863117-7 11/19/22 23:23

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 7920 | 8030 | 1 | 1.40 | | 20 |

## L1552420-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552420-01 11/20/22 00:13 • (DUP) R3863117-8 11/20/22 00:26

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1860 | 1850 | 1 | 0.700 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3863117-1 11/19/22 09:54

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 76000 | 101 | 85.0-115 | |

## L1552408-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552408-06 11/19/22 21:16 • (MS) R3863117-3 11/19/22 21:41 • (MSD) R3863117-4 11/19/22 21:59

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 5260 | 59300 | 59000 | 108 | 108 | 1 | 80.0-120 | | | 0.541 | 20 |

## L1552408-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552408-07 11/19/22 22:12 • (MS) R3863117-5 11/19/22 22:30 • (MSD) R3863117-6 11/19/22 22:47

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 1180 | 54600 | 54600 | 107 | 107 | 1 | 80.0-120 | | | 0.0366 | 20 |

## Method Blank (MB)

(MB) R3860332-1 11/12/22 15:29

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3860332-2 11/12/22 15:32

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Iron | 5000 | 5260 | 105 | 80.0-120 | |
| Manganese | 50.0 | 53.4 | 107 | 80.0-120 | |

## L1552392-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552392-04 11/12/22 15:36 • (MS) R3860332-4 11/12/22 15:42 • (MSD) R3860332-5 11/12/22 15:46

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iron | 5000 | 445 | 5490 | 5770 | 101 | 107 | 1 | 75.0-125 | | | 4.93 | 20 |
| Manganese | 50.0 | 184 | 238 | 238 | 108 | 108 | 1 | 75.0-125 | | | 0.151 | 20 |

## Method Blank (MB)

(MB) R3858889-3 11/04/22 23:51

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | U | | 31.6 | 100 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *93.5* | | | *78.0-120* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3858889-1 11/04/22 22:44 • (LCSD) R3858889-2 11/04/22 23:10

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | 5500 | 5750 | 5890 | 105 | 107 | 70.0-124 | | | 2.41 | 20 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | *110* | *110* | *78.0-120* | | | | |

## Method Blank (MB)

(MB) R3859352-4 11/09/22 23:05

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | 75.8 | J | 31.6 | 100 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *102* | | | *78.0-120* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859352-2 11/09/22 22:00 • (LCSD) R3859352-3 11/09/22 22:22

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | 5500 | 5660 | 6290 | 103 | 114 | 70.0-124 | | | 10.5 | 20 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | *98.4* | *109* | *78.0-120* | | | | |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Method Blank (MB)

(MB) R3856526-2 11/03/22 11:17

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1552292-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552292-01 11/03/22 11:25 • (DUP) R3856526-3 11/03/22 11:49

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1552392-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1552392-06 11/03/22 11:52 • (DUP) R3856526-4 11/03/22 12:27

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 2.66 | 2.73 | 1 | 2.60 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3856526-1 11/03/22 11:13 • (LCSD) R3856526-5 11/03/22 12:30

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 72.3 | 76.4 | 107 | 113 | 85.0-115 | | | 5.51 | 20 |
| Ethane | 129 | 126 | 135 | 97.7 | 105 | 85.0-115 | | | 6.90 | 20 |
| Ethene | 127 | 127 | 135 | 100 | 106 | 85.0-115 | | | 6.11 | 20 |

## Method Blank (MB)

(MB) R3856713-2 11/03/22 14:02

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1552019-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1552019-09 11/03/22 14:49 • (DUP) R3856713-3 11/03/22 14:53

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 7940 | 9650 | 10 | 19.4 | | 20 |
| Ethane | U | U | 10 | 0.000 | | 20 |
| Ethene | U | U | 10 | 0.000 | | 20 |

## L1552420-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552420-01 11/03/22 15:26 • (DUP) R3856713-4 11/03/22 15:43

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 369 | 393 | 1 | 6.30 | | 20 |
| Ethane | 1.50 | 1.54 | 1 | 2.63 | | 20 |
| Ethene | 2.01 | 2.47 | 1 | 20.5 | P1 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3856713-1 11/03/22 14:00 • (LCSD) R3856713-5 11/03/22 15:50

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 72.7 | 68.8 | 107 | 101 | 85.0-115 | | | 5.51 | 20 |
| Ethane | 129 | 127 | 123 | 98.4 | 95.3 | 85.0-115 | | | 3.20 | 20 |
| Ethene | 127 | 128 | 125 | 101 | 98.4 | 85.0-115 | | | 2.37 | 20 |

## Method Blank (MB)

(MB) R3857691-3 11/03/22 14:11

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3857691-3 11/03/22 14:11

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *101* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *107* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *102* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3857691-1 11/03/22 11:32 • (LCSD) R3857691-2 11/03/22 11:51

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 30.4 | 30.2 | 122 | 121 | 10.0-160 | | | 0.660 | 31 |
| Acrylonitrile | 25.0 | 27.5 | 27.4 | 110 | 110 | 45.0-153 | | | 0.364 | 22 |
| Benzene | 5.00 | 5.05 | 5.29 | 101 | 106 | 70.0-123 | | | 4.64 | 20 |
| Bromobenzene | 5.00 | 5.28 | 5.64 | 106 | 113 | 73.0-121 | | | 6.59 | 20 |
| Bromodichloromethane | 5.00 | 5.36 | 5.60 | 107 | 112 | 73.0-121 | | | 4.38 | 20 |
| Bromoform | 5.00 | 5.01 | 5.29 | 100 | 106 | 64.0-132 | | | 5.44 | 20 |
| Bromomethane | 5.00 | 3.79 | 4.09 | 75.8 | 81.8 | 56.0-147 | | | 7.61 | 20 |
| n-Butylbenzene | 5.00 | 4.92 | 5.33 | 98.4 | 107 | 68.0-135 | | | 8.00 | 20 |
| sec-Butylbenzene | 5.00 | 5.27 | 5.62 | 105 | 112 | 74.0-130 | | | 6.43 | 20 |
| tert-Butylbenzene | 5.00 | 6.26 | 5.71 | 125 | 114 | 75.0-127 | | | 9.19 | 20 |
| Carbon tetrachloride | 5.00 | 5.02 | 5.09 | 100 | 102 | 66.0-128 | | | 1.38 | 20 |
| Chlorobenzene | 5.00 | 4.93 | 5.10 | 98.6 | 102 | 76.0-128 | | | 3.39 | 20 |
| Chlorodibromomethane | 5.00 | 5.17 | 5.32 | 103 | 106 | 74.0-127 | | | 2.86 | 20 |
| Chloroethane | 5.00 | 4.89 | 5.10 | 97.8 | 102 | 61.0-134 | | | 4.20 | 20 |
| Chloroform | 5.00 | 4.87 | 5.03 | 97.4 | 101 | 72.0-123 | | | 3.23 | 20 |
| Chloromethane | 5.00 | 4.77 | 5.16 | 95.4 | 103 | 51.0-138 | | | 7.85 | 20 |
| 2-Chlorotoluene | 5.00 | 5.21 | 5.46 | 104 | 109 | 75.0-124 | | | 4.69 | 20 |
| 4-Chlorotoluene | 5.00 | 5.62 | 5.96 | 112 | 119 | 75.0-124 | | | 5.87 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 5.00 | 5.58 | 100 | 112 | 59.0-130 | | | 11.0 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.02 | 5.32 | 100 | 106 | 74.0-128 | | | 5.80 | 20 |
| Dibromomethane | 5.00 | 5.09 | 5.26 | 102 | 105 | 75.0-122 | | | 3.29 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 4.93 | 5.53 | 98.6 | 111 | 76.0-124 | | | 11.5 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 5.06 | 5.59 | 101 | 112 | 76.0-125 | | | 9.95 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 4.99 | 5.31 | 99.8 | 106 | 77.0-121 | | | 6.21 | 20 |
| Dichlorodifluoromethane | 5.00 | 3.86 | 4.07 | 77.2 | 81.4 | 43.0-156 | | | 5.30 | 20 |
| 1,1-Dichloroethane | 5.00 | 4.85 | 5.10 | 97.0 | 102 | 70.0-127 | | | 5.03 | 20 |
| 1,2-Dichloroethane | 5.00 | 5.19 | 5.30 | 104 | 106 | 65.0-131 | | | 2.10 | 20 |
| 1,1-Dichloroethene | 5.00 | 4.91 | 4.97 | 98.2 | 99.4 | 65.0-131 | | | 1.21 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 4.95 | 5.12 | 99.0 | 102 | 73.0-125 | | | 3.38 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 4.78 | 5.06 | 95.6 | 101 | 71.0-125 | | | 5.69 | 20 |
| 1,2-Dichloropropane | 5.00 | 4.87 | 5.03 | 97.4 | 101 | 74.0-125 | | | 3.23 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.00 | 5.18 | 100 | 104 | 73.0-125 | | | 3.54 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.11 | 5.28 | 102 | 106 | 80.0-125 | | | 3.27 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 4.98 | 5.15 | 99.6 | 103 | 76.0-127 | | | 3.36 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 5.18 | 5.24 | 104 | 105 | 73.0-127 | | | 1.15 | 20 |
| 2,2-Dichloropropane | 5.00 | 5.26 | 4.87 | 105 | 97.4 | 59.0-135 | | | 7.70 | 20 |
| Di-isopropyl ether | 5.00 | 5.03 | 5.09 | 101 | 102 | 60.0-136 | | | 1.19 | 20 |
| Ethylbenzene | 5.00 | 4.64 | 5.15 | 92.8 | 103 | 74.0-126 | | | 10.4 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 5.05 | 6.05 | 101 | 121 | 57.0-150 | | | 18.0 | 20 |
| Isopropylbenzene | 5.00 | 4.86 | 5.12 | 97.2 | 102 | 72.0-127 | | | 5.21 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3857691-1 11/03/22 11:32 • (LCSD) R3857691-2 11/03/22 11:51

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.13 | 5.52 | 103 | 110 | 72.0-133 | | | 7.32 | 20 |
| 2-Butanone (MEK) | 25.0 | 29.1 | 29.1 | 116 | 116 | 30.0-160 | | | 0.000 | 24 |
| Methylene Chloride | 5.00 | 4.76 | 5.10 | 95.2 | 102 | 68.0-123 | | | 6.90 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 27.3 | 27.5 | 109 | 110 | 56.0-143 | | | 0.730 | 20 |
| Methyl tert-butyl ether | 5.00 | 4.88 | 4.86 | 97.6 | 97.2 | 66.0-132 | | | 0.411 | 20 |
| Naphthalene | 5.00 | 4.59 | 5.28 | 91.8 | 106 | 59.0-130 | | | 14.0 | 20 |
| n-Propylbenzene | 5.00 | 5.38 | 5.75 | 108 | 115 | 74.0-126 | | | 6.65 | 20 |
| Styrene | 5.00 | 4.85 | 4.97 | 97.0 | 99.4 | 72.0-127 | | | 2.44 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 4.99 | 5.23 | 99.8 | 105 | 74.0-129 | | | 4.70 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 5.61 | 5.94 | 112 | 119 | 68.0-128 | | | 5.71 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 4.55 | 4.54 | 91.0 | 90.8 | 61.0-139 | | | 0.220 | 20 |
| Tetrachloroethene | 5.00 | 4.93 | 5.16 | 98.6 | 103 | 70.0-136 | | | 4.56 | 20 |
| Toluene | 5.00 | 4.95 | 5.24 | 99.0 | 105 | 75.0-121 | | | 5.69 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.78 | 5.20 | 95.6 | 104 | 59.0-139 | | | 8.42 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.60 | 5.31 | 92.0 | 106 | 62.0-137 | | | 14.3 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.27 | 5.39 | 105 | 108 | 69.0-126 | | | 2.25 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 4.83 | 5.08 | 96.6 | 102 | 78.0-123 | | | 5.05 | 20 |
| Trichloroethene | 5.00 | 5.07 | 5.21 | 101 | 104 | 76.0-126 | | | 2.72 | 20 |
| Trichlorofluoromethane | 5.00 | 4.16 | 4.29 | 83.2 | 85.8 | 61.0-142 | | | 3.08 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 5.48 | 5.54 | 110 | 111 | 67.0-129 | | | 1.09 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.18 | 5.42 | 104 | 108 | 70.0-126 | | | 4.53 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 4.63 | 4.97 | 92.6 | 99.4 | 74.0-124 | | | 7.08 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.07 | 5.30 | 101 | 106 | 73.0-127 | | | 4.44 | 20 |
| Vinyl chloride | 5.00 | 4.38 | 4.75 | 87.6 | 95.0 | 63.0-134 | | | 8.11 | 20 |
| Xylenes, Total | 15.0 | 14.8 | 13.9 | 98.7 | 92.7 | 72.0-127 | | | 6.27 | 20 |
| Ethyl ether | 5.00 | 4.66 | 4.82 | 93.2 | 96.4 | 64.0-137 | | | 3.38 | 20 |
| Tetrahydrofuran | 5.00 | 5.53 | 5.22 | 111 | 104 | 37.0-146 | | | 5.77 | 24 |
| Iodomethane | 25.0 | 25.0 | 25.6 | 100 | 102 | 74.0-134 | | | 2.37 | 20 |
| Allyl chloride | 25.0 | 25.5 | 26.2 | 102 | 105 | 70.0-131 | | | 2.71 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 5.97 | 5.89 | 119 | 118 | 45.0-143 | | | 1.35 | 20 |
| *(S) Toluene-d8* | | | | *101* | *102* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *101* | *99.4* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *101* | *99.1* | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R3859541-3 11/08/22 22:23

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | 0.0860 | J | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3859541-3 11/08/22 22:23

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *103* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *104* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *95.1* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859541-1 11/08/22 21:06 • (LCSD) R3859541-2 11/08/22 21:25

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 22.7 | 21.4 | 90.8 | 85.6 | 10.0-160 | | | 5.90 | 31 |
| Acrylonitrile | 25.0 | 26.0 | 25.1 | 104 | 100 | 45.0-153 | | | 3.52 | 22 |
| Benzene | 5.00 | 4.84 | 4.78 | 96.8 | 95.6 | 70.0-123 | | | 1.25 | 20 |
| Bromobenzene | 5.00 | 4.92 | 4.98 | 98.4 | 99.6 | 73.0-121 | | | 1.21 | 20 |
| Bromodichloromethane | 5.00 | 5.05 | 4.84 | 101 | 96.8 | 73.0-121 | | | 4.25 | 20 |
| Bromoform | 5.00 | 4.93 | 4.75 | 98.6 | 95.0 | 64.0-132 | | | 3.72 | 20 |
| Bromomethane | 5.00 | 5.49 | 4.00 | 110 | 80.0 | 56.0-147 | | J3 | 31.4 | 20 |
| n-Butylbenzene | 5.00 | 4.90 | 4.84 | 98.0 | 96.8 | 68.0-135 | | | 1.23 | 20 |
| sec-Butylbenzene | 5.00 | 5.30 | 5.17 | 106 | 103 | 74.0-130 | | | 2.48 | 20 |
| tert-Butylbenzene | 5.00 | 4.99 | 5.21 | 99.8 | 104 | 75.0-127 | | | 4.31 | 20 |
| Carbon tetrachloride | 5.00 | 5.21 | 5.10 | 104 | 102 | 66.0-128 | | | 2.13 | 20 |
| Chlorobenzene | 5.00 | 4.89 | 4.84 | 97.8 | 96.8 | 76.0-128 | | | 1.03 | 20 |
| Chlorodibromomethane | 5.00 | 5.07 | 5.15 | 101 | 103 | 74.0-127 | | | 1.57 | 20 |
| Chloroethane | 5.00 | 4.88 | 3.84 | 97.6 | 76.8 | 61.0-134 | | J3 | 23.9 | 20 |
| Chloroform | 5.00 | 4.94 | 4.77 | 98.8 | 95.4 | 72.0-123 | | | 3.50 | 20 |
| Chloromethane | 5.00 | 3.96 | 3.89 | 79.2 | 77.8 | 51.0-138 | | | 1.78 | 20 |
| 2-Chlorotoluene | 5.00 | 4.45 | 5.49 | 89.0 | 110 | 75.0-124 | | J3 | 20.9 | 20 |
| 4-Chlorotoluene | 5.00 | 5.41 | 5.30 | 108 | 106 | 75.0-124 | | | 2.05 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.40 | 4.24 | 88.0 | 84.8 | 59.0-130 | | | 3.70 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.04 | 5.02 | 101 | 100 | 74.0-128 | | | 0.398 | 20 |
| Dibromomethane | 5.00 | 5.19 | 5.09 | 104 | 102 | 75.0-122 | | | 1.95 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 4.74 | 4.74 | 94.8 | 94.8 | 76.0-124 | | | 0.000 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 5.00 | 4.85 | 100 | 97.0 | 76.0-125 | | | 3.05 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 4.83 | 4.55 | 96.6 | 91.0 | 77.0-121 | | | 5.97 | 20 |
| Dichlorodifluoromethane | 5.00 | 3.42 | 2.95 | 68.4 | 59.0 | 43.0-156 | | | 14.8 | 20 |
| 1,1-Dichloroethane | 5.00 | 4.99 | 4.68 | 99.8 | 93.6 | 70.0-127 | | | 6.41 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.60 | 4.40 | 92.0 | 88.0 | 65.0-131 | | | 4.44 | 20 |
| 1,1-Dichloroethene | 5.00 | 4.86 | 4.61 | 97.2 | 92.2 | 65.0-131 | | | 5.28 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 4.89 | 4.90 | 97.8 | 98.0 | 73.0-125 | | | 0.204 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.20 | 5.04 | 104 | 101 | 71.0-125 | | | 3.12 | 20 |
| 1,2-Dichloropropane | 5.00 | 4.79 | 4.77 | 95.8 | 95.4 | 74.0-125 | | | 0.418 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.07 | 4.75 | 101 | 95.0 | 73.0-125 | | | 6.52 | 20 |
| 1,3-Dichloropropane | 5.00 | 4.80 | 4.90 | 96.0 | 98.0 | 80.0-125 | | | 2.06 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 5.12 | 4.94 | 102 | 98.8 | 76.0-127 | | | 3.58 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 4.77 | 4.87 | 95.4 | 97.4 | 73.0-127 | | | 2.07 | 20 |
| 2,2-Dichloropropane | 5.00 | 5.16 | 5.34 | 103 | 107 | 59.0-135 | | | 3.43 | 20 |
| Di-isopropyl ether | 5.00 | 4.75 | 4.69 | 95.0 | 93.8 | 60.0-136 | | | 1.27 | 20 |
| Ethylbenzene | 5.00 | 4.89 | 4.89 | 97.8 | 97.8 | 74.0-126 | | | 0.000 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 4.63 | 4.34 | 92.6 | 86.8 | 57.0-150 | | | 6.47 | 20 |
| Isopropylbenzene | 5.00 | 5.56 | 5.40 | 111 | 108 | 72.0-127 | | | 2.92 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859541-1 11/08/22 21:06 • (LCSD) R3859541-2 11/08/22 21:25

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.12 | 5.11 | 102 | 102 | 72.0-133 | | | 0.196 | 20 |
| 2-Butanone (MEK) | 25.0 | 26.3 | 25.5 | 105 | 102 | 30.0-160 | | | 3.09 | 24 |
| Methylene Chloride | 5.00 | 4.66 | 4.67 | 93.2 | 93.4 | 68.0-123 | | | 0.214 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 27.8 | 28.4 | 111 | 114 | 56.0-143 | | | 2.14 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.10 | 4.97 | 102 | 99.4 | 66.0-132 | | | 2.58 | 20 |
| Naphthalene | 5.00 | 4.47 | 4.62 | 89.4 | 92.4 | 59.0-130 | | | 3.30 | 20 |
| n-Propylbenzene | 5.00 | 5.42 | 5.46 | 108 | 109 | 74.0-126 | | | 0.735 | 20 |
| Styrene | 5.00 | 5.24 | 5.10 | 105 | 102 | 72.0-127 | | | 2.71 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.12 | 5.00 | 102 | 100 | 74.0-129 | | | 2.37 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.73 | 4.85 | 94.6 | 97.0 | 68.0-128 | | | 2.51 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 4.98 | 4.90 | 99.6 | 98.0 | 61.0-139 | | | 1.62 | 20 |
| Tetrachloroethene | 5.00 | 5.32 | 5.24 | 106 | 105 | 70.0-136 | | | 1.52 | 20 |
| Toluene | 5.00 | 5.03 | 4.98 | 101 | 99.6 | 75.0-121 | | | 0.999 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.48 | 4.91 | 89.6 | 98.2 | 59.0-139 | | | 9.16 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.42 | 4.31 | 88.4 | 86.2 | 62.0-137 | | | 2.52 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.06 | 4.89 | 101 | 97.8 | 69.0-126 | | | 3.42 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 4.92 | 5.06 | 98.4 | 101 | 78.0-123 | | | 2.81 | 20 |
| Trichloroethene | 5.00 | 4.95 | 4.81 | 99.0 | 96.2 | 76.0-126 | | | 2.87 | 20 |
| Trichlorofluoromethane | 5.00 | 5.46 | 4.65 | 109 | 93.0 | 61.0-142 | | | 16.0 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 5.06 | 5.14 | 101 | 103 | 67.0-129 | | | 1.57 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 4.99 | 4.97 | 99.8 | 99.4 | 70.0-126 | | | 0.402 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 4.95 | 4.91 | 99.0 | 98.2 | 74.0-124 | | | 0.811 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.14 | 5.15 | 103 | 103 | 73.0-127 | | | 0.194 | 20 |
| Vinyl chloride | 5.00 | 4.45 | 4.32 | 89.0 | 86.4 | 63.0-134 | | | 2.96 | 20 |
| Xylenes, Total | 15.0 | 15.4 | 15.1 | 103 | 101 | 72.0-127 | | | 1.97 | 20 |
| Ethyl ether | 5.00 | 4.78 | 4.89 | 95.6 | 97.8 | 64.0-137 | | | 2.28 | 20 |
| Tetrahydrofuran | 5.00 | 5.29 | 5.24 | 106 | 105 | 37.0-146 | | | 0.950 | 24 |
| Iodomethane | 25.0 | 24.9 | 23.3 | 99.6 | 93.2 | 74.0-134 | | | 6.64 | 20 |
| Allyl chloride | 25.0 | 25.3 | 24.7 | 101 | 98.8 | 70.0-131 | | | 2.40 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 5.18 | 5.05 | 104 | 101 | 45.0-143 | | | 2.54 | 20 |
| *(S) Toluene-d8* | | | | *104* | *107* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *108* | *101* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *98.0* | *94.3* | *70.0-130* | | | | |

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| B | The same analyte is found in the associated blank. |
| C3 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable. |
| C4 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result. |
| C5 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded high. Data is likely to show a high bias concerning the result. |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J3 | The associated batch QC was outside the established quality control range for precision. |
| P1 | RPD value not applicable for sample concentrations less than 5 times the reporting limit. |

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

**2101 Fourth Ave., Suite 1310**
**Seattle, WA 98121**

Billing Information:
**Attn: Accounts Payable**
**2101 4th Avenue, Suite 1310**
**Seattle, WA 98121**

Pres Chk

Report to:
**Brian O'Neal/Bill Haldeman**

Email To:
**Shannon.McKernan@nv5.com;brian.oneal@nv5**

Project Description:
**American Linen**

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: **206-529-3980**

Client Project #
14/13001.10.701.02

Lab Project #
**PESENVSWA-ALP**

Collected by (print):
ARS

Site/Facility ID #

P.O. #
**443018-1413001.05.601**

Collected by (signature):

Immediately Packed on Ice N ___ Y X

***Rush?*** (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 <2 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl <2 | V8260ULLC 40mlAmb-HCl | | | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-9-103122 | Grab | GW | — | 10-31-22 | 0908 | 12 19 | X | X | X | X | X | X | X | X | | | | -01 |
| MW-156-103122 | | GW | — | | 1031 | 9 | X | X | X | X | | X | X | X | | | | -02 |
| MW120-103122 | | GW | — | | 0945 | 9 | X | X | X | X | | X | X | X | | | | -03 |
| MW-142-103122 | | GW | — | | 1121 | 9 | X | X | X | X | | X | X | X | | | | -04 |
| MW-180-103122 | | GW | — | | 1200 | 9 | X | X | X | X | | X | X | X | | | | -05 |
| MW-159-103122 | | GW | — | | 1202 | 9 | X | X | X | X | | X | X | X | | | | -06 |
| MW-127-103122 | | GW | — | | 1357 | 9 | X | X | X | X | | X | X | X | | | | -07 |
| MW-125-103122 | | GW | — | | 1404 | 12 | X | X | X | X | X | X | X | X | | | | -08 |
| | | GW | ARS | | | | | | | | | | | | | | | |
| | | GW | 10-31-22 | | | | | | | | | | | | | | | |

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1552408

D031

Acctnum: **PESENVSWA**
Template: **T218236**
Prelogin: **P957562**
PM: **546 - Jared Starkey**
PB:

Shipped Via:

* Matrix:
**SS** - Soil **AIR** - Air **F** - Filter
**GW** - Groundwater **B** - Bioassay
**WW** - WasteWater
**DW** - Drinking Water
**OT** - Other_____

**Remarks:**

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 6094 5459 7159

Sample Receipt Checklist

| | | |
|---|---|---|
| COC Seal Present/Intact: | NP | Y N |
| COC Signed/Accurate: | | Y N |
| Bottles arrive intact: | | Y N |
| Correct bottles used: | | Y N |
| Sufficient volume sent: | | Y N |
| If Applicable | | |
| VOA Zero Headspace: | | Y N |
| Preservation Correct/Checked: | | Y N |
| RAD Screen <0.5 mR/hr: | | Y N |

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / No HCL / MeoH TBR | If preservation required by Login: Date/Time |
|---|---|---|---|---|---|
| | 10-31-22 | 16:50 | | | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: 1.4+7C 3.0 TO = 3.0 Bottles Received: 78 | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: 11-1-22 Time: 0900 | Hold: Condition: NCF / OK |

Company Name/Address:
**PES Environmental, Inc.- WA**

2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Billing Information:
Attn: Accounts Payable
2101 4th Avenue, Suite 1310
Seattle, WA 98121

Pres Chk

Report to:
Brian O'Neal/Bill Haldeman

Email To:
Shannon.McKernan@nv5.com;brian.oneal@nv5

Project Description:
American Linen

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: 206-529-3980

Client Project #
14/13001.10.701.02

Lab Project #
PESENVSWA-ALP

Collected by (print):
ARS

Site/Facility ID #

P.O. #
443018-1413001.05.601

Collected by (signature):

Immediately Packed on Ice N ___ Y X

*Rush?* (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 <2 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl <2 | V8260ULLC 40mlAmb-HCl | | | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-9-103122 | Grab | GW | — | 10-31-22 | 0908 | 12 | X | X | X | X | X | X | X | X | | | | -01 |
| MW-156-103122 | | GW | — | | 1031 | 9 | X | X | X | X | | X | X | X | | | | -02 |
| MW120-103122 | | GW | — | | 0945 | 9 | X | X | X | X | | X | X | X | | | | -03 |
| MW-142-103122 | | GW | — | | 1121 | 9 | X | X | X | X | | X | X | X | | | | -04 |
| MW-980-103122 | | GW | — | | 1200 | 9 | X | X | X | X | | X | X | X | | | | -05 |
| MW-159-103122 | | GW | — | | 1202 | 9 | X | X | X | X | | X | X | X | | | | -06 |
| MW-127-103122 MW127-103122 | | GW | — | | 1357 | 9 | X | X | X | X | | X | X | X | | | | -07 |
| MW-125-103122 MW125-103122 | | GW | — | | 1404 | 12 | X | X | X | X | X | X | X | X | | | | -08 |
| | | GW | ARS | | | | | | | | | | | | | | | |
| | | GW | 10-31-22 | | | | | | | | | | | | | | | |

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1552408

D031

Acctnum: PESENVSWA
Template: T218236
Prelogin: P957562
PM: 546 - Jared Starkey
PB:

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

**Remarks:**

pH ____ Temp ____
Flow ____ Other ____

Samples returned via:
__ UPS __ FedEx __ Courier ____

Tracking # 6094 5459 7159

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / No HCL / MeoH TBR | If preservation required by Login: Date/Time |
|---|---|---|---|---|---|
| | 10-31-22 | 16:50 | | | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: 1.7°C 3.0 TO = 3.0 Bottles Received: 78 | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: 11-1-22 Time: 0900 | Hold: Condition: NCF / OK |

# ANALYTICAL REPORT

November 21, 2022



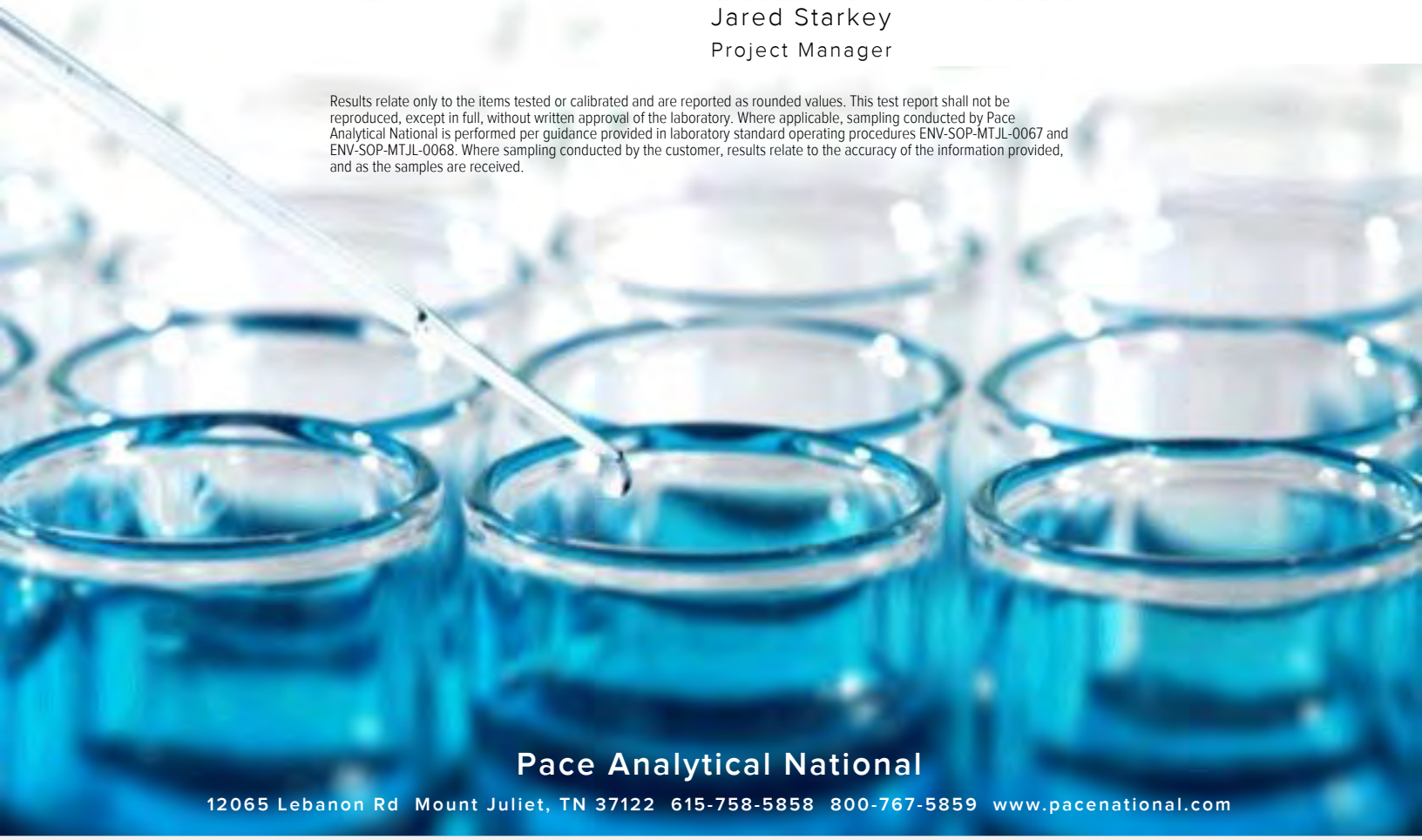
## PES Environmental, Inc.- WA

| | |
|---|---|
| Sample Delivery Group: | L1552420 |
| Samples Received: | 11/01/2022 |
| Project Number: | 1413.001.10.701.02 |
| Description: | American Linen |
| Report To: | Brian O'Neal/Bill Haldeman |
| | 2101 Fourth Ave., Suite 1310 |
| | Seattle, WA 98121 |

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## MW-161-103122 L1552420-01 GW

Collected by: NEW/ARS | Collected date/time: 10/31/22 10:37 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957556 | 1 | 11/13/22 07:03 | 11/13/22 07:03 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1952474 | 1 | 11/01/22 22:53 | 11/01/22 22:53 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962430 | 1 | 11/20/22 00:13 | 11/20/22 00:13 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957860 | 1 | 11/11/22 14:18 | 11/12/22 16:36 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1953876 | 1 | 11/03/22 15:26 | 11/03/22 15:26 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1953994 | 1 | 11/03/22 19:28 | 11/03/22 19:28 | ADM | Mt. Juliet, TN |

## MW-160-103122 L1552420-02 GW

Collected by: NEW/ARS | Collected date/time: 10/31/22 12:50 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957556 | 1 | 11/13/22 07:08 | 11/13/22 07:08 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1952474 | 1 | 11/01/22 23:06 | 11/01/22 23:06 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962430 | 1 | 11/20/22 00:45 | 11/20/22 00:45 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957860 | 1 | 11/11/22 14:18 | 11/12/22 16:40 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1954320 | 1 | 11/06/22 08:47 | 11/06/22 08:47 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1953994 | 1 | 11/03/22 19:47 | 11/03/22 19:47 | ADM | Mt. Juliet, TN |

## MW-979-103122 L1552420-03 GW

Collected by: NEW/ARS | Collected date/time: 10/31/22 11:11 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957556 | 1 | 11/13/22 07:13 | 11/13/22 07:13 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1952474 | 1 | 11/01/22 23:19 | 11/01/22 23:19 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962430 | 1 | 11/20/22 00:59 | 11/20/22 00:59 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957860 | 1 | 11/11/22 14:18 | 11/12/22 16:50 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1954320 | 1 | 11/06/22 08:51 | 11/06/22 08:51 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1953994 | 1 | 11/03/22 20:06 | 11/03/22 20:06 | ADM | Mt. Juliet, TN |

## MW107-103122 L1552420-04 GW

Collected by: NEW/ARS | Collected date/time: 10/31/22 10:21 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957556 | 1 | 11/13/22 07:18 | 11/13/22 07:18 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1952474 | 1 | 11/01/22 23:32 | 11/01/22 23:32 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962430 | 1 | 11/20/22 01:16 | 11/20/22 01:16 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957860 | 1 | 11/11/22 14:18 | 11/12/22 16:53 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1954320 | 1 | 11/06/22 08:55 | 11/06/22 08:55 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1955151 | 10 | 11/06/22 14:07 | 11/06/22 14:07 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1953994 | 1 | 11/03/22 20:25 | 11/03/22 20:25 | ADM | Mt. Juliet, TN |

## W-MW-01-103122 L1552420-05 GW

Collected by: NEW/ARS | Collected date/time: 10/31/22 14:00 | Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957556 | 1 | 11/13/22 07:22 | 11/13/22 07:22 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1952561 | 1 | 11/02/22 00:17 | 11/02/22 00:17 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959765 | 1 | 11/17/22 19:31 | 11/17/22 19:31 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957860 | 1 | 11/11/22 14:18 | 11/12/22 16:57 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1954320 | 1 | 11/06/22 09:03 | 11/06/22 09:03 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1955151 | 10 | 11/06/22 14:12 | 11/06/22 14:12 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1954134 | 1 | 11/03/22 21:35 | 11/03/22 21:35 | GLN | Mt. Juliet, TN |

# SAMPLE SUMMARY

## W-MW-01-103122 L1552420-05 GW

Collected by: NEW/ARS
Collected date/time: 10/31/22 14:00
Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1954379 | 1 | 11/04/22 15:36 | 11/04/22 15:36 | JHH | Mt. Juliet, TN |

## TB-103122 L1552420-06 GW

Collected by: NEW/ARS
Collected date/time: 10/31/22 00:00
Received date/time: 11/01/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1954134 | 1 | 11/03/22 20:19 | 11/03/22 20:19 | GLN | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1954379 | 1 | 11/04/22 14:00 | 11/04/22 14:00 | JHH | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 237000 | | 8450 | 20000 | 1 | 11/13/2022 07:03 | WG1957556 |

Sample Narrative:

L1552420-01 WG1957556: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 16900 | | 379 | 1000 | 1 | 11/01/2022 22:53 | WG1952474 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/01/2022 22:53 | WG1952474 |
| Sulfate | 8050 | | 594 | 5000 | 1 | 11/01/2022 22:53 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1860 | B | 102 | 1000 | 1 | 11/20/2022 00:13 | WG1962430 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1370 | | 28.1 | 100 | 1 | 11/12/2022 16:36 | WG1957860 |
| Manganese | 779 | | 0.704 | 5.00 | 1 | 11/12/2022 16:36 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 369 | | 0.287 | 0.678 | 1 | 11/03/2022 15:26 | WG1953876 |
| Ethane | 1.50 | | 0.296 | 1.29 | 1 | 11/03/2022 15:26 | WG1953876 |
| Ethene | 2.01 | P1 | 0.422 | 1.27 | 1 | 11/03/2022 15:26 | WG1953876 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/03/2022 19:28 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 19:28 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 19:28 | WG1953994 |
| Bromomethane | U | C3 | 0.148 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| Chloroethane | 0.329 | | 0.0432 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,1-Dichloroethene | 1.06 | | 0.0200 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| cis-1,2-Dichloroethene | 31.3 | | 0.0276 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| trans-1,2-Dichloroethene | 0.451 | | 0.0572 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 19:28 | WG1953994 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 19:28 | WG1953994 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 19:28 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 19:28 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 19:28 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 19:28 | WG1953994 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| Tetrachloroethene | 0.407 | | 0.0280 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| Trichloroethene | 0.545 | | 0.0160 | 0.0400 | 1 | 11/03/2022 19:28 | WG1953994 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| Vinyl chloride | 8.13 | | 0.0273 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 19:28 | WG1953994 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 19:28 | WG1953994 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *11/03/2022 19:28* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *98.9* | | | *67.0-138* | | *11/03/2022 19:28* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *94.6* | | | *70.0-130* | | *11/03/2022 19:28* | WG1953994 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 174000 | | 8450 | 20000 | 1 | 11/13/2022 07:08 | WG1957556 |

Sample Narrative:

L1552420-02 WG1957556: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 6660 | | 379 | 1000 | 1 | 11/01/2022 23:06 | WG1952474 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/01/2022 23:06 | WG1952474 |
| Sulfate | 1960 | J | 594 | 5000 | 1 | 11/01/2022 23:06 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1030 | B | 102 | 1000 | 1 | 11/20/2022 00:45 | WG1962430 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 3910 | | 28.1 | 100 | 1 | 11/12/2022 16:40 | WG1957860 |
| Manganese | 420 | | 0.704 | 5.00 | 1 | 11/12/2022 16:40 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 408 | | 0.287 | 0.678 | 1 | 11/06/2022 08:47 | WG1954320 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/06/2022 08:47 | WG1954320 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 08:47 | WG1954320 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.02 | C5 | 0.548 | 1.00 | 1 | 11/03/2022 19:47 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 19:47 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 19:47 | WG1953994 |
| Bromomethane | U | C3 | 0.148 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| cis-1,2-Dichloroethene | 1.11 | | 0.0276 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 19:47 | WG1953994 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 19:47 | WG1953994 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 19:47 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 19:47 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 19:47 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 19:47 | WG1953994 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| Tetrachloroethene | 0.0990 | J | 0.0280 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| Trichloroethene | 0.0530 | | 0.0160 | 0.0400 | 1 | 11/03/2022 19:47 | WG1953994 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| Vinyl chloride | 1.47 | | 0.0273 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 19:47 | WG1953994 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 19:47 | WG1953994 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| *(S) Toluene-d8* | *102* | | | *75.0-131* | | *11/03/2022 19:47* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/03/2022 19:47* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *99.2* | | | *70.0-130* | | *11/03/2022 19:47* | WG1953994 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 241000 | | 8450 | 20000 | 1 | 11/13/2022 07:13 | WG1957556 |

Sample Narrative:

L1552420-03 WG1957556: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 17100 | | 379 | 1000 | 1 | 11/01/2022 23:19 | WG1952474 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/01/2022 23:19 | WG1952474 |
| Sulfate | 8120 | | 594 | 5000 | 1 | 11/01/2022 23:19 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1810 | B | 102 | 1000 | 1 | 11/20/2022 00:59 | WG1962430 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1080 | | 28.1 | 100 | 1 | 11/12/2022 16:50 | WG1957860 |
| Manganese | 777 | | 0.704 | 5.00 | 1 | 11/12/2022 16:50 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 416 | | 0.287 | 0.678 | 1 | 11/06/2022 08:51 | WG1954320 |
| Ethane | 1.81 | | 0.296 | 1.29 | 1 | 11/06/2022 08:51 | WG1954320 |
| Ethene | 2.50 | | 0.422 | 1.27 | 1 | 11/06/2022 08:51 | WG1954320 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/03/2022 20:06 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 20:06 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 20:06 | WG1953994 |
| Bromomethane | U | C3 | 0.148 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| Chloroethane | 0.260 | | 0.0432 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,1-Dichloroethene | 1.11 | | 0.0200 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| cis-1,2-Dichloroethene | 30.3 | | 0.0276 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| trans-1,2-Dichloroethene | 0.441 | | 0.0572 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 20:06 | WG1953994 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 20:06 | WG1953994 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 20:06 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 20:06 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 20:06 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 20:06 | WG1953994 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| Tetrachloroethene | 0.307 | | 0.0280 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| Trichloroethene | 0.557 | | 0.0160 | 0.0400 | 1 | 11/03/2022 20:06 | WG1953994 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| Vinyl chloride | 7.90 | | 0.0273 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 20:06 | WG1953994 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 20:06 | WG1953994 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/03/2022 20:06* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/03/2022 20:06* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *96.9* | | | *70.0-130* | | *11/03/2022 20:06* | WG1953994 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 674000 | | 8450 | 20000 | 1 | 11/13/2022 07:18 | WG1957556 |

Sample Narrative:

L1552420-04 WG1957556: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 79100 | | 379 | 1000 | 1 | 11/01/2022 23:32 | WG1952474 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/01/2022 23:32 | WG1952474 |
| Sulfate | U | | 594 | 5000 | 1 | 11/01/2022 23:32 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 11400 | | 102 | 1000 | 1 | 11/20/2022 01:16 | WG1962430 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 589 | | 28.1 | 100 | 1 | 11/12/2022 16:53 | WG1957860 |
| Manganese | 171 | | 0.704 | 5.00 | 1 | 11/12/2022 16:53 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 27500 | | 2.87 | 6.78 | 10 | 11/06/2022 14:07 | WG1955151 |
| Ethane | 314 | | 0.296 | 1.29 | 1 | 11/06/2022 08:55 | WG1954320 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 08:55 | WG1954320 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/03/2022 20:25 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| Benzene | 0.0900 | | 0.0160 | 0.0400 | 1 | 11/03/2022 20:25 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 20:25 | WG1953994 |
| Bromomethane | U | C3 | 0.148 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,2-Dichloroethane | 0.0860 | J | 0.0190 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| cis-1,2-Dichloroethene | 4.05 | | 0.0276 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| trans-1,2-Dichloroethene | 3.69 | | 0.0572 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 20:25 | WG1953994 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 20:25 | WG1953994 |
| Isopropylbenzene | 0.113 | | 0.0345 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 20:25 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 20:25 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 20:25 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 20:25 | WG1953994 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| Tetrachloroethene | 0.101 | | 0.0280 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| Toluene | 0.312 | | 0.0500 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| Trichloroethene | 0.125 | | 0.0160 | 0.0400 | 1 | 11/03/2022 20:25 | WG1953994 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| Vinyl chloride | 2.74 | | 0.0273 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 20:25 | WG1953994 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| Tetrahydrofuran | 14.2 | | 0.0900 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 20:25 | WG1953994 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *11/03/2022 20:25* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/03/2022 20:25* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *97.8* | | | *70.0-130* | | *11/03/2022 20:25* | WG1953994 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 1440000 | | 8450 | 20000 | 1 | 11/13/2022 07:22 | WG1957556 |

Sample Narrative:

L1552420-05 WG1957556: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 28100 | | 379 | 1000 | 1 | 11/02/2022 00:17 | WG1952561 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 00:17 | WG1952561 |
| Sulfate | 948 | J | 594 | 5000 | 1 | 11/02/2022 00:17 | WG1952561 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 8730 | B | 102 | 1000 | 1 | 11/17/2022 19:31 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 17300 | | 28.1 | 100 | 1 | 11/12/2022 16:57 | WG1957860 |
| Manganese | 4340 | | 0.704 | 5.00 | 1 | 11/12/2022 16:57 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 31600 | | 2.87 | 6.78 | 10 | 11/06/2022 14:12 | WG1955151 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/06/2022 09:03 | WG1954320 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 09:03 | WG1954320 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 7.46 | | 0.548 | 1.00 | 1 | 11/03/2022 21:35 | WG1954134 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 21:35 | WG1954134 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 21:35 | WG1954134 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| cis-1,2-Dichloroethene | 0.405 | B | 0.0276 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| 2,2-Dichloropropane | U | C3 | 0.0317 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 21:35 | WG1954134 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 21:35 | WG1954134 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 21:35 | WG1954134 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 21:35 | WG1954134 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 21:35 | WG1954134 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 21:35 | WG1954134 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| Toluene | 0.178 | J | 0.0500 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,2,4-Trichlorobenzene | U | J4 | 0.193 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| Trichloroethene | 0.0870 | | 0.0160 | 0.0400 | 1 | 11/03/2022 21:35 | WG1954134 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| Vinyl chloride | 1.61 | | 0.0273 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 21:35 | WG1954134 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| Tetrahydrofuran | 6.61 | | 0.0900 | 0.500 | 1 | 11/04/2022 15:36 | WG1954379 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 21:35 | WG1954134 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| *(S) Toluene-d8* | *100* | | | *75.0-131* | | *11/03/2022 21:35* | WG1954134 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/04/2022 15:36* | WG1954379 |
| *(S) 4-Bromofluorobenzene* | *85.6* | | | *67.0-138* | | *11/03/2022 21:35* | WG1954134 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/04/2022 15:36* | WG1954379 |
| *(S) 1,2-Dichloroethane-d4* | *98.4* | | | *70.0-130* | | *11/03/2022 21:35* | WG1954134 |
| *(S) 1,2-Dichloroethane-d4* | *97.3* | | | *70.0-130* | | *11/04/2022 15:36* | WG1954379 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 3.24 | | 0.548 | 1.00 | 1 | 11/03/2022 20:19 | WG1954134 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 20:19 | WG1954134 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 20:19 | WG1954134 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 20:19 | WG1954134 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 20:19 | WG1954134 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/03/2022 20:19 | WG1954134 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 20:19 | WG1954134 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 20:19 | WG1954134 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 20:19 | WG1954134 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 20:19 | WG1954134 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 20:19 | WG1954134 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 20:19 | WG1954134 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 20:19 | WG1954134 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 20:19 | WG1954134 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 20:19 | WG1954134 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 20:19 | WG1954134 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 20:19 | WG1954134 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 20:19 | WG1954134 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/04/2022 14:00 | WG1954379 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/03/2022 20:19 | WG1954134 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 20:19 | WG1954134 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 20:19 | WG1954134 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 20:19 | WG1954134 |
| 2,2-Dichloropropane | U | C3 | 0.0317 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 20:19 | WG1954134 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 20:19 | WG1954134 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 20:19 | WG1954134 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 20:19 | WG1954134 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 20:19 | WG1954134 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 20:19 | WG1954134 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 20:19 | WG1954134 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 20:19 | WG1954134 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 20:19 | WG1954134 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 20:19 | WG1954134 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| Toluene | 0.118 | J | 0.0500 | 0.200 | 1 | 11/03/2022 20:19 | WG1954134 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 11/03/2022 20:19 | WG1954134 |
| 1,2,4-Trichlorobenzene | U | J4 | 0.193 | 0.500 | 1 | 11/03/2022 20:19 | WG1954134 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 20:19 | WG1954134 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 20:19 | WG1954134 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 20:19 | WG1954134 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 20:19 | WG1954134 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 20:19 | WG1954134 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 20:19 | WG1954134 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 20:19 | WG1954134 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/03/2022 20:19 | WG1954134 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 20:19 | WG1954134 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 20:19 | WG1954134 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 20:19 | WG1954134 |
| *(S) Toluene-d8* | *98.3* | | | *75.0-131* | | *11/03/2022 20:19* | WG1954134 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/04/2022 14:00* | WG1954379 |
| *(S) 4-Bromofluorobenzene* | *85.6* | | | *67.0-138* | | *11/03/2022 20:19* | WG1954134 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/04/2022 14:00* | WG1954379 |
| *(S) 1,2-Dichloroethane-d4* | *102* | | | *70.0-130* | | *11/03/2022 20:19* | WG1954134 |
| *(S) 1,2-Dichloroethane-d4* | *98.2* | | | *70.0-130* | | *11/04/2022 14:00* | WG1954379 |

## Method Blank (MB)

(MB) R3860432-2 11/13/22 06:51

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1552522-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552522-01 11/13/22 07:26 • (DUP) R3860432-4 11/13/22 07:30

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 81400 | 80400 | 1 | 1.14 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

## L1552919-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552919-01 11/13/22 08:25 • (DUP) R3860432-6 11/13/22 08:29

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 871000 | 857000 | 1 | 1.63 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3860432-1 11/13/22 06:41

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 103000 | 103 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3855921-1 11/01/22 11:00

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1552392-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552392-01 11/01/22 17:58 • (DUP) R3855921-3 11/01/22 18:11

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 28200 | 27400 | 1 | 2.65 | | 15 |
| Nitrate | 2990 | 2920 | 1 | 2.40 | | 15 |

## L1552420-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1552420-04 11/01/22 23:32 • (DUP) R3855921-6 11/01/22 23:44

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 79100 | 79900 | 1 | 0.986 | | 15 |
| Nitrate | U | U | 1 | 0.000 | | 15 |
| Sulfate | U | U | 1 | 0.000 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3855921-2 11/01/22 11:13

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 39900 | 99.6 | 80.0-120 | |
| Nitrate | 8000 | 7860 | 98.2 | 80.0-120 | |
| Sulfate | 40000 | 40300 | 101 | 80.0-120 | |

## L1552392-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552392-01 11/01/22 17:58 • (MS) R3855921-4 11/01/22 18:24 • (MSD) R3855921-5 11/01/22 18:37

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 28200 | 75700 | 76900 | 95.0 | 97.5 | 1 | 80.0-120 | | | 1.62 | 15 |
| Nitrate | 5000 | 2990 | 7430 | 7560 | 88.7 | 91.4 | 1 | 80.0-120 | | | 1.78 | 15 |

## L1552420-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1552420-04 11/01/22 23:32 • (MS) R3855921-7 11/01/22 23:57

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 79100 | 122000 | 85.9 | 1 | 80.0-120 | |
| Nitrate | 5000 | U | 4290 | 85.8 | 1 | 80.0-120 | |
| Sulfate | 50000 | U | 44200 | 88.4 | 1 | 80.0-120 | |

## Method Blank (MB)

(MB) R3855964-1 11/01/22 21:05

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1552420-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1552420-05 11/02/22 00:17 • (DUP) R3855964-4 11/02/22 00:31

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 28100 | 27800 | 1 | 0.882 | | 15 |
| Nitrate | U | U | 1 | 0.000 | | 15 |
| Sulfate | 948 | 966 | 1 | 1.81 | J | 15 |

## L1552439-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552439-01 11/02/22 02:34 • (DUP) R3855964-7 11/02/22 03:01

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 132000 | 130000 | 1 | 1.72 | | 15 |
| Nitrate | 2580 | 2540 | 1 | 1.60 | | 15 |
| Sulfate | 76500 | 75300 | 1 | 1.53 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3855964-2 11/01/22 21:19

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 38600 | 96.6 | 80.0-120 | |
| Nitrate | 8000 | 7430 | 92.9 | 80.0-120 | |
| Sulfate | 40000 | 38100 | 95.2 | 80.0-120 | |

## L1552420-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552420-05 11/02/22 00:17 • (MS) R3855964-5 11/02/22 00:44 • (MSD) R3855964-6 11/02/22 00:58

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 28100 | 77200 | 77400 | 98.2 | 98.8 | 1 | 80.0-120 | | | 0.369 | 15 |
| Nitrate | 5000 | U | 4320 | 4330 | 86.4 | 86.6 | 1 | 80.0-120 | | | 0.192 | 15 |
| Sulfate | 50000 | 948 | 46600 | 46800 | 91.3 | 91.6 | 1 | 80.0-120 | | | 0.393 | 15 |

## L1552439-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1552439-01 11/02/22 02:34 • (MS) R3855964-8 11/02/22 03:15

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 132000 | 168000 | 71.4 | 1 | 80.0-120 | J6 |
| Nitrate | 5000 | 2580 | 6810 | 84.7 | 1 | 80.0-120 | |
| Sulfate | 50000 | 76500 | 115000 | 76.1 | 1 | 80.0-120 | J6 |

## Method Blank (MB)

(MB) R3862522-2 11/17/22 19:11

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 914 | J | 102 | 1000 |

## Method Blank (MB)

(MB) R3863023-2 11/18/22 11:27

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | U | | 102 | 1000 |

## L1552618-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552618-01 11/17/22 21:52 • (DUP) R3862522-7 11/17/22 22:08

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4520 | 4130 | 1 | 8.98 | | 20 |

## L1552758-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552758-01 11/18/22 14:13 • (DUP) R3863023-3 11/18/22 14:27

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 828 | 824 | 1 | 0.424 | J | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3862522-1 11/17/22 18:56

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 74400 | 99.2 | 85.0-115 | |

## Laboratory Control Sample (LCS)

(LCS) R3863023-1 11/18/22 11:10

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 71300 | 95.0 | 85.0-115 | |

## L1552420-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552420-05 11/17/22 19:31 • (MS) R3862522-3 11/17/22 19:54 • (MSD) R3862522-4 11/17/22 20:13

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 8730 | 58700 | 59600 | 100 | 102 | 1 | 80.0-120 | | | 1.50 | 20 |

## L1552599-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552599-02 11/17/22 20:33 • (MS) R3862522-5 11/17/22 20:54 • (MSD) R3862522-6 11/17/22 21:14

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 12300 | 61500 | 64000 | 98.4 | 103 | 1 | 80.0-120 | | | 3.98 | 20 |

## Method Blank (MB)

(MB) R3863117-2 11/19/22 10:06

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 357 | J | 102 | 1000 |

## L1552408-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1552408-08 11/19/22 23:05 • (DUP) R3863117-7 11/19/22 23:23

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 7920 | 8030 | 1 | 1.40 | | 20 |

## L1552420-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552420-01 11/20/22 00:13 • (DUP) R3863117-8 11/20/22 00:26

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1860 | 1850 | 1 | 0.700 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3863117-1 11/19/22 09:54

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 76000 | 101 | 85.0-115 | |

## L1552408-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552408-06 11/19/22 21:16 • (MS) R3863117-3 11/19/22 21:41 • (MSD) R3863117-4 11/19/22 21:59

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 5260 | 59300 | 59000 | 108 | 108 | 1 | 80.0-120 | | | 0.541 | 20 |

## L1552408-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552408-07 11/19/22 22:12 • (MS) R3863117-5 11/19/22 22:30 • (MSD) R3863117-6 11/19/22 22:47

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 1180 | 54600 | 54600 | 107 | 107 | 1 | 80.0-120 | | | 0.0366 | 20 |

## Method Blank (MB)

(MB) R3860332-1 11/12/22 15:29

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3860332-2 11/12/22 15:32

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Iron | 5000 | 5260 | 105 | 80.0-120 | |
| Manganese | 50.0 | 53.4 | 107 | 80.0-120 | |

## L1552392-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552392-04 11/12/22 15:36 • (MS) R3860332-4 11/12/22 15:42 • (MSD) R3860332-5 11/12/22 15:46

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iron | 5000 | 445 | 5490 | 5770 | 101 | 107 | 1 | 75.0-125 | | | 4.93 | 20 |
| Manganese | 50.0 | 184 | 238 | 238 | 108 | 108 | 1 | 75.0-125 | | | 0.151 | 20 |

## Method Blank (MB)

(MB) R3856713-2 11/03/22 14:02

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1552019-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1552019-09 11/03/22 14:49 • (DUP) R3856713-3 11/03/22 14:53

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | 7940 | 9650 | 10 | 19.4 | | 20 |
| Ethane | U | U | 10 | 0.000 | | 20 |
| Ethene | U | U | 10 | 0.000 | | 20 |

## L1552420-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552420-01 11/03/22 15:26 • (DUP) R3856713-4 11/03/22 15:43

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | 369 | 393 | 1 | 6.30 | | 20 |
| Ethane | 1.50 | 1.54 | 1 | 2.63 | | 20 |
| Ethene | 2.01 | 2.47 | 1 | 20.5 | P1 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3856713-1 11/03/22 14:00 • (LCSD) R3856713-5 11/03/22 15:50

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 72.7 | 68.8 | 107 | 101 | 85.0-115 | | | 5.51 | 20 |
| Ethane | 129 | 127 | 123 | 98.4 | 95.3 | 85.0-115 | | | 3.20 | 20 |
| Ethene | 127 | 128 | 125 | 101 | 98.4 | 85.0-115 | | | 2.37 | 20 |

## Method Blank (MB)

(MB) R3857460-2 11/06/22 08:33

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1552599-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1552599-02 11/06/22 09:50 • (DUP) R3857460-3 11/06/22 09:54

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | 96.7 | 93.2 | 1 | 3.69 | | 20 |

## L1552785-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1552785-07 11/06/22 10:13 • (DUP) R3857460-4 11/06/22 10:30

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 42.5 | 41.0 | 1 | 3.59 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3857460-1 11/06/22 08:29 • (LCSD) R3857460-5 11/06/22 10:32

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 75.2 | 65.6 | 111 | 96.8 | 85.0-115 | | | 13.6 | 20 |
| Ethane | 129 | 123 | 120 | 95.3 | 93.0 | 85.0-115 | | | 2.47 | 20 |
| Ethene | 127 | 123 | 121 | 96.9 | 95.3 | 85.0-115 | | | 1.64 | 20 |

## Method Blank (MB)

(MB) R3857547-2 11/06/22 14:04

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |

## L1552983-17 Original Sample (OS) • Duplicate (DUP)

(OS) L1552983-17 11/06/22 14:56 • (DUP) R3857547-3 11/06/22 15:00

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 848 | 788 | 1 | 7.33 | | 20 |

## L1553534-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1553534-03 11/06/22 15:45 • (DUP) R3857547-4 11/06/22 15:48

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3857547-1 11/06/22 14:00 • (LCSD) R3857547-7 11/06/22 15:58

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 70.3 | 69.7 | 104 | 103 | 85.0-115 | | | 0.857 | 20 |

## L1553534-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553534-01 11/06/22 15:37 • (MS) R3857547-5 11/06/22 15:51 • (MSD) R3857547-6 11/06/22 15:55

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Methane | 67.8 | U | 77.0 | 76.1 | 114 | 112 | 1 | 85.0-115 | | | 1.18 | 20 |

## Method Blank (MB)

(MB) R3857691-3 11/03/22 14:11

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3857691-3 11/03/22 14:11

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *101* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *107* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *102* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3857691-1 11/03/22 11:32 • (LCSD) R3857691-2 11/03/22 11:51

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 30.4 | 30.2 | 122 | 121 | 10.0-160 | | | 0.660 | 31 |
| Acrylonitrile | 25.0 | 27.5 | 27.4 | 110 | 110 | 45.0-153 | | | 0.364 | 22 |
| Benzene | 5.00 | 5.05 | 5.29 | 101 | 106 | 70.0-123 | | | 4.64 | 20 |
| Bromobenzene | 5.00 | 5.28 | 5.64 | 106 | 113 | 73.0-121 | | | 6.59 | 20 |
| Bromodichloromethane | 5.00 | 5.36 | 5.60 | 107 | 112 | 73.0-121 | | | 4.38 | 20 |
| Bromoform | 5.00 | 5.01 | 5.29 | 100 | 106 | 64.0-132 | | | 5.44 | 20 |
| Bromomethane | 5.00 | 3.79 | 4.09 | 75.8 | 81.8 | 56.0-147 | | | 7.61 | 20 |
| n-Butylbenzene | 5.00 | 4.92 | 5.33 | 98.4 | 107 | 68.0-135 | | | 8.00 | 20 |
| sec-Butylbenzene | 5.00 | 5.27 | 5.62 | 105 | 112 | 74.0-130 | | | 6.43 | 20 |
| tert-Butylbenzene | 5.00 | 6.26 | 5.71 | 125 | 114 | 75.0-127 | | | 9.19 | 20 |
| Carbon tetrachloride | 5.00 | 5.02 | 5.09 | 100 | 102 | 66.0-128 | | | 1.38 | 20 |
| Chlorobenzene | 5.00 | 4.93 | 5.10 | 98.6 | 102 | 76.0-128 | | | 3.39 | 20 |
| Chlorodibromomethane | 5.00 | 5.17 | 5.32 | 103 | 106 | 74.0-127 | | | 2.86 | 20 |
| Chloroethane | 5.00 | 4.89 | 5.10 | 97.8 | 102 | 61.0-134 | | | 4.20 | 20 |
| Chloroform | 5.00 | 4.87 | 5.03 | 97.4 | 101 | 72.0-123 | | | 3.23 | 20 |
| Chloromethane | 5.00 | 4.77 | 5.16 | 95.4 | 103 | 51.0-138 | | | 7.85 | 20 |
| 2-Chlorotoluene | 5.00 | 5.21 | 5.46 | 104 | 109 | 75.0-124 | | | 4.69 | 20 |
| 4-Chlorotoluene | 5.00 | 5.62 | 5.96 | 112 | 119 | 75.0-124 | | | 5.87 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 5.00 | 5.58 | 100 | 112 | 59.0-130 | | | 11.0 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.02 | 5.32 | 100 | 106 | 74.0-128 | | | 5.80 | 20 |
| Dibromomethane | 5.00 | 5.09 | 5.26 | 102 | 105 | 75.0-122 | | | 3.29 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 4.93 | 5.53 | 98.6 | 111 | 76.0-124 | | | 11.5 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 5.06 | 5.59 | 101 | 112 | 76.0-125 | | | 9.95 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 4.99 | 5.31 | 99.8 | 106 | 77.0-121 | | | 6.21 | 20 |
| Dichlorodifluoromethane | 5.00 | 3.86 | 4.07 | 77.2 | 81.4 | 43.0-156 | | | 5.30 | 20 |
| 1,1-Dichloroethane | 5.00 | 4.85 | 5.10 | 97.0 | 102 | 70.0-127 | | | 5.03 | 20 |
| 1,2-Dichloroethane | 5.00 | 5.19 | 5.30 | 104 | 106 | 65.0-131 | | | 2.10 | 20 |
| 1,1-Dichloroethene | 5.00 | 4.91 | 4.97 | 98.2 | 99.4 | 65.0-131 | | | 1.21 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 4.95 | 5.12 | 99.0 | 102 | 73.0-125 | | | 3.38 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 4.78 | 5.06 | 95.6 | 101 | 71.0-125 | | | 5.69 | 20 |
| 1,2-Dichloropropane | 5.00 | 4.87 | 5.03 | 97.4 | 101 | 74.0-125 | | | 3.23 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.00 | 5.18 | 100 | 104 | 73.0-125 | | | 3.54 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.11 | 5.28 | 102 | 106 | 80.0-125 | | | 3.27 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 4.98 | 5.15 | 99.6 | 103 | 76.0-127 | | | 3.36 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 5.18 | 5.24 | 104 | 105 | 73.0-127 | | | 1.15 | 20 |
| 2,2-Dichloropropane | 5.00 | 5.26 | 4.87 | 105 | 97.4 | 59.0-135 | | | 7.70 | 20 |
| Di-isopropyl ether | 5.00 | 5.03 | 5.09 | 101 | 102 | 60.0-136 | | | 1.19 | 20 |
| Ethylbenzene | 5.00 | 4.64 | 5.15 | 92.8 | 103 | 74.0-126 | | | 10.4 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 5.05 | 6.05 | 101 | 121 | 57.0-150 | | | 18.0 | 20 |
| Isopropylbenzene | 5.00 | 4.86 | 5.12 | 97.2 | 102 | 72.0-127 | | | 5.21 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3857691-1 11/03/22 11:32 • (LCSD) R3857691-2 11/03/22 11:51

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.13 | 5.52 | 103 | 110 | 72.0-133 | | | 7.32 | 20 |
| 2-Butanone (MEK) | 25.0 | 29.1 | 29.1 | 116 | 116 | 30.0-160 | | | 0.000 | 24 |
| Methylene Chloride | 5.00 | 4.76 | 5.10 | 95.2 | 102 | 68.0-123 | | | 6.90 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 27.3 | 27.5 | 109 | 110 | 56.0-143 | | | 0.730 | 20 |
| Methyl tert-butyl ether | 5.00 | 4.88 | 4.86 | 97.6 | 97.2 | 66.0-132 | | | 0.411 | 20 |
| Naphthalene | 5.00 | 4.59 | 5.28 | 91.8 | 106 | 59.0-130 | | | 14.0 | 20 |
| n-Propylbenzene | 5.00 | 5.38 | 5.75 | 108 | 115 | 74.0-126 | | | 6.65 | 20 |
| Styrene | 5.00 | 4.85 | 4.97 | 97.0 | 99.4 | 72.0-127 | | | 2.44 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 4.99 | 5.23 | 99.8 | 105 | 74.0-129 | | | 4.70 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 5.61 | 5.94 | 112 | 119 | 68.0-128 | | | 5.71 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 4.55 | 4.54 | 91.0 | 90.8 | 61.0-139 | | | 0.220 | 20 |
| Tetrachloroethene | 5.00 | 4.93 | 5.16 | 98.6 | 103 | 70.0-136 | | | 4.56 | 20 |
| Toluene | 5.00 | 4.95 | 5.24 | 99.0 | 105 | 75.0-121 | | | 5.69 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.78 | 5.20 | 95.6 | 104 | 59.0-139 | | | 8.42 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.60 | 5.31 | 92.0 | 106 | 62.0-137 | | | 14.3 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.27 | 5.39 | 105 | 108 | 69.0-126 | | | 2.25 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 4.83 | 5.08 | 96.6 | 102 | 78.0-123 | | | 5.05 | 20 |
| Trichloroethene | 5.00 | 5.07 | 5.21 | 101 | 104 | 76.0-126 | | | 2.72 | 20 |
| Trichlorofluoromethane | 5.00 | 4.16 | 4.29 | 83.2 | 85.8 | 61.0-142 | | | 3.08 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 5.48 | 5.54 | 110 | 111 | 67.0-129 | | | 1.09 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.18 | 5.42 | 104 | 108 | 70.0-126 | | | 4.53 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 4.63 | 4.97 | 92.6 | 99.4 | 74.0-124 | | | 7.08 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.07 | 5.30 | 101 | 106 | 73.0-127 | | | 4.44 | 20 |
| Vinyl chloride | 5.00 | 4.38 | 4.75 | 87.6 | 95.0 | 63.0-134 | | | 8.11 | 20 |
| Xylenes, Total | 15.0 | 14.8 | 13.9 | 98.7 | 92.7 | 72.0-127 | | | 6.27 | 20 |
| Ethyl ether | 5.00 | 4.66 | 4.82 | 93.2 | 96.4 | 64.0-137 | | | 3.38 | 20 |
| Tetrahydrofuran | 5.00 | 5.53 | 5.22 | 111 | 104 | 37.0-146 | | | 5.77 | 24 |
| Iodomethane | 25.0 | 25.0 | 25.6 | 100 | 102 | 74.0-134 | | | 2.37 | 20 |
| Allyl chloride | 25.0 | 25.5 | 26.2 | 102 | 105 | 70.0-131 | | | 2.71 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 5.97 | 5.89 | 119 | 118 | 45.0-143 | | | 1.35 | 20 |
| *(S) Toluene-d8* | | | | *101* | *102* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *101* | *99.4* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *101* | *99.1* | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R3856922-2 11/03/22 20:00

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | 0.0720 | J | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3856922-2 11/03/22 20:00

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | 0.363 | J | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | 0.667 | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *97.4* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *87.3* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *102* | | | *70.0-130* |

## Laboratory Control Sample (LCS)

(LCS) R3856922-1 11/03/22 18:33

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Acetone | 25.0 | 26.1 | 104 | 10.0-160 | |
| Acrylonitrile | 25.0 | 24.1 | 96.4 | 45.0-153 | |
| Benzene | 5.00 | 4.67 | 93.4 | 70.0-123 | |
| Bromobenzene | 5.00 | 5.16 | 103 | 73.0-121 | |
| Bromodichloromethane | 5.00 | 4.83 | 96.6 | 73.0-121 | |
| Bromoform | 5.00 | 4.52 | 90.4 | 64.0-132 | |
| Bromomethane | 5.00 | 4.42 | 88.4 | 56.0-147 | |
| n-Butylbenzene | 5.00 | 4.77 | 95.4 | 68.0-135 | |
| sec-Butylbenzene | 5.00 | 4.91 | 98.2 | 74.0-130 | |
| tert-Butylbenzene | 5.00 | 5.12 | 102 | 75.0-127 | |
| Carbon tetrachloride | 5.00 | 4.81 | 96.2 | 66.0-128 | |
| Chlorobenzene | 5.00 | 4.96 | 99.2 | 76.0-128 | |
| Chlorodibromomethane | 5.00 | 4.89 | 97.8 | 74.0-127 | |
| Chloroethane | 5.00 | 5.02 | 100 | 61.0-134 | |
| Chloroform | 5.00 | 4.89 | 97.8 | 72.0-123 | |
| Chloromethane | 5.00 | 4.18 | 83.6 | 51.0-138 | |
| 2-Chlorotoluene | 5.00 | 5.24 | 105 | 75.0-124 | |
| 4-Chlorotoluene | 5.00 | 5.16 | 103 | 75.0-124 | |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.42 | 88.4 | 59.0-130 | |
| 1,2-Dibromoethane | 5.00 | 4.97 | 99.4 | 74.0-128 | |
| Dibromomethane | 5.00 | 5.23 | 105 | 75.0-122 | |
| 1,2-Dichlorobenzene | 5.00 | 5.29 | 106 | 76.0-124 | |
| 1,3-Dichlorobenzene | 5.00 | 5.32 | 106 | 76.0-125 | |
| 1,4-Dichlorobenzene | 5.00 | 5.15 | 103 | 77.0-121 | |
| Dichlorodifluoromethane | 5.00 | 3.87 | 77.4 | 43.0-156 | |
| 1,1-Dichloroethane | 5.00 | 4.79 | 95.8 | 70.0-127 | |
| 1,2-Dichloroethane | 5.00 | 5.00 | 100 | 65.0-131 | |
| 1,1-Dichloroethene | 5.00 | 4.12 | 82.4 | 65.0-131 | |
| cis-1,2-Dichloroethene | 5.00 | 5.07 | 101 | 73.0-125 | |
| trans-1,2-Dichloroethene | 5.00 | 3.97 | 79.4 | 71.0-125 | |
| 1,2-Dichloropropane | 5.00 | 5.01 | 100 | 74.0-125 | |
| 1,1-Dichloropropene | 5.00 | 4.77 | 95.4 | 73.0-125 | |
| 1,3-Dichloropropane | 5.00 | 4.91 | 98.2 | 80.0-125 | |
| cis-1,3-Dichloropropene | 5.00 | 4.86 | 97.2 | 76.0-127 | |
| trans-1,3-Dichloropropene | 5.00 | 4.68 | 93.6 | 73.0-127 | |
| 2,2-Dichloropropane | 5.00 | 3.93 | 78.6 | 59.0-135 | |
| Di-isopropyl ether | 5.00 | 5.19 | 104 | 60.0-136 | |
| Ethylbenzene | 5.00 | 4.66 | 93.2 | 74.0-126 | |
| Hexachloro-1,3-butadiene | 5.00 | 4.91 | 98.2 | 57.0-150 | |
| Isopropylbenzene | 5.00 | 5.03 | 101 | 72.0-127 | |

## Laboratory Control Sample (LCS)

(LCS) R3856922-1 11/03/22 18:33

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.16 | 103 | 72.0-133 | |
| 2-Butanone (MEK) | 25.0 | 24.8 | 99.2 | 30.0-160 | |
| Methylene Chloride | 5.00 | 4.76 | 95.2 | 68.0-123 | |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 32.3 | 129 | 56.0-143 | |
| Methyl tert-butyl ether | 5.00 | 5.46 | 109 | 66.0-132 | |
| Naphthalene | 5.00 | 5.11 | 102 | 59.0-130 | |
| n-Propylbenzene | 5.00 | 5.14 | 103 | 74.0-126 | |
| Styrene | 5.00 | 4.69 | 93.8 | 72.0-127 | |
| 1,1,1,2-Tetrachloroethane | 5.00 | 4.87 | 97.4 | 74.0-129 | |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.41 | 88.2 | 68.0-128 | |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 4.13 | 82.6 | 61.0-139 | |
| Tetrachloroethene | 5.00 | 4.59 | 91.8 | 70.0-136 | |
| Toluene | 5.00 | 4.71 | 94.2 | 75.0-121 | |
| 1,2,3-Trichlorobenzene | 5.00 | 6.65 | 133 | 59.0-139 | |
| 1,2,4-Trichlorobenzene | 5.00 | 7.39 | 148 | 62.0-137 | J4 |
| 1,1,1-Trichloroethane | 5.00 | 4.84 | 96.8 | 69.0-126 | |
| 1,1,2-Trichloroethane | 5.00 | 4.80 | 96.0 | 78.0-123 | |
| Trichloroethene | 5.00 | 5.90 | 118 | 76.0-126 | |
| Trichlorofluoromethane | 5.00 | 4.12 | 82.4 | 61.0-142 | |
| 1,2,3-Trichloropropane | 5.00 | 5.39 | 108 | 67.0-129 | |
| 1,2,4-Trimethylbenzene | 5.00 | 5.25 | 105 | 70.0-126 | |
| 1,2,3-Trimethylbenzene | 5.00 | 5.37 | 107 | 74.0-124 | |
| 1,3,5-Trimethylbenzene | 5.00 | 4.62 | 92.4 | 73.0-127 | |
| Vinyl chloride | 5.00 | 4.45 | 89.0 | 63.0-134 | |
| Xylenes, Total | 15.0 | 14.8 | 98.7 | 72.0-127 | |
| Ethyl ether | 5.00 | 5.41 | 108 | 64.0-137 | |
| Tetrahydrofuran | 5.00 | 5.52 | 110 | 37.0-146 | |
| Iodomethane | 25.0 | 21.7 | 86.8 | 74.0-134 | |
| Allyl chloride | 25.0 | 21.7 | 86.8 | 70.0-131 | |
| trans-1,4-Dichloro-2-butene | 5.00 | 4.67 | 93.4 | 45.0-143 | |
| *(S) Toluene-d8* | | | *94.0* | *75.0-131* | |
| *(S) 4-Bromofluorobenzene* | | | *90.3* | *67.0-138* | |
| *(S) 1,2-Dichloroethane-d4* | | | *106* | *70.0-130* | |

## Method Blank (MB)

(MB) R3858856-3 11/04/22 11:02

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *100* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3858856-1 11/04/22 09:46 • (LCSD) R3858856-2 11/04/22 10:05

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| cis-1,2-Dichloroethene | 5.00 | 4.60 | 4.75 | 92.0 | 95.0 | 73.0-125 | | | 3.21 | 20 |
| Tetrahydrofuran | 5.00 | 4.72 | 4.98 | 94.4 | 99.6 | 37.0-146 | | | 5.36 | 24 |
| *(S) Toluene-d8* | | | | *105* | *105* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *103* | *103* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *98.6* | *98.1* | *70.0-130* | | | | |

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| B | The same analyte is found in the associated blank. |
| C3 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable. |
| C4 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result. |
| C5 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded high. Data is likely to show a high bias concerning the result. |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J4 | The associated batch QC was outside the established quality control range for accuracy. |
| J6 | The sample matrix interfered with the ability to make any accurate determination; spike value is low. |
| P1 | RPD value not applicable for sample concentrations less than 5 times the reporting limit. |

# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Billing Information:
Attn: Accounts Payable
2101 4th Avenue, Suite 1310
Seattle, WA 98121

Pres Chk

Report to: Brian O'Neal/Bill Haldeman

Email To: Shannon.McKernan@nv5.com;brian.oneal@nv5

Project Description: American Linen

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: 206-529-3980

Client Project # 1413.001.10.701.02

Lab Project # PESENVSWA-ALP

Collected by (print): NEW ARS

Site/Facility ID #

P.O. # 1413.001.10.701.02
~~443018-1413001.05.601~~

Collected by (signature): NEW

Immediately Packed on Ice N ___ Y ✓

*Rush?* (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 <2 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl <2 | V8260ULLC 40mlAmb-HCl | | | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-161-103122 | Grab | GW | — | 10/31/22 | 1037 | 9 | X | X | X | X | | X | X | X | | | | -01 |
| MW-160-103122 | | GW | — | | 1250 | | X | X | X | X | | X | X | X | | | | -02 |
| NEW ~~AAA~~ MW-979-103122 | | GW | — | | 1111 | | X | X | X | X | | X | X | X | | | | -03 |
| MW107-103122 | | GW | — | | 1021 | | X | X | X | X | | X | X | X | | | | -04 |
| W-MW-01-103122 | ↓ | GW | — | | 1400 | ↓ | X | X | X | X | | X | X | X | | | | -05 |
| TB-103122 | — | GW | — | ↓ | — | 1 | | | | | | | | X | | | | -06 |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |

NEW 10/31/22

Chain of Custody Page 1 of 1

Pace PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1552420

D032

Acctnum: PESENVSWA
Template: T218236
Prelogin: P957562
PM: 546 - Jared Starkey
PB:

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other _____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 6094 5459 7148

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / No HCL / MeoH TBR | If preservation required by Login: Date/Time |
|---|---|---|---|---|---|
| | 10-31-22 | 16:50 | | 1 | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: 1.4+1.7 °C 5.0+0 = 5.0 Bottles Received: 4J | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: 11-1-22 Time: 0900 | Hold: Condition: NCF / OK |

# ANALYTICAL REPORT

November 21, 2022



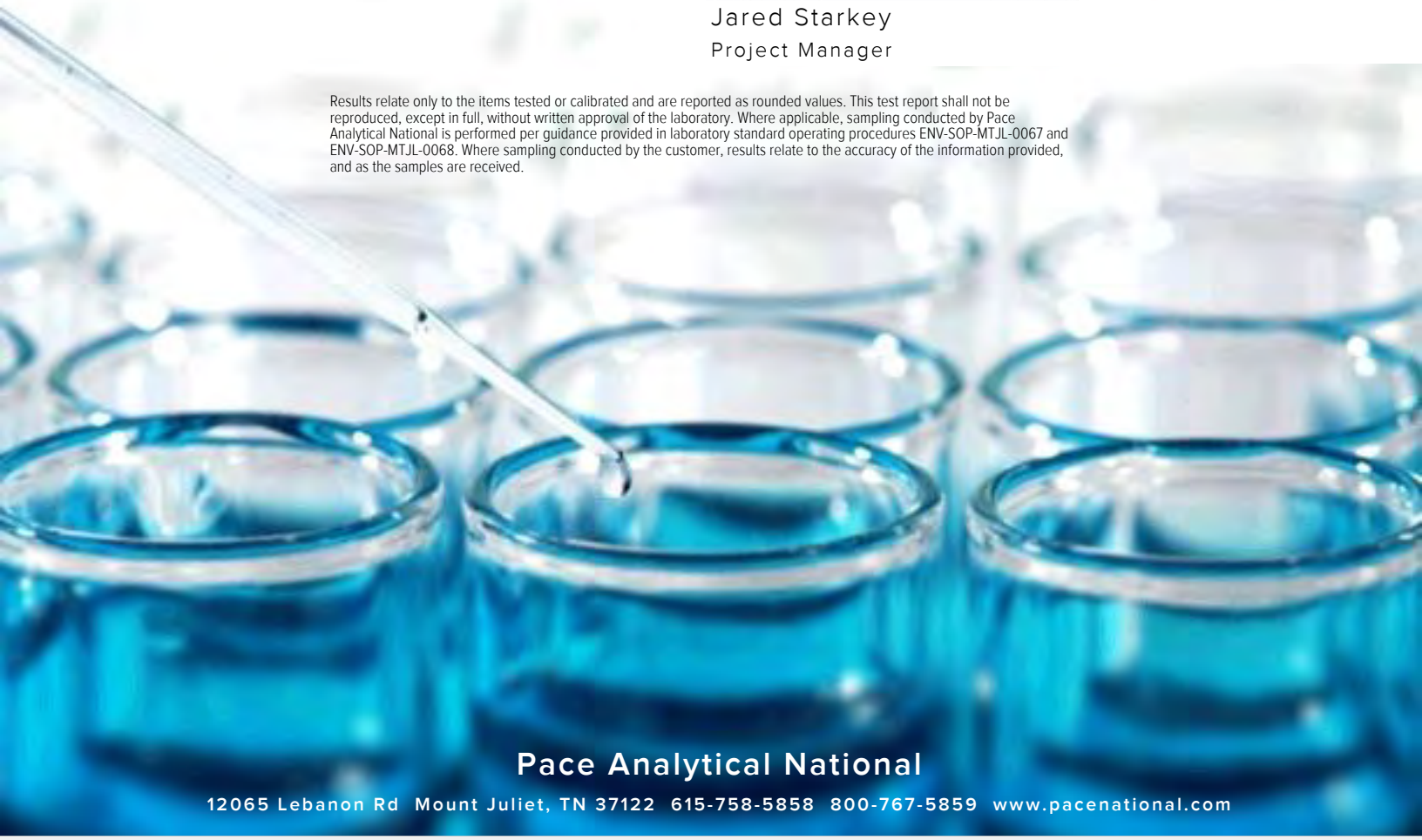
## PES Environmental, Inc.- WA

| | |
|---|---|
| Sample Delivery Group: | L1552983 |
| Samples Received: | 11/02/2022 |
| Project Number: | 1413.001.10.701.02 |
| Description: | American Linen |
| Report To: | Brian O'Neal/Bill Haldeman |
| | 2101 Fourth Ave., Suite 1310 |
| | Seattle, WA 98121 |

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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FMW-131-110122 L1552983-19 47

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## MW-312-110122 L1552983-01 GW

Collected by: ARS | Collected date/time: 11/01/22 09:13 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957558 | 1 | 11/11/22 13:13 | 11/11/22 13:13 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953073 | 1 | 11/02/22 22:06 | 11/02/22 22:06 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959765 | 1 | 11/18/22 15:42 | 11/18/22 15:42 | NCJ | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957861 | 1 | 11/12/22 10:23 | 11/13/22 12:40 | SJM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1954322 | 1 | 11/06/22 11:38 | 11/06/22 11:38 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1954601 | 1 | 11/05/22 16:00 | 11/05/22 16:00 | JAH | Mt. Juliet, TN |

## MW111-110122 L1552983-02 GW

Collected by: ARS | Collected date/time: 11/01/22 09:46 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957558 | 1 | 11/11/22 13:21 | 11/11/22 13:21 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953073 | 1 | 11/02/22 22:18 | 11/02/22 22:18 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959765 | 1 | 11/18/22 15:55 | 11/18/22 15:55 | NCJ | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957861 | 1 | 11/12/22 10:23 | 11/13/22 12:43 | SJM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1954322 | 1 | 11/06/22 11:47 | 11/06/22 11:47 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1954601 | 1 | 11/05/22 16:19 | 11/05/22 16:19 | JAH | Mt. Juliet, TN |

## MW103-110122 L1552983-03 GW

Collected by: ARS | Collected date/time: 11/01/22 10:18 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957558 | 1 | 11/11/22 13:27 | 11/11/22 13:27 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953073 | 1 | 11/02/22 22:31 | 11/02/22 22:31 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959765 | 1 | 11/18/22 16:11 | 11/18/22 16:11 | NCJ | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957861 | 1 | 11/12/22 10:23 | 11/13/22 12:46 | SJM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1954322 | 1 | 11/06/22 11:51 | 11/06/22 11:51 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1954601 | 1 | 11/05/22 16:38 | 11/05/22 16:38 | JAH | Mt. Juliet, TN |

## MW109-110122 L1552983-04 GW

Collected by: ARS | Collected date/time: 11/01/22 10:53 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957558 | 1 | 11/11/22 13:32 | 11/11/22 13:32 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953073 | 1 | 11/02/22 23:08 | 11/02/22 23:08 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959765 | 1 | 11/18/22 17:08 | 11/18/22 17:08 | NCJ | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957861 | 1 | 11/12/22 10:23 | 11/13/22 12:50 | SJM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1954322 | 1 | 11/06/22 11:55 | 11/06/22 11:55 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1954601 | 1 | 11/05/22 16:58 | 11/05/22 16:58 | JAH | Mt. Juliet, TN |

## MW-311-110122 L1552983-05 GW

Collected by: ARS | Collected date/time: 11/01/22 11:36 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957558 | 1 | 11/11/22 13:36 | 11/11/22 13:36 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953073 | 1 | 11/02/22 23:21 | 11/02/22 23:21 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959765 | 1 | 11/18/22 17:21 | 11/18/22 17:21 | NCJ | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957861 | 1 | 11/12/22 10:23 | 11/13/22 12:59 | SJM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1954322 | 1 | 11/06/22 11:59 | 11/06/22 11:59 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1954601 | 1 | 11/05/22 17:17 | 11/05/22 17:17 | JAH | Mt. Juliet, TN |

## MW108-110122 L1552983-06 GW

Collected by: ARS | Collected date/time: 11/01/22 12:09 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957558 | 1 | 11/11/22 13:41 | 11/11/22 13:41 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953073 | 1 | 11/02/22 23:33 | 11/02/22 23:33 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959765 | 1 | 11/18/22 17:38 | 11/18/22 17:38 | NCJ | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957861 | 1 | 11/12/22 10:23 | 11/13/22 13:03 | SJM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1954322 | 1 | 11/06/22 12:02 | 11/06/22 12:02 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1954601 | 1 | 11/05/22 17:36 | 11/05/22 17:36 | JAH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1957539 | 20 | 11/11/22 16:58 | 11/11/22 16:58 | ACG | Mt. Juliet, TN |

## MW-310-110122 L1552983-07 GW

Collected by: ARS | Collected date/time: 11/01/22 12:45 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957558 | 1 | 11/11/22 13:45 | 11/11/22 13:45 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953073 | 1 | 11/02/22 23:46 | 11/02/22 23:46 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959765 | 1 | 11/18/22 17:56 | 11/18/22 17:56 | NCJ | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957862 | 1 | 11/11/22 20:29 | 11/12/22 16:08 | JDG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1954322 | 1 | 11/06/22 12:05 | 11/06/22 12:05 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1954601 | 1 | 11/05/22 17:55 | 11/05/22 17:55 | JAH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1957539 | 1 | 11/11/22 14:21 | 11/11/22 14:21 | ACG | Mt. Juliet, TN |

## MW126-110122 L1552983-08 GW

Collected by: ARS | Collected date/time: 11/01/22 13:28 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957558 | 1 | 11/11/22 13:56 | 11/11/22 13:56 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953073 | 1 | 11/02/22 23:58 | 11/02/22 23:58 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959765 | 1 | 11/18/22 18:09 | 11/18/22 18:09 | NCJ | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957862 | 1 | 11/11/22 20:29 | 11/12/22 16:11 | JDG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1954322 | 1 | 11/06/22 12:11 | 11/06/22 12:11 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1954601 | 1 | 11/05/22 18:14 | 11/05/22 18:14 | JAH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1957539 | 1 | 11/11/22 14:41 | 11/11/22 14:41 | ACG | Mt. Juliet, TN |

## MW-331-110122 L1552983-09 GW

Collected by: ARS | Collected date/time: 11/01/22 14:02 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957558 | 1 | 11/11/22 14:02 | 11/11/22 14:02 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953073 | 1 | 11/03/22 00:11 | 11/03/22 00:11 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953073 | 10 | 11/03/22 00:23 | 11/03/22 00:23 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959765 | 1 | 11/18/22 18:25 | 11/18/22 18:25 | NCJ | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957862 | 1 | 11/11/22 20:29 | 11/12/22 16:14 | JDG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1954322 | 1 | 11/06/22 12:17 | 11/06/22 12:17 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1954601 | 1 | 11/05/22 18:34 | 11/05/22 18:34 | JAH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1957539 | 1 | 11/11/22 15:00 | 11/11/22 15:00 | ACG | Mt. Juliet, TN |

## MW-318-110122 L1552983-10 GW

Collected by: ARS | Collected date/time: 11/01/22 14:53 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957558 | 1 | 11/11/22 14:07 | 11/11/22 14:07 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953073 | 1 | 11/03/22 00:36 | 11/03/22 00:36 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959765 | 1 | 11/18/22 18:41 | 11/18/22 18:41 | NCJ | Mt. Juliet, TN |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## MW-318-110122 L1552983-10 GW

Collected by: ARS | Collected date/time: 11/01/22 14:53 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Metals (ICPMS) by Method 6020B | WG1957862 | 1 | 11/11/22 20:29 | 11/12/22 16:18 | JDG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1954322 | 1 | 11/06/22 12:27 | 11/06/22 12:27 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1954601 | 1 | 11/05/22 18:53 | 11/05/22 18:53 | JAH | Mt. Juliet, TN |

## MW-309-110122 L1552983-11 GW

Collected by: ARS | Collected date/time: 11/01/22 14:15 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957558 | 1 | 11/11/22 14:12 | 11/11/22 14:12 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953073 | 1 | 11/03/22 00:48 | 11/03/22 00:48 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1959765 | 1 | 11/18/22 19:01 | 11/18/22 19:01 | NCJ | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957862 | 1 | 11/11/22 20:29 | 11/12/22 16:27 | JDG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1954322 | 1 | 11/06/22 12:30 | 11/06/22 12:30 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1954601 | 1 | 11/05/22 19:39 | 11/05/22 19:39 | JAH | Mt. Juliet, TN |

## MW-308-110122 L1552983-12 GW

Collected by: ARS | Collected date/time: 11/01/22 13:42 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957558 | 1 | 11/11/22 14:18 | 11/11/22 14:18 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953073 | 1 | 11/03/22 01:01 | 11/03/22 01:01 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1960009 | 1 | 11/19/22 13:02 | 11/19/22 13:02 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957862 | 1 | 11/11/22 20:29 | 11/12/22 16:31 | JDG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1954320 | 1 | 11/06/22 10:17 | 11/06/22 10:17 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1955004 | 1 | 11/06/22 00:24 | 11/06/22 00:24 | JAH | Mt. Juliet, TN |

## MW122-110122 L1552983-13 GW

Collected by: ARS | Collected date/time: 11/01/22 13:11 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957558 | 1 | 11/11/22 14:22 | 11/11/22 14:22 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953376 | 1 | 11/02/22 19:18 | 11/02/22 19:18 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954904 | 1 | 11/05/22 20:01 | 11/05/22 20:01 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1960009 | 1 | 11/19/22 13:58 | 11/19/22 13:58 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957862 | 1 | 11/11/22 20:29 | 11/12/22 16:34 | JDG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1954320 | 1 | 11/06/22 10:24 | 11/06/22 10:24 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1955004 | 1 | 11/06/22 00:43 | 11/06/22 00:43 | JAH | Mt. Juliet, TN |

## MW-158A-110122 L1552983-14 GW

Collected by: ARS | Collected date/time: 11/01/22 11:41 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957558 | 1 | 11/11/22 14:29 | 11/11/22 14:29 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953376 | 1 | 11/02/22 19:30 | 11/02/22 19:30 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1960009 | 1 | 11/19/22 15:03 | 11/19/22 15:03 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957862 | 1 | 11/11/22 20:29 | 11/12/22 16:37 | JDG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1954320 | 1 | 11/06/22 10:27 | 11/06/22 10:27 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1955004 | 1 | 11/06/22 01:02 | 11/06/22 01:02 | JAH | Mt. Juliet, TN |

## MW-143-110122 L1552983-15 GW

Collected by: ARS | Collected date/time: 11/01/22 12:18 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957558 | 1 | 11/11/22 14:35 | 11/11/22 14:35 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953376 | 1 | 11/02/22 19:43 | 11/02/22 19:43 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1960009 | 1 | 11/19/22 15:29 | 11/19/22 15:29 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957862 | 1 | 11/11/22 20:29 | 11/12/22 16:41 | JDG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1955151 | 1 | 11/06/22 14:46 | 11/06/22 14:46 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1955004 | 1 | 11/06/22 01:21 | 11/06/22 01:21 | JHH | Mt. Juliet, TN |

## MW-313-110122 L1552983-16 GW

Collected by: ARS | Collected date/time: 11/01/22 10:53 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957558 | 1 | 11/11/22 14:41 | 11/11/22 14:41 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953376 | 1 | 11/02/22 19:56 | 11/02/22 19:56 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953376 | 5 | 11/02/22 20:09 | 11/02/22 20:09 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1960009 | 1 | 11/19/22 16:04 | 11/19/22 16:04 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957862 | 1 | 11/11/22 20:29 | 11/12/22 16:44 | JDG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1955151 | 1 | 11/06/22 14:50 | 11/06/22 14:50 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1955004 | 1 | 11/06/22 01:40 | 11/06/22 01:40 | JHH | Mt. Juliet, TN |

## MW-314-110122 L1552983-17 GW

Collected by: ARS | Collected date/time: 11/01/22 10:14 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957558 | 1 | 11/11/22 14:55 | 11/11/22 14:55 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953376 | 1 | 11/02/22 20:47 | 11/02/22 20:47 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954904 | 5 | 11/05/22 20:46 | 11/05/22 20:46 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1960009 | 1 | 11/19/22 16:35 | 11/19/22 16:35 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957862 | 1 | 11/11/22 20:29 | 11/12/22 16:47 | JDG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1955151 | 1 | 11/06/22 14:56 | 11/06/22 14:56 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1955004 | 1 | 11/06/22 01:59 | 11/06/22 01:59 | JHH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1960796 | 20 | 11/16/22 15:26 | 11/16/22 15:26 | ACG | Mt. Juliet, TN |

## MW110-110122 L1552983-18 GW

Collected by: ARS | Collected date/time: 11/01/22 09:31 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957558 | 1 | 11/11/22 15:00 | 11/11/22 15:00 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953376 | 1 | 11/02/22 20:59 | 11/02/22 20:59 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1960009 | 1 | 11/19/22 17:00 | 11/19/22 17:00 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957862 | 1 | 11/11/22 20:29 | 11/12/22 16:50 | JDG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1955151 | 1 | 11/06/22 15:03 | 11/06/22 15:03 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1955208 | 10 | 11/07/22 09:31 | 11/07/22 09:31 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1955004 | 1 | 11/06/22 01:18 | 11/06/22 01:18 | JHH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1960796 | 20 | 11/16/22 15:46 | 11/16/22 15:46 | ACG | Mt. Juliet, TN |

## FMW-131-110122 L1552983-19 GW

Collected by: ARS | Collected date/time: 11/01/22 10:47 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957558 | 1 | 11/11/22 15:05 | 11/11/22 15:05 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953376 | 1 | 11/02/22 21:12 | 11/02/22 21:12 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954904 | 1 | 11/05/22 21:01 | 11/05/22 21:01 | GEB | Mt. Juliet, TN |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## FMW-131-110122 L1552983-19 GW

Collected by: ARS | Collected date/time: 11/01/22 10:47 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 9060A | WG1960009 | 1 | 11/19/22 18:21 | 11/19/22 18:21 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957862 | 1 | 11/11/22 20:29 | 11/12/22 16:54 | JDG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1955151 | 1 | 11/06/22 15:06 | 11/06/22 15:06 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1955004 | 1 | 11/06/22 01:37 | 11/06/22 01:37 | JHH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1960796 | 1 | 11/16/22 15:07 | 11/16/22 15:07 | ACG | Mt. Juliet, TN |

## GEI-2-110122 L1552983-20 GW

Collected by: ARS | Collected date/time: 11/01/22 12:47 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957558 | 1 | 11/11/22 15:10 | 11/11/22 15:10 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953376 | 1 | 11/02/22 21:25 | 11/02/22 21:25 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1960009 | 1 | 11/19/22 19:38 | 11/19/22 19:38 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957862 | 1 | 11/11/22 20:29 | 11/12/22 16:57 | JDG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1955208 | 1 | 11/07/22 09:38 | 11/07/22 09:38 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1955668 | 10 | 11/07/22 14:39 | 11/07/22 14:39 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1955004 | 1 | 11/06/22 01:56 | 11/06/22 01:56 | JHH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1960796 | 1 | 11/16/22 14:48 | 11/16/22 14:48 | ACG | Mt. Juliet, TN |

## FMW-137-110122 L1552983-21 GW

Collected by: ARS | Collected date/time: 11/01/22 14:54 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957561 | 1 | 11/13/22 07:00 | 11/13/22 07:00 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953376 | 1 | 11/02/22 21:38 | 11/02/22 21:38 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1960009 | 1 | 11/19/22 20:54 | 11/19/22 20:54 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957862 | 1 | 11/11/22 20:29 | 11/12/22 17:07 | JDG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1955208 | 1 | 11/07/22 09:42 | 11/07/22 09:42 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1955004 | 1 | 11/06/22 09:18 | 11/06/22 09:18 | JHH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1957616 | 1 | 11/11/22 15:39 | 11/11/22 15:39 | JHH | Mt. Juliet, TN |

## MW-342-110122 L1552983-22 GW

Collected by: ARS | Collected date/time: 11/01/22 10:24 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957561 | 1 | 11/13/22 07:13 | 11/13/22 07:13 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953376 | 1 | 11/02/22 21:50 | 11/02/22 21:50 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1960009 | 1 | 11/19/22 21:29 | 11/19/22 21:29 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957862 | 1 | 11/11/22 20:29 | 11/12/22 15:55 | JDG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1955208 | 1 | 11/07/22 09:45 | 11/07/22 09:45 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1955668 | 10 | 11/07/22 14:43 | 11/07/22 14:43 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956115 | 1 | 11/08/22 23:01 | 11/08/22 23:01 | JAH | Mt. Juliet, TN |

## MW-343-110122 L1552983-23 GW

Collected by: ARS | Collected date/time: 11/01/22 12:11 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957561 | 1 | 11/13/22 07:19 | 11/13/22 07:19 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953376 | 1 | 11/02/22 22:03 | 11/02/22 22:03 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1960009 | 1 | 11/19/22 21:55 | 11/19/22 21:55 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957862 | 1 | 11/11/22 20:29 | 11/12/22 17:10 | JDG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1955208 | 1 | 11/07/22 09:48 | 11/07/22 09:48 | JAP | Mt. Juliet, TN |

## MW-343-110122 L1552983-23 GW

Collected by: ARS | Collected date/time: 11/01/22 12:11 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956115 | 1 | 11/08/22 23:20 | 11/08/22 23:20 | JAH | Mt. Juliet, TN |

## MW-329-110122 L1552983-24 GW

Collected by: ARS | Collected date/time: 11/01/22 14:40 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957561 | 1 | 11/13/22 07:24 | 11/13/22 07:24 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953376 | 1 | 11/02/22 22:16 | 11/02/22 22:16 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1960009 | 1 | 11/19/22 23:20 | 11/19/22 23:20 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957862 | 1 | 11/11/22 20:29 | 11/12/22 17:13 | JDG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1955208 | 1 | 11/07/22 09:51 | 11/07/22 09:51 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956115 | 1 | 11/08/22 23:40 | 11/08/22 23:40 | JAH | Mt. Juliet, TN |

## MW128-110122 L1552983-25 GW

Collected by: ARS | Collected date/time: 11/01/22 13:44 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957561 | 1 | 11/13/22 07:29 | 11/13/22 07:29 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953376 | 1 | 11/02/22 22:29 | 11/02/22 22:29 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1960009 | 1 | 11/19/22 23:45 | 11/19/22 23:45 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957862 | 1 | 11/11/22 20:29 | 11/12/22 17:17 | JDG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1955208 | 1 | 11/07/22 09:54 | 11/07/22 09:54 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1955668 | 10 | 11/07/22 14:46 | 11/07/22 14:46 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956115 | 1 | 11/08/22 23:59 | 11/08/22 23:59 | JAH | Mt. Juliet, TN |

## MW-317-110122 L1552983-26 GW

Collected by: ARS | Collected date/time: 11/01/22 14:58 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1957561 | 1 | 11/13/22 07:35 | 11/13/22 07:35 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1953376 | 1 | 11/02/22 23:07 | 11/02/22 23:07 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1960009 | 1 | 11/20/22 00:11 | 11/20/22 00:11 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1957862 | 1 | 11/11/22 20:29 | 11/12/22 17:20 | JDG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1955208 | 1 | 11/07/22 09:57 | 11/07/22 09:57 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956115 | 5 | 11/09/22 05:07 | 11/09/22 05:07 | JAH | Mt. Juliet, TN |

## TB-110122 L1552983-27 GW

Collected by: ARS | Collected date/time: 11/01/22 00:00 | Received date/time: 11/02/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1955004 | 1 | 11/05/22 22:48 | 11/05/22 22:48 | JAH | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 870000 | | 8450 | 20000 | 1 | 11/11/2022 13:13 | WG1957558 |

Sample Narrative:

L1552983-01 WG1957558: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 9860 | | 379 | 1000 | 1 | 11/02/2022 22:06 | WG1953073 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 22:06 | WG1953073 |
| Sulfate | 612 | J | 594 | 5000 | 1 | 11/02/2022 22:06 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 6420 | B | 102 | 1000 | 1 | 11/18/2022 15:42 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 4740 | | 28.1 | 100 | 1 | 11/13/2022 12:40 | WG1957861 |
| Manganese | 516 | | 0.704 | 5.00 | 1 | 11/13/2022 12:40 | WG1957861 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 2430 | | 0.287 | 0.678 | 1 | 11/06/2022 11:38 | WG1954322 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/06/2022 11:38 | WG1954322 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 11:38 | WG1954322 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/05/2022 16:00 | WG1954601 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 16:00 | WG1954601 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 16:00 | WG1954601 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| 2,2-Dichloropropane | U | J3 | 0.0317 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 16:00 | WG1954601 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 16:00 | WG1954601 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 16:00 | WG1954601 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 16:00 | WG1954601 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 16:00 | WG1954601 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 16:00 | WG1954601 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| Toluene | 0.102 | J | 0.0500 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 16:00 | WG1954601 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 16:00 | WG1954601 |
| Ethyl Ether | 0.147 | | 0.0170 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 16:00 | WG1954601 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/05/2022 16:00* | WG1954601 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/05/2022 16:00* | WG1954601 |
| *(S) 1,2-Dichloroethane-d4* | *101* | | | *70.0-130* | | *11/05/2022 16:00* | WG1954601 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 190000 | | 8450 | 20000 | 1 | 11/11/2022 13:21 | WG1957558 |

Sample Narrative:

L1552983-02 WG1957558: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 26900 | | 379 | 1000 | 1 | 11/02/2022 22:18 | WG1953073 |
| Nitrate | 81.7 | J | 48.0 | 100 | 1 | 11/02/2022 22:18 | WG1953073 |
| Sulfate | 15700 | | 594 | 5000 | 1 | 11/02/2022 22:18 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 677 | B J | 102 | 1000 | 1 | 11/18/2022 15:55 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 655 | | 28.1 | 100 | 1 | 11/13/2022 12:43 | WG1957861 |
| Manganese | 257 | | 0.704 | 5.00 | 1 | 11/13/2022 12:43 | WG1957861 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 182 | | 0.287 | 0.678 | 1 | 11/06/2022 11:47 | WG1954322 |
| Ethane | 14.4 | | 0.296 | 1.29 | 1 | 11/06/2022 11:47 | WG1954322 |
| Ethene | 3.63 | | 0.422 | 1.27 | 1 | 11/06/2022 11:47 | WG1954322 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/05/2022 16:19 | WG1954601 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 16:19 | WG1954601 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 16:19 | WG1954601 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| cis-1,2-Dichloroethene | 0.639 | | 0.0276 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| 2,2-Dichloropropane | U | J3 | 0.0317 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 16:19 | WG1954601 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 16:19 | WG1954601 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 16:19 | WG1954601 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 16:19 | WG1954601 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 16:19 | WG1954601 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 16:19 | WG1954601 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 16:19 | WG1954601 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| Vinyl chloride | 8.22 | | 0.0273 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 16:19 | WG1954601 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 16:19 | WG1954601 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| *(S) Toluene-d8* | *110* | | | *75.0-131* | | *11/05/2022 16:19* | WG1954601 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/05/2022 16:19* | WG1954601 |
| *(S) 1,2-Dichloroethane-d4* | *98.5* | | | *70.0-130* | | *11/05/2022 16:19* | WG1954601 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 311000 | | 8450 | 20000 | 1 | 11/11/2022 13:27 | WG1957558 |

Sample Narrative:

L1552983-03 WG1957558: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 36100 | | 379 | 1000 | 1 | 11/02/2022 22:31 | WG1953073 |
| Nitrate | 107 | | 48.0 | 100 | 1 | 11/02/2022 22:31 | WG1953073 |
| Sulfate | 27900 | | 594 | 5000 | 1 | 11/02/2022 22:31 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 960 | B J | 102 | 1000 | 1 | 11/18/2022 16:11 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 881 | | 28.1 | 100 | 1 | 11/13/2022 12:46 | WG1957861 |
| Manganese | 1010 | | 0.704 | 5.00 | 1 | 11/13/2022 12:46 | WG1957861 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 277 | | 0.287 | 0.678 | 1 | 11/06/2022 11:51 | WG1954322 |
| Ethane | 20.6 | | 0.296 | 1.29 | 1 | 11/06/2022 11:51 | WG1954322 |
| Ethene | 28.1 | | 0.422 | 1.27 | 1 | 11/06/2022 11:51 | WG1954322 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/05/2022 16:38 | WG1954601 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 16:38 | WG1954601 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 16:38 | WG1954601 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,1-Dichloroethene | 0.968 | | 0.0200 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| cis-1,2-Dichloroethene | 98.5 | | 0.0276 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| trans-1,2-Dichloroethene | 0.144 | J | 0.0572 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| 2,2-Dichloropropane | U | J3 | 0.0317 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 16:38 | WG1954601 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 16:38 | WG1954601 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 16:38 | WG1954601 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 16:38 | WG1954601 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 16:38 | WG1954601 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 16:38 | WG1954601 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| Trichloroethene | 1.29 | | 0.0160 | 0.0400 | 1 | 11/05/2022 16:38 | WG1954601 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,2,4-Trimethylbenzene | 0.0900 | J | 0.0464 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| Vinyl chloride | 55.1 | | 0.0273 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 16:38 | WG1954601 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| Tetrahydrofuran | 0.165 | J | 0.0900 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 16:38 | WG1954601 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/05/2022 16:38* | WG1954601 |
| *(S) 4-Bromofluorobenzene* | *97.9* | | | *67.0-138* | | *11/05/2022 16:38* | WG1954601 |
| *(S) 1,2-Dichloroethane-d4* | *101* | | | *70.0-130* | | *11/05/2022 16:38* | WG1954601 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 497000 | | 8450 | 20000 | 1 | 11/11/2022 13:32 | WG1957558 |

Sample Narrative:

L1552983-04 WG1957558: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 7520 | | 379 | 1000 | 1 | 11/02/2022 23:08 | WG1953073 |
| Nitrate | 105 | | 48.0 | 100 | 1 | 11/02/2022 23:08 | WG1953073 |
| Sulfate | 5220 | | 594 | 5000 | 1 | 11/02/2022 23:08 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 4290 | B | 102 | 1000 | 1 | 11/18/2022 17:08 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 12300 | | 28.1 | 100 | 1 | 11/13/2022 12:50 | WG1957861 |
| Manganese | 3180 | | 0.704 | 5.00 | 1 | 11/13/2022 12:50 | WG1957861 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 2190 | | 0.287 | 0.678 | 1 | 11/06/2022 11:55 | WG1954322 |
| Ethane | 8.63 | | 0.296 | 1.29 | 1 | 11/06/2022 11:55 | WG1954322 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 11:55 | WG1954322 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 1.46 | | 0.548 | 1.00 | 1 | 11/05/2022 16:58 | WG1954601 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 16:58 | WG1954601 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 16:58 | WG1954601 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| cis-1,2-Dichloroethene | 20.9 | | 0.0276 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| 2,2-Dichloropropane | U | J3 | 0.0317 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 16:58 | WG1954601 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 16:58 | WG1954601 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 16:58 | WG1954601 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 16:58 | WG1954601 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 16:58 | WG1954601 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 16:58 | WG1954601 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 16:58 | WG1954601 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| Vinyl chloride | 4.26 | | 0.0273 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 16:58 | WG1954601 |
| Ethyl Ether | 0.245 | | 0.0170 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 16:58 | WG1954601 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/05/2022 16:58* | WG1954601 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/05/2022 16:58* | WG1954601 |
| *(S) 1,2-Dichloroethane-d4* | *99.5* | | | *70.0-130* | | *11/05/2022 16:58* | WG1954601 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 367000 | | 8450 | 20000 | 1 | 11/11/2022 13:36 | WG1957558 |

Sample Narrative:

L1552983-05 WG1957558: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 48700 | | 379 | 1000 | 1 | 11/02/2022 23:21 | WG1953073 |
| Nitrate | 107 | | 48.0 | 100 | 1 | 11/02/2022 23:21 | WG1953073 |
| Sulfate | 27700 | | 594 | 5000 | 1 | 11/02/2022 23:21 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1700 | B | 102 | 1000 | 1 | 11/18/2022 17:21 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 543 | | 28.1 | 100 | 1 | 11/13/2022 12:59 | WG1957861 |
| Manganese | 310 | | 0.704 | 5.00 | 1 | 11/13/2022 12:59 | WG1957861 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 111 | | 0.287 | 0.678 | 1 | 11/06/2022 11:59 | WG1954322 |
| Ethane | 7.11 | | 0.296 | 1.29 | 1 | 11/06/2022 11:59 | WG1954322 |
| Ethene | 3.79 | | 0.422 | 1.27 | 1 | 11/06/2022 11:59 | WG1954322 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/05/2022 17:17 | WG1954601 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 17:17 | WG1954601 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 17:17 | WG1954601 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| cis-1,2-Dichloroethene | 0.267 | | 0.0276 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| 2,2-Dichloropropane | U | J3 | 0.0317 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 17:17 | WG1954601 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 17:17 | WG1954601 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 17:17 | WG1954601 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 17:17 | WG1954601 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 17:17 | WG1954601 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 17:17 | WG1954601 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| Trichloroethene | 0.162 | | 0.0160 | 0.0400 | 1 | 11/05/2022 17:17 | WG1954601 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| Vinyl chloride | 1.37 | | 0.0273 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 17:17 | WG1954601 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 17:17 | WG1954601 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/05/2022 17:17* | WG1954601 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/05/2022 17:17* | WG1954601 |
| *(S) 1,2-Dichloroethane-d4* | *99.6* | | | *70.0-130* | | *11/05/2022 17:17* | WG1954601 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 518000 | | 8450 | 20000 | 1 | 11/11/2022 13:41 | WG1957558 |

Sample Narrative:

L1552983-06 WG1957558: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 22400 | | 379 | 1000 | 1 | 11/02/2022 23:33 | WG1953073 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 23:33 | WG1953073 |
| Sulfate | 35000 | | 594 | 5000 | 1 | 11/02/2022 23:33 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 4220 | B | 102 | 1000 | 1 | 11/18/2022 17:38 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 12100 | | 28.1 | 100 | 1 | 11/13/2022 13:03 | WG1957861 |
| Manganese | 1560 | | 0.704 | 5.00 | 1 | 11/13/2022 13:03 | WG1957861 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 3350 | | 0.287 | 0.678 | 1 | 11/06/2022 12:02 | WG1954322 |
| Ethane | 34.2 | | 0.296 | 1.29 | 1 | 11/06/2022 12:02 | WG1954322 |
| Ethene | 7.87 | | 0.422 | 1.27 | 1 | 11/06/2022 12:02 | WG1954322 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 2.08 | | 0.548 | 1.00 | 1 | 11/05/2022 17:36 | WG1954601 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| Benzene | 3.23 | | 0.0160 | 0.0400 | 1 | 11/05/2022 17:36 | WG1954601 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 17:36 | WG1954601 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,1-Dichloroethane | 0.0600 | J | 0.0230 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,1-Dichloroethene | 1.16 | | 0.0200 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| cis-1,2-Dichloroethene | 455 | | 0.552 | 2.00 | 20 | 11/11/2022 16:58 | WG1957539 |
| trans-1,2-Dichloroethene | 2.80 | | 0.0572 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| 2,2-Dichloropropane | U | J3 | 0.0317 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 17:36 | WG1954601 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 17:36 | WG1954601 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 17:36 | WG1954601 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 17:36 | WG1954601 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 17:36 | WG1954601 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 17:36 | WG1954601 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| Tetrachloroethene | 97.7 | | 0.0280 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| Toluene | 0.184 | J | 0.0500 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| Trichloroethene | 42.7 | | 0.0160 | 0.0400 | 1 | 11/05/2022 17:36 | WG1954601 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| Vinyl chloride | 115 | | 0.546 | 2.00 | 20 | 11/11/2022 16:58 | WG1957539 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 17:36 | WG1954601 |
| Ethyl Ether | 0.310 | | 0.0170 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| Tetrahydrofuran | 0.958 | | 0.0900 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 17:36 | WG1954601 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/05/2022 17:36* | WG1954601 |
| *(S) Toluene-d8* | *115* | | | *75.0-131* | | *11/11/2022 16:58* | WG1957539 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/05/2022 17:36* | WG1954601 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *11/11/2022 16:58* | WG1957539 |
| *(S) 1,2-Dichloroethane-d4* | *101* | | | *70.0-130* | | *11/05/2022 17:36* | WG1954601 |
| *(S) 1,2-Dichloroethane-d4* | *103* | | | *70.0-130* | | *11/11/2022 16:58* | WG1957539 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 665000 | | 8450 | 20000 | 1 | 11/11/2022 13:45 | WG1957558 |

Sample Narrative:

L1552983-07 WG1957558: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 8190 | | 379 | 1000 | 1 | 11/02/2022 23:46 | WG1953073 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 23:46 | WG1953073 |
| Sulfate | 45900 | | 594 | 5000 | 1 | 11/02/2022 23:46 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 5880 | B | 102 | 1000 | 1 | 11/18/2022 17:56 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 14200 | | 28.1 | 100 | 1 | 11/12/2022 16:08 | WG1957862 |
| Manganese | 1370 | | 0.704 | 5.00 | 1 | 11/12/2022 16:08 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 538 | | 0.287 | 0.678 | 1 | 11/06/2022 12:05 | WG1954322 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/06/2022 12:05 | WG1954322 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 12:05 | WG1954322 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 1.93 | | 0.548 | 1.00 | 1 | 11/05/2022 17:55 | WG1954601 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 17:55 | WG1954601 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 17:55 | WG1954601 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| sec-Butylbenzene | 0.191 | J | 0.101 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| cis-1,2-Dichloroethene | 0.109 | | 0.0276 | 0.100 | 1 | 11/11/2022 14:21 | WG1957539 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| 2,2-Dichloropropane | U | J3 | 0.0317 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 17:55 | WG1954601 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 17:55 | WG1954601 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 17:55 | WG1954601 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 17:55 | WG1954601 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 17:55 | WG1954601 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 17:55 | WG1954601 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 14:21 | WG1957539 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 17:55 | WG1954601 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/11/2022 14:21 | WG1957539 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 17:55 | WG1954601 |
| Ethyl Ether | 0.0810 | J | 0.0170 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 17:55 | WG1954601 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/05/2022 17:55* | WG1954601 |
| *(S) Toluene-d8* | *115* | | | *75.0-131* | | *11/11/2022 14:21* | WG1957539 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/05/2022 17:55* | WG1954601 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/11/2022 14:21* | WG1957539 |
| *(S) 1,2-Dichloroethane-d4* | *98.6* | | | *70.0-130* | | *11/05/2022 17:55* | WG1954601 |
| *(S) 1,2-Dichloroethane-d4* | *110* | | | *70.0-130* | | *11/11/2022 14:21* | WG1957539 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 203000 | | 8450 | 20000 | 1 | 11/11/2022 13:56 | WG1957558 |

Sample Narrative:

L1552983-08 WG1957558: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 6770 | | 379 | 1000 | 1 | 11/02/2022 23:58 | WG1953073 |
| Nitrate | 87.9 | J | 48.0 | 100 | 1 | 11/02/2022 23:58 | WG1953073 |
| Sulfate | 2690 | J | 594 | 5000 | 1 | 11/02/2022 23:58 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1510 | B | 102 | 1000 | 1 | 11/18/2022 18:09 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 208 | | 28.1 | 100 | 1 | 11/12/2022 16:11 | WG1957862 |
| Manganese | 55.9 | | 0.704 | 5.00 | 1 | 11/12/2022 16:11 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 115 | | 0.287 | 0.678 | 1 | 11/06/2022 12:11 | WG1954322 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/06/2022 12:11 | WG1954322 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 12:11 | WG1954322 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/05/2022 18:14 | WG1954601 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 18:14 | WG1954601 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 18:14 | WG1954601 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/11/2022 14:41 | WG1957539 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| 2,2-Dichloropropane | U | J3 | 0.0317 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 18:14 | WG1954601 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 18:14 | WG1954601 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 18:14 | WG1954601 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 18:14 | WG1954601 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 18:14 | WG1954601 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 18:14 | WG1954601 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 18:14 | WG1954601 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 18:14 | WG1954601 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 18:14 | WG1954601 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/05/2022 18:14* | WG1954601 |
| *(S) Toluene-d8* | *112* | | | *75.0-131* | | *11/11/2022 14:41* | WG1957539 |
| *(S) 4-Bromofluorobenzene* | *99.5* | | | *67.0-138* | | *11/05/2022 18:14* | WG1954601 |
| *(S) 4-Bromofluorobenzene* | *97.6* | | | *67.0-138* | | *11/11/2022 14:41* | WG1957539 |
| *(S) 1,2-Dichloroethane-d4* | *96.7* | | | *70.0-130* | | *11/05/2022 18:14* | WG1954601 |
| *(S) 1,2-Dichloroethane-d4* | *102* | | | *70.0-130* | | *11/11/2022 14:41* | WG1957539 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 275000 | | 8450 | 20000 | 1 | 11/11/2022 14:02 | WG1957558 |

Sample Narrative:

L1552983-09 WG1957558: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 34300 | | 379 | 1000 | 1 | 11/03/2022 00:11 | WG1953073 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/03/2022 00:11 | WG1953073 |
| Sulfate | 227000 | | 5940 | 50000 | 10 | 11/03/2022 00:23 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 1830 | B | 102 | 1000 | 1 | 11/18/2022 18:25 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 10400 | | 28.1 | 100 | 1 | 11/12/2022 16:14 | WG1957862 |
| Manganese | 640 | | 0.704 | 5.00 | 1 | 11/12/2022 16:14 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 88.9 | | 0.287 | 0.678 | 1 | 11/06/2022 12:17 | WG1954322 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/06/2022 12:17 | WG1954322 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 12:17 | WG1954322 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 1.67 | | 0.548 | 1.00 | 1 | 11/05/2022 18:34 | WG1954601 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 18:34 | WG1954601 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 18:34 | WG1954601 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,1-Dichloroethane | 0.863 | | 0.0230 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/11/2022 15:00 | WG1957539 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| 2,2-Dichloropropane | U | J3 | 0.0317 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 18:34 | WG1954601 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 18:34 | WG1954601 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 18:34 | WG1954601 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 18:34 | WG1954601 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 18:34 | WG1954601 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 18:34 | WG1954601 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 18:34 | WG1954601 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| Vinyl chloride | 0.258 | | 0.0273 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 18:34 | WG1954601 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| Tetrahydrofuran | 0.209 | J | 0.0900 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 18:34 | WG1954601 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/05/2022 18:34* | WG1954601 |
| *(S) Toluene-d8* | *112* | | | *75.0-131* | | *11/11/2022 15:00* | WG1957539 |
| *(S) 4-Bromofluorobenzene* | *99.1* | | | *67.0-138* | | *11/05/2022 18:34* | WG1954601 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/11/2022 15:00* | WG1957539 |
| *(S) 1,2-Dichloroethane-d4* | *97.8* | | | *70.0-130* | | *11/05/2022 18:34* | WG1954601 |
| *(S) 1,2-Dichloroethane-d4* | *111* | | | *70.0-130* | | *11/11/2022 15:00* | WG1957539 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 394000 | | 8450 | 20000 | 1 | 11/11/2022 14:07 | WG1957558 |

Sample Narrative:

L1552983-10 WG1957558: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 20400 | | 379 | 1000 | 1 | 11/03/2022 00:36 | WG1953073 |
| Nitrate | 185 | | 48.0 | 100 | 1 | 11/03/2022 00:36 | WG1953073 |
| Sulfate | 105000 | | 594 | 5000 | 1 | 11/03/2022 00:36 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 3350 | B | 102 | 1000 | 1 | 11/18/2022 18:41 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 10600 | | 28.1 | 100 | 1 | 11/12/2022 16:18 | WG1957862 |
| Manganese | 2830 | | 0.704 | 5.00 | 1 | 11/12/2022 16:18 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 850 | | 0.287 | 0.678 | 1 | 11/06/2022 12:27 | WG1954322 |
| Ethane | 8.88 | | 0.296 | 1.29 | 1 | 11/06/2022 12:27 | WG1954322 |
| Ethene | 2.62 | | 0.422 | 1.27 | 1 | 11/06/2022 12:27 | WG1954322 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/05/2022 18:53 | WG1954601 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| Benzene | 50.1 | | 0.0160 | 0.0400 | 1 | 11/05/2022 18:53 | WG1954601 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 18:53 | WG1954601 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,1-Dichloroethane | 0.384 | | 0.0230 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,2-Dichloroethane | 0.347 | | 0.0190 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| cis-1,2-Dichloroethene | 5.50 | | 0.0276 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,2-Dichloropropane | 0.180 | J | 0.0508 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| 2,2-Dichloropropane | U | J3 | 0.0317 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 18:53 | WG1954601 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 18:53 | WG1954601 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 18:53 | WG1954601 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 18:53 | WG1954601 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 18:53 | WG1954601 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 18:53 | WG1954601 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| Toluene | 0.189 | J | 0.0500 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 18:53 | WG1954601 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| Vinyl chloride | 46.1 | | 0.0273 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| Xylenes, Total | 0.210 | J | 0.191 | 0.260 | 1 | 11/05/2022 18:53 | WG1954601 |
| Ethyl Ether | 0.133 | | 0.0170 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 18:53 | WG1954601 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| *(S) Toluene-d8* | *110* | | | *75.0-131* | | *11/05/2022 18:53* | WG1954601 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/05/2022 18:53* | WG1954601 |
| *(S) 1,2-Dichloroethane-d4* | *101* | | | *70.0-130* | | *11/05/2022 18:53* | WG1954601 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 294000 | | 8450 | 20000 | 1 | 11/11/2022 14:12 | WG1957558 |

Sample Narrative:

L1552983-11 WG1957558: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 16000 | | 379 | 1000 | 1 | 11/03/2022 00:48 | WG1953073 |
| Nitrate | 547 | | 48.0 | 100 | 1 | 11/03/2022 00:48 | WG1953073 |
| Sulfate | 49200 | | 594 | 5000 | 1 | 11/03/2022 00:48 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 2040 | B | 102 | 1000 | 1 | 11/18/2022 19:01 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 699 | | 28.1 | 100 | 1 | 11/12/2022 16:27 | WG1957862 |
| Manganese | 659 | | 0.704 | 5.00 | 1 | 11/12/2022 16:27 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 435 | | 0.287 | 0.678 | 1 | 11/06/2022 12:30 | WG1954322 |
| Ethane | 1.65 | | 0.296 | 1.29 | 1 | 11/06/2022 12:30 | WG1954322 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 12:30 | WG1954322 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/05/2022 19:39 | WG1954601 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| Benzene | 0.351 | | 0.0160 | 0.0400 | 1 | 11/05/2022 19:39 | WG1954601 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 19:39 | WG1954601 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| cis-1,2-Dichloroethene | 0.255 | | 0.0276 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| 2,2-Dichloropropane | U | J3 | 0.0317 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 19:39 | WG1954601 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 19:39 | WG1954601 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 19:39 | WG1954601 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 19:39 | WG1954601 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 19:39 | WG1954601 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 19:39 | WG1954601 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| Toluene | 0.107 | J | 0.0500 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 19:39 | WG1954601 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| Vinyl chloride | 13.1 | | 0.0273 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 19:39 | WG1954601 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 19:39 | WG1954601 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/05/2022 19:39* | WG1954601 |
| *(S) 4-Bromofluorobenzene* | *98.7* | | | *67.0-138* | | *11/05/2022 19:39* | WG1954601 |
| *(S) 1,2-Dichloroethane-d4* | *98.6* | | | *70.0-130* | | *11/05/2022 19:39* | WG1954601 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 651000 | | 8450 | 20000 | 1 | 11/11/2022 14:18 | WG1957558 |

Sample Narrative:

L1552983-12 WG1957558: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 15300 | | 379 | 1000 | 1 | 11/03/2022 01:01 | WG1953073 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/03/2022 01:01 | WG1953073 |
| Sulfate | 38000 | | 594 | 5000 | 1 | 11/03/2022 01:01 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 6850 | | 102 | 1000 | 1 | 11/19/2022 13:02 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 13800 | | 28.1 | 100 | 1 | 11/12/2022 16:31 | WG1957862 |
| Manganese | 2750 | | 0.704 | 5.00 | 1 | 11/12/2022 16:31 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 2600 | | 0.287 | 0.678 | 1 | 11/06/2022 10:17 | WG1954320 |
| Ethane | 16.5 | | 0.296 | 1.29 | 1 | 11/06/2022 10:17 | WG1954320 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 10:17 | WG1954320 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/06/2022 00:24 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| Benzene | 9.53 | | 0.0160 | 0.0400 | 1 | 11/06/2022 00:24 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/06/2022 00:24 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,1-Dichloroethane | 0.142 | | 0.0230 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,1-Dichloroethene | 0.152 | | 0.0200 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| cis-1,2-Dichloroethene | 72.7 | | 0.0276 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| trans-1,2-Dichloroethene | 1.28 | | 0.0572 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/06/2022 00:24 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/06/2022 00:24 | WG1955004 |
| Isopropylbenzene | 0.133 | | 0.0345 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/06/2022 00:24 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/06/2022 00:24 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/06/2022 00:24 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/06/2022 00:24 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| Toluene | 0.120 | J | 0.0500 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 00:24 | WG1955004 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| Vinyl chloride | 31.1 | | 0.0273 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/06/2022 00:24 | WG1955004 |
| Ethyl Ether | 0.219 | | 0.0170 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/06/2022 00:24 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/06/2022 00:24* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/06/2022 00:24* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *99.3* | | | *70.0-130* | | *11/06/2022 00:24* | WG1955004 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 187000 | | 8450 | 20000 | 1 | 11/11/2022 14:22 | WG1957558 |

Sample Narrative:

L1552983-13 WG1957558: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 7610 | | 379 | 1000 | 1 | 11/05/2022 20:01 | WG1954904 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 19:18 | WG1953376 |
| Sulfate | 3260 | J | 594 | 5000 | 1 | 11/02/2022 19:18 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1490 | B | 102 | 1000 | 1 | 11/19/2022 13:58 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 203 | | 28.1 | 100 | 1 | 11/12/2022 16:34 | WG1957862 |
| Manganese | 533 | | 0.704 | 5.00 | 1 | 11/12/2022 16:34 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 81.5 | | 0.287 | 0.678 | 1 | 11/06/2022 10:24 | WG1954320 |
| Ethane | 4.98 | | 0.296 | 1.29 | 1 | 11/06/2022 10:24 | WG1954320 |
| Ethene | 2.39 | | 0.422 | 1.27 | 1 | 11/06/2022 10:24 | WG1954320 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/06/2022 00:43 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 00:43 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/06/2022 00:43 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| cis-1,2-Dichloroethene | 0.0810 | J | 0.0276 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/06/2022 00:43 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/06/2022 00:43 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/06/2022 00:43 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/06/2022 00:43 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/06/2022 00:43 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/06/2022 00:43 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 00:43 | WG1955004 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/06/2022 00:43 | WG1955004 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/06/2022 00:43 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/06/2022 00:43* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/06/2022 00:43* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *100* | | | *70.0-130* | | *11/06/2022 00:43* | WG1955004 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 327000 | | 8450 | 20000 | 1 | 11/11/2022 14:29 | WG1957558 |

Sample Narrative:

L1552983-14 WG1957558: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 24800 | | 379 | 1000 | 1 | 11/02/2022 19:30 | WG1953376 |
| Nitrate | 55.5 | J | 48.0 | 100 | 1 | 11/02/2022 19:30 | WG1953376 |
| Sulfate | 15400 | | 594 | 5000 | 1 | 11/02/2022 19:30 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2670 | B | 102 | 1000 | 1 | 11/19/2022 15:03 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 2330 | | 28.1 | 100 | 1 | 11/12/2022 16:37 | WG1957862 |
| Manganese | 404 | | 0.704 | 5.00 | 1 | 11/12/2022 16:37 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 1660 | | 0.287 | 0.678 | 1 | 11/06/2022 10:27 | WG1954320 |
| Ethane | 2.72 | | 0.296 | 1.29 | 1 | 11/06/2022 10:27 | WG1954320 |
| Ethene | 2.87 | | 0.422 | 1.27 | 1 | 11/06/2022 10:27 | WG1954320 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/06/2022 01:02 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:02 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/06/2022 01:02 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| cis-1,2-Dichloroethene | 0.107 | | 0.0276 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/06/2022 01:02 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/06/2022 01:02 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/06/2022 01:02 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/06/2022 01:02 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/06/2022 01:02 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/06/2022 01:02 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| Toluene | 0.138 | J | 0.0500 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| Trichloroethene | 0.0940 | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:02 | WG1955004 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| Vinyl chloride | 0.250 | | 0.0273 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/06/2022 01:02 | WG1955004 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/06/2022 01:02 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/06/2022 01:02* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *99.1* | | | *67.0-138* | | *11/06/2022 01:02* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *100* | | | *70.0-130* | | *11/06/2022 01:02* | WG1955004 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 339000 | | 8450 | 20000 | 1 | 11/11/2022 14:35 | WG1957558 |

Sample Narrative:

L1552983-15 WG1957558: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 25400 | | 379 | 1000 | 1 | 11/02/2022 19:43 | WG1953376 |
| Nitrate | 2800 | | 48.0 | 100 | 1 | 11/02/2022 19:43 | WG1953376 |
| Sulfate | 15700 | | 594 | 5000 | 1 | 11/02/2022 19:43 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 2630 | B | 102 | 1000 | 1 | 11/19/2022 15:29 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 2480 | | 28.1 | 100 | 1 | 11/12/2022 16:41 | WG1957862 |
| Manganese | 398 | | 0.704 | 5.00 | 1 | 11/12/2022 16:41 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 1280 | | 0.287 | 0.678 | 1 | 11/06/2022 14:46 | WG1955151 |
| Ethane | 3.10 | | 0.296 | 1.29 | 1 | 11/06/2022 14:46 | WG1955151 |
| Ethene | 3.06 | | 0.422 | 1.27 | 1 | 11/06/2022 14:46 | WG1955151 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/06/2022 01:21 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:21 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/06/2022 01:21 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| cis-1,2-Dichloroethene | 0.100 | J | 0.0276 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/06/2022 01:21 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/06/2022 01:21 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/06/2022 01:21 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/06/2022 01:21 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/06/2022 01:21 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/06/2022 01:21 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| Toluene | 0.128 | J | 0.0500 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:21 | WG1955004 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| Vinyl chloride | 0.274 | | 0.0273 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/06/2022 01:21 | WG1955004 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/06/2022 01:21 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/06/2022 01:21* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/06/2022 01:21* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *99.0* | | | *70.0-130* | | *11/06/2022 01:21* | WG1955004 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 482000 | | 8450 | 20000 | 1 | 11/11/2022 14:41 | WG1957558 |

Sample Narrative:

L1552983-16 WG1957558: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 17900 | | 379 | 1000 | 1 | 11/02/2022 19:56 | WG1953376 |
| Nitrate | 26400 | | 240 | 500 | 5 | 11/02/2022 20:09 | WG1953376 |
| Sulfate | 164000 | | 594 | 5000 | 1 | 11/02/2022 19:56 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 1750 | B | 102 | 1000 | 1 | 11/19/2022 16:04 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 1870 | | 28.1 | 100 | 1 | 11/12/2022 16:44 | WG1957862 |
| Manganese | 2290 | | 0.704 | 5.00 | 1 | 11/12/2022 16:44 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 934 | | 0.287 | 0.678 | 1 | 11/06/2022 14:50 | WG1955151 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/06/2022 14:50 | WG1955151 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 14:50 | WG1955151 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/06/2022 01:40 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:40 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/06/2022 01:40 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| cis-1,2-Dichloroethene | 9.77 | | 0.0276 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| trans-1,2-Dichloroethene | 0.144 | J | 0.0572 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/06/2022 01:40 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/06/2022 01:40 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/06/2022 01:40 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/06/2022 01:40 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/06/2022 01:40 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/06/2022 01:40 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| Toluene | 0.0900 | J | 0.0500 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:40 | WG1955004 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| Vinyl chloride | 0.580 | | 0.0273 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/06/2022 01:40 | WG1955004 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/06/2022 01:40 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/06/2022 01:40* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *98.4* | | | *67.0-138* | | *11/06/2022 01:40* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *97.9* | | | *70.0-130* | | *11/06/2022 01:40* | WG1955004 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 210000 | | 8450 | 20000 | 1 | 11/11/2022 14:55 | WG1957558 |

Sample Narrative:

L1552983-17 WG1957558: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 17700 | | 379 | 1000 | 1 | 11/02/2022 20:47 | WG1953376 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 20:47 | WG1953376 |
| Sulfate | 270000 | | 2970 | 25000 | 5 | 11/05/2022 20:46 | WG1954904 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2020 | B | 102 | 1000 | 1 | 11/19/2022 16:35 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1260 | | 28.1 | 100 | 1 | 11/12/2022 16:47 | WG1957862 |
| Manganese | 660 | | 0.704 | 5.00 | 1 | 11/12/2022 16:47 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 848 | | 0.287 | 0.678 | 1 | 11/06/2022 14:56 | WG1955151 |
| Ethane | 7.60 | | 0.296 | 1.29 | 1 | 11/06/2022 14:56 | WG1955151 |
| Ethene | 3.90 | | 0.422 | 1.27 | 1 | 11/06/2022 14:56 | WG1955151 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/06/2022 01:59 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:59 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/06/2022 01:59 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,1-Dichloroethene | 3.25 | | 0.0200 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| cis-1,2-Dichloroethene | 576 | Q | 0.552 | 2.00 | 20 | 11/16/2022 15:26 | WG1960796 |
| trans-1,2-Dichloroethene | 2.77 | | 0.0572 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/06/2022 01:59 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/06/2022 01:59 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/06/2022 01:59 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/06/2022 01:59 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/06/2022 01:59 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/06/2022 01:59 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| Tetrachloroethene | 2.85 | | 0.0280 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| Toluene | 0.198 | J | 0.0500 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| Trichloroethene | 44.7 | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:59 | WG1955004 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| Vinyl chloride | 32.0 | | 0.0273 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/06/2022 01:59 | WG1955004 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| Tetrahydrofuran | 0.347 | J | 0.0900 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/06/2022 01:59 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/06/2022 01:59* | WG1955004 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/16/2022 15:26* | WG1960796 |
| *(S) 4-Bromofluorobenzene* | *97.8* | | | *67.0-138* | | *11/06/2022 01:59* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *97.6* | | | *67.0-138* | | *11/16/2022 15:26* | WG1960796 |
| *(S) 1,2-Dichloroethane-d4* | *103* | | | *70.0-130* | | *11/06/2022 01:59* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *93.8* | | | *70.0-130* | | *11/16/2022 15:26* | WG1960796 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 356000 | | 8450 | 20000 | 1 | 11/11/2022 15:00 | WG1957558 |

Sample Narrative:

L1552983-18 WG1957558: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 14100 | | 379 | 1000 | 1 | 11/02/2022 20:59 | WG1953376 |
| Nitrate | 142 | | 48.0 | 100 | 1 | 11/02/2022 20:59 | WG1953376 |
| Sulfate | 75000 | | 594 | 5000 | 1 | 11/02/2022 20:59 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 2480 | B | 102 | 1000 | 1 | 11/19/2022 17:00 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 161 | | 28.1 | 100 | 1 | 11/12/2022 16:50 | WG1957862 |
| Manganese | 2830 | | 0.704 | 5.00 | 1 | 11/12/2022 16:50 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 6950 | | 2.87 | 6.78 | 10 | 11/07/2022 09:31 | WG1955208 |
| Ethane | 8.24 | | 0.296 | 1.29 | 1 | 11/06/2022 15:03 | WG1955151 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 15:03 | WG1955151 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/06/2022 01:18 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| Benzene | 0.0970 | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:18 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/06/2022 01:18 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,1-Dichloroethene | 2.42 | | 0.0200 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| cis-1,2-Dichloroethene | 359 | Q | 0.552 | 2.00 | 20 | 11/16/2022 15:46 | WG1960796 |
| trans-1,2-Dichloroethene | 2.28 | | 0.0572 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/06/2022 01:18 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/06/2022 01:18 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/06/2022 01:18 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/06/2022 01:18 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/06/2022 01:18 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/06/2022 01:18 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| Tetrachloroethene | 513 | Q | 0.560 | 2.00 | 20 | 11/16/2022 15:46 | WG1960796 |
| Toluene | 0.121 | J | 0.0500 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| Trichloroethene | 248 | Q | 0.320 | 0.800 | 20 | 11/16/2022 15:46 | WG1960796 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| Vinyl chloride | 0.344 | | 0.0273 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/06/2022 01:18 | WG1955004 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| Tetrahydrofuran | 0.533 | | 0.0900 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/06/2022 01:18 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/06/2022 01:18* | WG1955004 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/16/2022 15:46* | WG1960796 |
| *(S) 4-Bromofluorobenzene* | *98.6* | | | *67.0-138* | | *11/06/2022 01:18* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/16/2022 15:46* | WG1960796 |
| *(S) 1,2-Dichloroethane-d4* | *97.4* | | | *70.0-130* | | *11/06/2022 01:18* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *96.0* | | | *70.0-130* | | *11/16/2022 15:46* | WG1960796 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 198000 | | 8450 | 20000 | 1 | 11/11/2022 15:05 | WG1957558 |

Sample Narrative:

L1552983-19 WG1957558: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 10300 | | 379 | 1000 | 1 | 11/05/2022 21:01 | WG1954904 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 21:12 | WG1953376 |
| Sulfate | 1360 | J | 594 | 5000 | 1 | 11/02/2022 21:12 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2490 | B | 102 | 1000 | 1 | 11/19/2022 18:21 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1550 | | 28.1 | 100 | 1 | 11/12/2022 16:54 | WG1957862 |
| Manganese | 1640 | | 0.704 | 5.00 | 1 | 11/12/2022 16:54 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 212 | | 0.287 | 0.678 | 1 | 11/06/2022 15:06 | WG1955151 |
| Ethane | 1.39 | | 0.296 | 1.29 | 1 | 11/06/2022 15:06 | WG1955151 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 15:06 | WG1955151 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/06/2022 01:37 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:37 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/06/2022 01:37 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| cis-1,2-Dichloroethene | 18.3 | Q | 0.0276 | 0.100 | 1 | 11/16/2022 15:07 | WG1960796 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/06/2022 01:37 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/06/2022 01:37 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/06/2022 01:37 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/06/2022 01:37 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/06/2022 01:37 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/06/2022 01:37 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| Tetrachloroethene | 0.0650 | J Q | 0.0280 | 0.100 | 1 | 11/16/2022 15:07 | WG1960796 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| Trichloroethene | U | Q | 0.0160 | 0.0400 | 1 | 11/16/2022 15:07 | WG1960796 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| Vinyl chloride | 0.103 | | 0.0273 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/06/2022 01:37 | WG1955004 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/06/2022 01:37 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/06/2022 01:37* | WG1955004 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/16/2022 15:07* | WG1960796 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/06/2022 01:37* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *99.6* | | | *67.0-138* | | *11/16/2022 15:07* | WG1960796 |
| *(S) 1,2-Dichloroethane-d4* | *99.5* | | | *70.0-130* | | *11/06/2022 01:37* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *95.6* | | | *70.0-130* | | *11/16/2022 15:07* | WG1960796 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 502000 | | 8450 | 20000 | 1 | 11/11/2022 15:10 | WG1957558 |

Sample Narrative:

L1552983-20 WG1957558: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 18800 | | 379 | 1000 | 1 | 11/02/2022 21:25 | WG1953376 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 21:25 | WG1953376 |
| Sulfate | U | | 594 | 5000 | 1 | 11/02/2022 21:25 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 4070 | B | 102 | 1000 | 1 | 11/19/2022 19:38 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 12100 | | 28.1 | 100 | 1 | 11/12/2022 16:57 | WG1957862 |
| Manganese | 570 | | 0.704 | 5.00 | 1 | 11/12/2022 16:57 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 12900 | | 2.87 | 6.78 | 10 | 11/07/2022 14:39 | WG1955668 |
| Ethane | 13.4 | | 0.296 | 1.29 | 1 | 11/07/2022 09:38 | WG1955208 |
| Ethene | 33.9 | | 0.422 | 1.27 | 1 | 11/07/2022 09:38 | WG1955208 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/06/2022 01:56 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| Benzene | 4.47 | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:56 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/06/2022 01:56 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| cis-1,2-Dichloroethene | 0.181 | Q | 0.0276 | 0.100 | 1 | 11/16/2022 14:48 | WG1960796 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| Di-isopropyl ether | 0.0980 | | 0.0140 | 0.0400 | 1 | 11/06/2022 01:56 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/06/2022 01:56 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/06/2022 01:56 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/06/2022 01:56 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/06/2022 01:56 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/06/2022 01:56 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| Tetrachloroethene | 0.0980 | J Q | 0.0280 | 0.100 | 1 | 11/16/2022 14:48 | WG1960796 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:56 | WG1955004 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| Vinyl chloride | 8.19 | | 0.0273 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/06/2022 01:56 | WG1955004 |
| Ethyl Ether | 0.0960 | J | 0.0170 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| Tetrahydrofuran | 0.153 | J | 0.0900 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/06/2022 01:56 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/06/2022 01:56* | WG1955004 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *11/16/2022 14:48* | WG1960796 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/06/2022 01:56* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/16/2022 14:48* | WG1960796 |
| *(S) 1,2-Dichloroethane-d4* | *99.6* | | | *70.0-130* | | *11/06/2022 01:56* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *96.9* | | | *70.0-130* | | *11/16/2022 14:48* | WG1960796 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 343000 | | 8450 | 20000 | 1 | 11/13/2022 07:00 | WG1957561 |

Sample Narrative:

L1552983-21 WG1957561: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 25000 | | 379 | 1000 | 1 | 11/02/2022 21:38 | WG1953376 |
| Nitrate | 65.6 | J | 48.0 | 100 | 1 | 11/02/2022 21:38 | WG1953376 |
| Sulfate | 10300 | | 594 | 5000 | 1 | 11/02/2022 21:38 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2700 | B | 102 | 1000 | 1 | 11/19/2022 20:54 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1290 | | 28.1 | 100 | 1 | 11/12/2022 17:07 | WG1957862 |
| Manganese | 2770 | | 0.704 | 5.00 | 1 | 11/12/2022 17:07 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 186 | | 0.287 | 0.678 | 1 | 11/07/2022 09:42 | WG1955208 |
| Ethane | 1.37 | | 0.296 | 1.29 | 1 | 11/07/2022 09:42 | WG1955208 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/07/2022 09:42 | WG1955208 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/06/2022 09:18 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 09:18 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/06/2022 09:18 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| cis-1,2-Dichloroethene | 9.81 | | 0.0276 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| Di-isopropyl ether | 0.121 | | 0.0140 | 0.0400 | 1 | 11/06/2022 09:18 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/06/2022 09:18 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/06/2022 09:18 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/06/2022 09:18 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/06/2022 09:18 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/06/2022 09:18 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| Tetrachloroethene | 0.146 | | 0.0280 | 0.100 | 1 | 11/11/2022 15:39 | WG1957616 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 09:18 | WG1955004 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/06/2022 09:18 | WG1955004 |
| Ethyl Ether | 0.108 | | 0.0170 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| Tetrahydrofuran | 0.274 | J | 0.0900 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/06/2022 09:18 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/06/2022 09:18* | WG1955004 |
| *(S) Toluene-d8* | *114* | | | *75.0-131* | | *11/11/2022 15:39* | WG1957616 |
| *(S) 4-Bromofluorobenzene* | *99.9* | | | *67.0-138* | | *11/06/2022 09:18* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/11/2022 15:39* | WG1957616 |
| *(S) 1,2-Dichloroethane-d4* | *95.4* | | | *70.0-130* | | *11/06/2022 09:18* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *105* | | | *70.0-130* | | *11/11/2022 15:39* | WG1957616 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 302000 | | 8450 | 20000 | 1 | 11/13/2022 07:13 | WG1957561 |

Sample Narrative:

L1552983-22 WG1957561: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 18400 | | 379 | 1000 | 1 | 11/02/2022 21:50 | WG1953376 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 21:50 | WG1953376 |
| Sulfate | U | | 594 | 5000 | 1 | 11/02/2022 21:50 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2610 | B | 102 | 1000 | 1 | 11/19/2022 21:29 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 4870 | | 28.1 | 100 | 1 | 11/12/2022 15:55 | WG1957862 |
| Manganese | 436 | | 0.704 | 5.00 | 1 | 11/12/2022 15:55 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 12000 | | 2.87 | 6.78 | 10 | 11/07/2022 14:43 | WG1955668 |
| Ethane | 6.62 | | 0.296 | 1.29 | 1 | 11/07/2022 09:45 | WG1955208 |
| Ethene | 18.0 | | 0.422 | 1.27 | 1 | 11/07/2022 09:45 | WG1955208 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/08/2022 23:01 | WG1956115 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| Benzene | 0.980 | | 0.0160 | 0.0400 | 1 | 11/08/2022 23:01 | WG1956115 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/08/2022 23:01 | WG1956115 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| Chloroethane | U | J3 | 0.0432 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| Chloromethane | U | C3 | 0.0556 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| 2-Chlorotoluene | U | J3 | 0.0368 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| cis-1,2-Dichloroethene | 4.60 | | 0.0276 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| trans-1,2-Dichloroethene | 0.0930 | J | 0.0572 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/08/2022 23:01 | WG1956115 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/08/2022 23:01 | WG1956115 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/08/2022 23:01 | WG1956115 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/08/2022 23:01 | WG1956115 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/08/2022 23:01 | WG1956115 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/08/2022 23:01 | WG1956115 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/08/2022 23:01 | WG1956115 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| Vinyl chloride | 8.88 | | 0.0273 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/08/2022 23:01 | WG1956115 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/08/2022 23:01 | WG1956115 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/08/2022 23:01* | WG1956115 |
| *(S) 4-Bromofluorobenzene* | *106* | | | *67.0-138* | | *11/08/2022 23:01* | WG1956115 |
| *(S) 1,2-Dichloroethane-d4* | *95.1* | | | *70.0-130* | | *11/08/2022 23:01* | WG1956115 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 388000 | | 8450 | 20000 | 1 | 11/13/2022 07:19 | WG1957561 |

Sample Narrative:

L1552983-23 WG1957561: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 32100 | | 379 | 1000 | 1 | 11/02/2022 22:03 | WG1953376 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 22:03 | WG1953376 |
| Sulfate | U | | 594 | 5000 | 1 | 11/02/2022 22:03 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2940 | B | 102 | 1000 | 1 | 11/19/2022 21:55 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 5820 | | 28.1 | 100 | 1 | 11/12/2022 17:10 | WG1957862 |
| Manganese | 2110 | | 0.704 | 5.00 | 1 | 11/12/2022 17:10 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 2130 | | 0.287 | 0.678 | 1 | 11/07/2022 09:48 | WG1955208 |
| Ethane | 4.33 | | 0.296 | 1.29 | 1 | 11/07/2022 09:48 | WG1955208 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/07/2022 09:48 | WG1955208 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/08/2022 23:20 | WG1956115 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| Benzene | 0.119 | | 0.0160 | 0.0400 | 1 | 11/08/2022 23:20 | WG1956115 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/08/2022 23:20 | WG1956115 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| Chloroethane | U | J3 | 0.0432 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| Chloromethane | U | C3 | 0.0556 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| 2-Chlorotoluene | U | J3 | 0.0368 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| cis-1,2-Dichloroethene | 2.90 | | 0.0276 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/08/2022 23:20 | WG1956115 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/08/2022 23:20 | WG1956115 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/08/2022 23:20 | WG1956115 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/08/2022 23:20 | WG1956115 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/08/2022 23:20 | WG1956115 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/08/2022 23:20 | WG1956115 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/08/2022 23:20 | WG1956115 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| Vinyl chloride | 4.58 | | 0.0273 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/08/2022 23:20 | WG1956115 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/08/2022 23:20 | WG1956115 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/08/2022 23:20* | WG1956115 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/08/2022 23:20* | WG1956115 |
| *(S) 1,2-Dichloroethane-d4* | *96.8* | | | *70.0-130* | | *11/08/2022 23:20* | WG1956115 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 499000 | | 8450 | 20000 | 1 | 11/13/2022 07:24 | WG1957561 |

Sample Narrative:

L1552983-24 WG1957561: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 48300 | | 379 | 1000 | 1 | 11/02/2022 22:16 | WG1953376 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 22:16 | WG1953376 |
| Sulfate | 18900 | | 594 | 5000 | 1 | 11/02/2022 22:16 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 3830 | B | 102 | 1000 | 1 | 11/19/2022 23:20 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 4010 | | 28.1 | 100 | 1 | 11/12/2022 17:13 | WG1957862 |
| Manganese | 2210 | | 0.704 | 5.00 | 1 | 11/12/2022 17:13 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 404 | | 0.287 | 0.678 | 1 | 11/07/2022 09:51 | WG1955208 |
| Ethane | 21.4 | | 0.296 | 1.29 | 1 | 11/07/2022 09:51 | WG1955208 |
| Ethene | 2.58 | | 0.422 | 1.27 | 1 | 11/07/2022 09:51 | WG1955208 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/08/2022 23:40 | WG1956115 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| Benzene | 0.176 | | 0.0160 | 0.0400 | 1 | 11/08/2022 23:40 | WG1956115 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/08/2022 23:40 | WG1956115 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| Chloroethane | U | J3 | 0.0432 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| Chloromethane | U | C3 | 0.0556 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| 2-Chlorotoluene | U | J3 | 0.0368 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| cis-1,2-Dichloroethene | 8.51 | | 0.0276 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/08/2022 23:40 | WG1956115 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/08/2022 23:40 | WG1956115 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/08/2022 23:40 | WG1956115 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/08/2022 23:40 | WG1956115 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/08/2022 23:40 | WG1956115 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/08/2022 23:40 | WG1956115 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/08/2022 23:40 | WG1956115 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| Vinyl chloride | 23.6 | | 0.0273 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/08/2022 23:40 | WG1956115 |
| Ethyl Ether | 0.0940 | J | 0.0170 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/08/2022 23:40 | WG1956115 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/08/2022 23:40* | WG1956115 |
| *(S) 4-Bromofluorobenzene* | *104* | | | *67.0-138* | | *11/08/2022 23:40* | WG1956115 |
| *(S) 1,2-Dichloroethane-d4* | *93.8* | | | *70.0-130* | | *11/08/2022 23:40* | WG1956115 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 480000 | | 8450 | 20000 | 1 | 11/13/2022 07:29 | WG1957561 |

Sample Narrative:

L1552983-25 WG1957561: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 18200 | | 379 | 1000 | 1 | 11/02/2022 22:29 | WG1953376 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 22:29 | WG1953376 |
| Sulfate | U | | 594 | 5000 | 1 | 11/02/2022 22:29 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 3940 | B | 102 | 1000 | 1 | 11/19/2022 23:45 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 10000 | | 28.1 | 100 | 1 | 11/12/2022 17:17 | WG1957862 |
| Manganese | 333 | | 0.704 | 5.00 | 1 | 11/12/2022 17:17 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 13300 | | 2.87 | 6.78 | 10 | 11/07/2022 14:46 | WG1955668 |
| Ethane | 10.9 | | 0.296 | 1.29 | 1 | 11/07/2022 09:54 | WG1955208 |
| Ethene | 32.8 | | 0.422 | 1.27 | 1 | 11/07/2022 09:54 | WG1955208 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/08/2022 23:59 | WG1956115 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| Benzene | 11.9 | | 0.0160 | 0.0400 | 1 | 11/08/2022 23:59 | WG1956115 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/08/2022 23:59 | WG1956115 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| Chloroethane | U | J3 | 0.0432 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| Chloromethane | U | C3 | 0.0556 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| 2-Chlorotoluene | U | J3 | 0.0368 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| cis-1,2-Dichloroethene | 0.222 | | 0.0276 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| Di-isopropyl ether | 0.103 | | 0.0140 | 0.0400 | 1 | 11/08/2022 23:59 | WG1956115 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/08/2022 23:59 | WG1956115 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/08/2022 23:59 | WG1956115 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/08/2022 23:59 | WG1956115 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/08/2022 23:59 | WG1956115 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/08/2022 23:59 | WG1956115 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/08/2022 23:59 | WG1956115 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| Vinyl chloride | 2.99 | | 0.0273 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/08/2022 23:59 | WG1956115 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/08/2022 23:59 | WG1956115 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/08/2022 23:59* | WG1956115 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/08/2022 23:59* | WG1956115 |
| *(S) 1,2-Dichloroethane-d4* | *94.9* | | | *70.0-130* | | *11/08/2022 23:59* | WG1956115 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 330000 | | 8450 | 20000 | 1 | 11/13/2022 07:35 | WG1957561 |

Sample Narrative:

L1552983-26 WG1957561: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 36100 | | 379 | 1000 | 1 | 11/02/2022 23:07 | WG1953376 |
| Nitrate | 86.8 | J | 48.0 | 100 | 1 | 11/02/2022 23:07 | WG1953376 |
| Sulfate | 40300 | | 594 | 5000 | 1 | 11/02/2022 23:07 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 12000 | | 102 | 1000 | 1 | 11/20/2022 00:11 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 12900 | | 28.1 | 100 | 1 | 11/12/2022 17:20 | WG1957862 |
| Manganese | 3480 | | 0.704 | 5.00 | 1 | 11/12/2022 17:20 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 3200 | | 0.287 | 0.678 | 1 | 11/07/2022 09:57 | WG1955208 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/07/2022 09:57 | WG1955208 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/07/2022 09:57 | WG1955208 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 10.4 | | 2.74 | 5.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Acrylonitrile | U | | 0.380 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| Benzene | U | | 0.0800 | 0.200 | 5 | 11/09/2022 05:07 | WG1956115 |
| Bromobenzene | U | | 0.210 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| Bromodichloromethane | U | | 0.158 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| Bromoform | U | | 1.20 | 5.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Bromomethane | U | J3 | 0.740 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| n-Butylbenzene | U | | 0.765 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| sec-Butylbenzene | U | | 0.505 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| tert-Butylbenzene | U | | 0.310 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Carbon tetrachloride | U | | 0.216 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Chlorobenzene | U | | 0.115 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| Chlorodibromomethane | U | | 0.0900 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| Chloroethane | U | J3 | 0.216 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Chloroform | U | | 0.0830 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| Chloromethane | U | C3 | 0.278 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| 2-Chlorotoluene | U | J3 | 0.184 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| 4-Chlorotoluene | U | | 0.226 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,2-Dibromo-3-Chloropropane | U | | 1.02 | 5.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,2-Dibromoethane | U | | 0.105 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.200 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,2-Dichlorobenzene | U | | 0.290 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,3-Dichlorobenzene | U | | 0.340 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,4-Dichlorobenzene | U | | 0.394 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Dichlorodifluoromethane | U | C3 | 0.164 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,1-Dichloroethane | U | | 0.115 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,2-Dichloroethane | U | | 0.0950 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,1-Dichloroethene | U | | 0.100 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| cis-1,2-Dichloroethene | U | | 0.138 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| trans-1,2-Dichloroethene | U | | 0.286 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,2-Dichloropropane | U | | 0.254 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,1-Dichloropropene | U | | 0.140 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,3-Dichloropropane | U | | 0.350 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| cis-1,3-Dichloropropene | U | | 0.136 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| trans-1,3-Dichloropropene | U | | 0.306 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 2,2-Dichloropropane | U | | 0.159 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| Di-isopropyl ether | U | | 0.0700 | 0.200 | 5 | 11/09/2022 05:07 | WG1956115 |
| Ethylbenzene | U | | 0.106 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| Hexachloro-1,3-butadiene | U | | 2.54 | 5.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Isopropylbenzene | U | | 0.173 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| p-Isopropyltoluene | U | | 0.466 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 2-Butanone (MEK) | U | | 2.50 | 5.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Methylene Chloride | U | | 1.33 | 5.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 4-Methyl-2-pentanone (MIBK) | U | | 2.00 | 5.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Methyl tert-butyl ether | U | | 0.0590 | 0.200 | 5 | 11/09/2022 05:07 | WG1956115 |
| Naphthalene | U | | 0.620 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| n-Propylbenzene | U | | 0.236 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Styrene | U | | 0.545 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,1,1,2-Tetrachloroethane | U | | 0.100 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0780 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.135 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| Tetrachloroethene | U | | 0.140 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| Toluene | U | | 0.250 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.125 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.965 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,1,1-Trichloroethane | U | | 0.0550 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,1,2-Trichloroethane | U | | 0.177 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| Trichloroethene | U | | 0.0800 | 0.200 | 5 | 11/09/2022 05:07 | WG1956115 |
| Trichlorofluoromethane | U | | 0.100 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,2,3-Trichloropropane | U | | 1.02 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,2,4-Trimethylbenzene | U | | 0.232 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,2,3-Trimethylbenzene | U | | 0.230 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,3,5-Trimethylbenzene | U | | 0.216 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Vinyl chloride | U | | 0.137 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| Xylenes, Total | U | | 0.955 | 1.30 | 5 | 11/09/2022 05:07 | WG1956115 |
| Ethyl Ether | U | | 0.0850 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| Tetrahydrofuran | U | | 0.450 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| Iodomethane | U | | 1.21 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| Allyl chloride | U | | 2.90 | 5.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Trans-1,4-Dichloro-2-butene | U | | 0.280 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/09/2022 05:07* | WG1956115 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/09/2022 05:07* | WG1956115 |
| *(S) 1,2-Dichloroethane-d4* | *94.9* | | | *70.0-130* | | *11/09/2022 05:07* | WG1956115 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 2.09 | | 0.548 | 1.00 | 1 | 11/05/2022 22:48 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 22:48 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 22:48 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 22:48 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 22:48 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 22:48 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 22:48 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 22:48 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 22:48 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 22:48 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 22:48 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 22:48 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 22:48 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 22:48 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 22:48 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 22:48 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 22:48 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 22:48 | WG1955004 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/05/2022 22:48 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 22:48 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 22:48 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 22:48 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 22:48 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 22:48 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 22:48 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 22:48 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 22:48 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 22:48 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 22:48 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 22:48 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 22:48 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 22:48 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| Toluene | 0.120 | J | 0.0500 | 0.200 | 1 | 11/05/2022 22:48 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/05/2022 22:48 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 22:48 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 22:48 | WG1955004 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 22:48 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 22:48 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 22:48 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 22:48 | WG1955004 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 22:48 | WG1955004 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/05/2022 22:48 | WG1955004 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/05/2022 22:48 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 22:48 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 22:48 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/05/2022 22:48 | WG1955004 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/05/2022 22:48* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *96.8* | | | *67.0-138* | | *11/05/2022 22:48* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *98.2* | | | *70.0-130* | | *11/05/2022 22:48* | WG1955004 |

## Method Blank (MB)

(MB) R3860390-2 11/11/22 12:43

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:
BLANK: Endpoint pH 4.5

## L1552983-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552983-01 11/11/22 13:13 • (DUP) R3860390-3 11/11/22 13:17

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 870000 | 878000 | 1 | 0.823 | | 20 |

Sample Narrative:
OS: Endpoint pH 4.5
DUP: Endpoint pH 4.5

## L1552983-20 Original Sample (OS) • Duplicate (DUP)

(OS) L1552983-20 11/11/22 15:10 • (DUP) R3860390-4 11/11/22 15:14

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 502000 | 503000 | 1 | 0.159 | | 20 |

Sample Narrative:
OS: Endpoint pH 4.5
DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3860390-1 11/11/22 12:37

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 100000 | 100 | 90.0-110 | |

Sample Narrative:
LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3860437-2 11/13/22 06:57

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1552983-21 Original Sample (OS) • Duplicate (DUP)

(OS) L1552983-21 11/13/22 07:00 • (DUP) R3860437-4 11/13/22 07:07

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 343000 | 342000 | 1 | 0.293 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

## L1553393-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1553393-02 11/13/22 09:27 • (DUP) R3860437-6 11/13/22 09:32

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 545000 | 548000 | 1 | 0.515 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3860437-1 11/13/22 06:46

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 99500 | 99.5 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3857261-1 11/02/22 15:56

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1552811-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1552811-03 11/02/22 19:12 • (DUP) R3857261-3 11/02/22 19:24

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Chloride | 34300 | 34000 | 1 | 0.996 | | 15 |
| Nitrate | 123 | 119 | 1 | 3.64 | | 15 |
| Sulfate | 163000 | 162000 | 1 | 0.771 | | 15 |

## L1552983-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1552983-12 11/03/22 01:01 • (DUP) R3857261-6 11/03/22 01:38

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Chloride | 15300 | 15500 | 1 | 1.23 | | 15 |
| Nitrate | U | U | 1 | 0.000 | | 15 |
| Sulfate | 38000 | 38100 | 1 | 0.0673 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3857261-2 11/02/22 16:09

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Chloride | 40000 | 40600 | 101 | 80.0-120 | |
| Nitrate | 8000 | 8020 | 100 | 80.0-120 | |
| Sulfate | 40000 | 40700 | 102 | 80.0-120 | |

## L1552811-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552811-03 11/02/22 19:12 • (MS) R3857261-4 11/02/22 19:36 • (MSD) R3857261-5 11/02/22 19:49

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 34300 | 83800 | 83700 | 98.9 | 98.7 | 1 | 80.0-120 | | | 0.139 | 15 |
| Nitrate | 5000 | 123 | 5330 | 5320 | 104 | 104 | 1 | 80.0-120 | | | 0.133 | 15 |
| Sulfate | 50000 | 163000 | 205000 | 204000 | 83.8 | 82.1 | 1 | 80.0-120 | E | E | 0.406 | 15 |

## L1552983-12 Original Sample (OS) • Matrix Spike (MS)

(OS) L1552983-12 11/03/22 01:01 • (MS) R3857261-7 11/03/22 01:50

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 15300 | 65300 | 100 | 1 | 80.0-120 | |
| Nitrate | 5000 | U | 4740 | 94.7 | 1 | 80.0-120 | |
| Sulfate | 50000 | 38000 | 85300 | 94.6 | 1 | 80.0-120 | |

## Method Blank (MB)

(MB) R3857262-1 11/02/22 10:21

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | 386 | J | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1552978-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1552978-09 11/02/22 18:14 • (DUP) R3857262-3 11/02/22 18:27

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 6040 | 6220 | 1 | 3.00 | | 15 |
| Nitrate | 1970 | 2060 | 1 | 4.56 | | 15 |
| Sulfate | 15900 | 16600 | 1 | 4.12 | | 15 |

## L1553025-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1553025-06 11/02/22 23:32 • (DUP) R3857262-6 11/02/22 23:45

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 162000 | 158000 | 1 | 2.20 | | 15 |
| Nitrate | 5080 | 4950 | 1 | 2.61 | | 15 |
| Sulfate | 88800 | 86100 | 1 | 3.12 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3857262-2 11/02/22 10:34

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 40000 | 100 | 80.0-120 | |
| Nitrate | 8000 | 7750 | 96.9 | 80.0-120 | |
| Sulfate | 40000 | 40800 | 102 | 80.0-120 | |

## L1552978-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552978-09 11/02/22 18:14 • (MS) R3857262-4 11/02/22 18:39 • (MSD) R3857262-5 11/02/22 18:52

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 6040 | 56500 | 57500 | 101 | 103 | 1 | 80.0-120 | | | 1.82 | 15 |
| Nitrate | 5000 | 1970 | 6870 | 7000 | 98.0 | 101 | 1 | 80.0-120 | | | 1.92 | 15 |
| Sulfate | 50000 | 15900 | 66200 | 68000 | 101 | 104 | 1 | 80.0-120 | | | 2.62 | 15 |

## L1553025-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1553025-06 11/02/22 23:32 • (MS) R3857262-7 11/02/22 23:58

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 162000 | 205000 | 86.1 | 1 | 80.0-120 | E |
| Nitrate | 5000 | 5080 | 9910 | 96.7 | 1 | 80.0-120 | |
| Sulfate | 50000 | 88800 | 136000 | 94.6 | 1 | 80.0-120 | |

## Method Blank (MB)

(MB) R3857499-1 11/05/22 10:43

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | U | | 379 | 1000 |
| Sulfate | U | | 594 | 5000 |

## L1554274-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1554274-01 11/05/22 12:20 • (DUP) R3857499-3 11/05/22 12:34

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 12400 | 12400 | 1 | 0.437 | | 15 |
| Sulfate | 8040 | 8010 | 1 | 0.345 | | 15 |

## L1554424-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1554424-06 11/05/22 19:01 • (DUP) R3857499-6 11/05/22 19:16

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 53800 | 53800 | 1 | 0.0249 | | 15 |
| Sulfate | U | 1670 | 1 | 200 | J P1 | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3857499-2 11/05/22 10:58

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 41200 | 103 | 80.0-120 | |
| Sulfate | 40000 | 42400 | 106 | 80.0-120 | |

## L1554274-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1554274-01 11/05/22 12:20 • (MS) R3857499-4 11/05/22 12:49 • (MSD) R3857499-5 11/05/22 13:04

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 12400 | 63000 | 63200 | 101 | 102 | 1 | 80.0-120 | | | 0.201 | 15 |
| Sulfate | 50000 | 8040 | 58900 | 59200 | 102 | 102 | 1 | 80.0-120 | | | 0.444 | 15 |

## L1554424-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1554424-06 11/05/22 19:01 • (MS) R3857499-7 11/05/22 19:31

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 53800 | 101000 | 95.1 | 1 | 80.0-120 | |
| Sulfate | 50000 | U | 52600 | 105 | 1 | 80.0-120 | |

## Method Blank (MB)

(MB) R3862522-2 11/17/22 19:11

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 914 | J | 102 | 1000 |

## Method Blank (MB)

(MB) R3863023-2 11/18/22 11:27

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | U | | 102 | 1000 |

## L1552618-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552618-01 11/17/22 21:52 • (DUP) R3862522-7 11/17/22 22:08

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4520 | 4130 | 1 | 8.98 | | 20 |

## L1552758-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552758-01 11/18/22 14:13 • (DUP) R3863023-3 11/18/22 14:27

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 828 | 824 | 1 | 0.424 | J | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3862522-1 11/17/22 18:56

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 74400 | 99.2 | 85.0-115 | |

## Laboratory Control Sample (LCS)

(LCS) R3863023-1 11/18/22 11:10

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 71300 | 95.0 | 85.0-115 | |

## L1552420-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552420-05 11/17/22 19:31 • (MS) R3862522-3 11/17/22 19:54 • (MSD) R3862522-4 11/17/22 20:13

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 8730 | 58700 | 59600 | 100 | 102 | 1 | 80.0-120 | | | 1.50 | 20 |

## L1552599-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552599-02 11/17/22 20:33 • (MS) R3862522-5 11/17/22 20:54 • (MSD) R3862522-6 11/17/22 21:14

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 12300 | 61500 | 64000 | 98.4 | 103 | 1 | 80.0-120 | | | 3.98 | 20 |

## Method Blank (MB)

(MB) R3863119-2 11/19/22 12:37

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 621 | J | 102 | 1000 |

## L1552983-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1552983-12 11/19/22 13:02 • (DUP) R3863119-3 11/19/22 13:28

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 6850 | 6800 | 1 | 0.741 | | 20 |

## L1552983-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1552983-13 11/19/22 13:58 • (DUP) R3863119-4 11/19/22 14:33

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1490 | 1550 | 1 | 3.94 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3863119-1 11/19/22 11:58

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 80000 | 107 | 85.0-115 | |

## L1552983-19 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552983-19 11/19/22 18:21 • (MS) R3863119-5 11/19/22 18:47 • (MSD) R3863119-6 11/19/22 19:12

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 2490 | 59300 | 58300 | 114 | 112 | 1 | 80.0-120 | | | 1.72 | 20 |

## L1552983-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552983-20 11/19/22 19:38 • (MS) R3863119-7 11/19/22 20:03 • (MSD) R3863119-8 11/19/22 20:29

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 4070 | 52000 | 52300 | 95.8 | 96.5 | 1 | 80.0-120 | | | 0.625 | 20 |

## Method Blank (MB)

(MB) R3860420-1 11/13/22 11:40

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3860420-2 11/13/22 11:44

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Iron | 5000 | 5340 | 107 | 80.0-120 | |
| Manganese | 50.0 | 51.5 | 103 | 80.0-120 | |

## L1552619-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552619-14 11/13/22 11:47 • (MS) R3860420-4 11/13/22 11:54 • (MSD) R3860420-5 11/13/22 11:57

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iron | 5000 | 57500 | 60500 | 63100 | 59.7 | 112 | 1 | 75.0-125 | V | | 4.27 | 20 |
| Manganese | 50.0 | 882 | 943 | 933 | 120 | 100 | 1 | 75.0-125 | | | 1.06 | 20 |

## Method Blank (MB)

(MB) R3860349-2 11/12/22 15:48

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3860349-3 11/12/22 15:52

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Iron | 5000 | 4810 | 96.3 | 80.0-120 | |
| Manganese | 500 | 478 | 95.6 | 80.0-120 | |

## L1552983-22 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552983-22 11/12/22 15:55 • (MS) R3860349-5 11/12/22 16:01 • (MSD) R3860349-6 11/12/22 16:05

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Iron | 5000 | 4870 | 9440 | 9720 | 91.3 | 97.0 | 1 | 75.0-125 | | | 2.95 | 20 |
| Manganese | 500 | 436 | 886 | 887 | 89.9 | 90.2 | 1 | 75.0-125 | | | 0.210 | 20 |

## Method Blank (MB)

(MB) R3857460-2 11/06/22 08:33

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1552599-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1552599-02 11/06/22 09:50 • (DUP) R3857460-3 11/06/22 09:54

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | 96.7 | 93.2 | 1 | 3.69 | | 20 |

## L1552785-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1552785-07 11/06/22 10:13 • (DUP) R3857460-4 11/06/22 10:30

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | 42.5 | 41.0 | 1 | 3.59 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3857460-1 11/06/22 08:29 • (LCSD) R3857460-5 11/06/22 10:32

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 75.2 | 65.6 | 111 | 96.8 | 85.0-115 | | | 13.6 | 20 |
| Ethane | 129 | 123 | 120 | 95.3 | 93.0 | 85.0-115 | | | 2.47 | 20 |
| Ethene | 127 | 123 | 121 | 96.9 | 95.3 | 85.0-115 | | | 1.64 | 20 |

## Method Blank (MB)

(MB) R3857495-2 11/06/22 10:42

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1552978-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1552978-09 11/06/22 11:29 • (DUP) R3857495-3 11/06/22 11:42

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1552983-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1552983-09 11/06/22 12:17 • (DUP) R3857495-4 11/06/22 12:35

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 88.9 | 83.3 | 1 | 6.50 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3857495-1 11/06/22 10:39 • (LCSD) R3857495-5 11/06/22 12:38

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 70.2 | 72.3 | 104 | 107 | 85.0-115 | | | 2.95 | 20 |
| Ethane | 129 | 120 | 120 | 93.0 | 93.0 | 85.0-115 | | | 0.000 | 20 |
| Ethene | 127 | 121 | 121 | 95.3 | 95.3 | 85.0-115 | | | 0.000 | 20 |

## Method Blank (MB)

(MB) R3857547-2 11/06/22 14:04

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1552983-17 Original Sample (OS) • Duplicate (DUP)

(OS) L1552983-17 11/06/22 14:56 • (DUP) R3857547-3 11/06/22 15:00

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 848 | 788 | 1 | 7.33 | | 20 |
| Ethane | 7.60 | 7.08 | 1 | 7.08 | | 20 |
| Ethene | 3.90 | 3.80 | 1 | 2.60 | | 20 |

## L1553534-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1553534-03 11/06/22 15:45 • (DUP) R3857547-4 11/06/22 15:48

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3857547-1 11/06/22 14:00 • (LCSD) R3857547-7 11/06/22 15:58

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 70.3 | 69.7 | 104 | 103 | 85.0-115 | | | 0.857 | 20 |
| Ethane | 129 | 120 | 121 | 93.0 | 93.8 | 85.0-115 | | | 0.830 | 20 |
| Ethene | 127 | 121 | 122 | 95.3 | 96.1 | 85.0-115 | | | 0.823 | 20 |

## L1553534-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553534-01 11/06/22 15:37 • (MS) R3857547-5 11/06/22 15:51 • (MSD) R3857547-6 11/06/22 15:55

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | U | 77.0 | 76.1 | 114 | 112 | 1 | 85.0-115 | | | 1.18 | 20 |
| Ethane | 129 | U | 128 | 133 | 99.2 | 103 | 1 | 85.0-115 | | | 3.83 | 20 |
| Ethene | 127 | U | 129 | 134 | 102 | 106 | 1 | 85.0-115 | | | 3.80 | 20 |

## Method Blank (MB)

(MB) R3857726-2 11/07/22 09:26

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1553025-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1553025-03 11/07/22 10:00 • (DUP) R3857726-3 11/07/22 10:10

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1553025-34 Original Sample (OS) • Duplicate (DUP)

(OS) L1553025-34 11/07/22 10:15 • (DUP) R3857726-4 11/07/22 10:41

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3857726-1 11/07/22 09:22 • (LCSD) R3857726-5 11/07/22 10:44

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 69.9 | 64.6 | 103 | 95.3 | 85.0-115 | | | 7.88 | 20 |
| Ethane | 129 | 121 | 119 | 93.8 | 92.2 | 85.0-115 | | | 1.67 | 20 |
| Ethene | 127 | 122 | 121 | 96.1 | 95.3 | 85.0-115 | | | 0.823 | 20 |

## Method Blank (MB)

(MB) R3858031-2 11/07/22 14:36

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Methane | U | | 0.287 | 0.678 |

## L1553462-19 Original Sample (OS) • Duplicate (DUP)

(OS) L1553462-19 11/07/22 15:13 • (DUP) R3858031-3 11/07/22 15:16

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | 93.6 | 95.3 | 1 | 1.80 | | 20 |

## L1553462-20 Original Sample (OS) • Duplicate (DUP)

(OS) L1553462-20 11/07/22 15:18 • (DUP) R3858031-4 11/07/22 16:24

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3858031-1 11/07/22 14:33 • (LCSD) R3858031-7 11/07/22 16:56

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 67.6 | 66.1 | 99.7 | 97.5 | 85.0-115 | | | 2.24 | 20 |

## L1553500-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553500-06 11/07/22 16:05 • (MS) R3858031-5 11/07/22 16:26 • (MSD) R3858031-6 11/07/22 16:35

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | U | 74.2 | 73.6 | 109 | 109 | 1 | 85.0-115 | | | 0.812 | 20 |

## Method Blank (MB)

(MB) R3859441-3 11/05/22 12:16

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3859441-3 11/05/22 12:16

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | 0.280 | J | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *99.3* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *97.2* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859441-1 11/05/22 09:55 • (LCSD) R3859441-2 11/05/22 10:14

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 26.8 | 25.7 | 107 | 103 | 10.0-160 | | | 4.19 | 31 |
| Acrylonitrile | 25.0 | 27.8 | 27.8 | 111 | 111 | 45.0-153 | | | 0.000 | 22 |
| Benzene | 5.00 | 5.22 | 5.08 | 104 | 102 | 70.0-123 | | | 2.72 | 20 |
| Bromobenzene | 5.00 | 5.26 | 5.20 | 105 | 104 | 73.0-121 | | | 1.15 | 20 |
| Bromodichloromethane | 5.00 | 5.45 | 5.27 | 109 | 105 | 73.0-121 | | | 3.36 | 20 |
| Bromoform | 5.00 | 4.98 | 5.05 | 99.6 | 101 | 64.0-132 | | | 1.40 | 20 |
| Bromomethane | 5.00 | 4.50 | 4.79 | 90.0 | 95.8 | 56.0-147 | | | 6.24 | 20 |
| n-Butylbenzene | 5.00 | 5.21 | 5.26 | 104 | 105 | 68.0-135 | | | 0.955 | 20 |
| sec-Butylbenzene | 5.00 | 5.36 | 5.74 | 107 | 115 | 74.0-130 | | | 6.85 | 20 |
| tert-Butylbenzene | 5.00 | 5.03 | 5.34 | 101 | 107 | 75.0-127 | | | 5.98 | 20 |
| Carbon tetrachloride | 5.00 | 5.21 | 4.95 | 104 | 99.0 | 66.0-128 | | | 5.12 | 20 |
| Chlorobenzene | 5.00 | 5.13 | 5.04 | 103 | 101 | 76.0-128 | | | 1.77 | 20 |
| Chlorodibromomethane | 5.00 | 5.42 | 5.38 | 108 | 108 | 74.0-127 | | | 0.741 | 20 |
| Chloroethane | 5.00 | 4.89 | 5.05 | 97.8 | 101 | 61.0-134 | | | 3.22 | 20 |
| Chloroform | 5.00 | 5.08 | 5.04 | 102 | 101 | 72.0-123 | | | 0.791 | 20 |
| Chloromethane | 5.00 | 5.05 | 4.75 | 101 | 95.0 | 51.0-138 | | | 6.12 | 20 |
| 2-Chlorotoluene | 5.00 | 5.37 | 5.48 | 107 | 110 | 75.0-124 | | | 2.03 | 20 |
| 4-Chlorotoluene | 5.00 | 5.60 | 5.63 | 112 | 113 | 75.0-124 | | | 0.534 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 5.02 | 4.57 | 100 | 91.4 | 59.0-130 | | | 9.38 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.22 | 5.06 | 104 | 101 | 74.0-128 | | | 3.11 | 20 |
| Dibromomethane | 5.00 | 5.01 | 5.24 | 100 | 105 | 75.0-122 | | | 4.49 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 5.04 | 4.88 | 101 | 97.6 | 76.0-124 | | | 3.23 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 5.14 | 5.14 | 103 | 103 | 76.0-125 | | | 0.000 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 5.16 | 4.97 | 103 | 99.4 | 77.0-121 | | | 3.75 | 20 |
| Dichlorodifluoromethane | 5.00 | 4.77 | 4.75 | 95.4 | 95.0 | 43.0-156 | | | 0.420 | 20 |
| 1,1-Dichloroethane | 5.00 | 5.27 | 5.26 | 105 | 105 | 70.0-127 | | | 0.190 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.96 | 4.87 | 99.2 | 97.4 | 65.0-131 | | | 1.83 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.17 | 5.35 | 103 | 107 | 65.0-131 | | | 3.42 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.04 | 5.03 | 101 | 101 | 73.0-125 | | | 0.199 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.15 | 5.21 | 103 | 104 | 71.0-125 | | | 1.16 | 20 |
| 1,2-Dichloropropane | 5.00 | 5.30 | 4.93 | 106 | 98.6 | 74.0-125 | | | 7.23 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.24 | 5.19 | 105 | 104 | 73.0-125 | | | 0.959 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.15 | 4.90 | 103 | 98.0 | 80.0-125 | | | 4.98 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 5.20 | 4.81 | 104 | 96.2 | 76.0-127 | | | 7.79 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 5.03 | 4.74 | 101 | 94.8 | 73.0-127 | | | 5.94 | 20 |
| 2,2-Dichloropropane | 5.00 | 4.97 | 3.85 | 99.4 | 77.0 | 59.0-135 | | J3 | 25.4 | 20 |
| Di-isopropyl ether | 5.00 | 5.35 | 5.12 | 107 | 102 | 60.0-136 | | | 4.39 | 20 |
| Ethylbenzene | 5.00 | 5.17 | 5.10 | 103 | 102 | 74.0-126 | | | 1.36 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 4.88 | 4.72 | 97.6 | 94.4 | 57.0-150 | | | 3.33 | 20 |
| Isopropylbenzene | 5.00 | 5.47 | 5.82 | 109 | 116 | 72.0-127 | | | 6.20 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859441-1 11/05/22 09:55 • (LCSD) R3859441-2 11/05/22 10:14

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.39 | 5.61 | 108 | 112 | 72.0-133 | | | 4.00 | 20 |
| 2-Butanone (MEK) | 25.0 | 27.4 | 27.5 | 110 | 110 | 30.0-160 | | | 0.364 | 24 |
| Methylene Chloride | 5.00 | 4.74 | 4.94 | 94.8 | 98.8 | 68.0-123 | | | 4.13 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 30.6 | 29.9 | 122 | 120 | 56.0-143 | | | 2.31 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.24 | 5.10 | 105 | 102 | 66.0-132 | | | 2.71 | 20 |
| Naphthalene | 5.00 | 5.01 | 4.62 | 100 | 92.4 | 59.0-130 | | | 8.10 | 20 |
| n-Propylbenzene | 5.00 | 6.22 | 5.87 | 124 | 117 | 74.0-126 | | | 5.79 | 20 |
| Styrene | 5.00 | 5.46 | 5.35 | 109 | 107 | 72.0-127 | | | 2.04 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.16 | 5.37 | 103 | 107 | 74.0-129 | | | 3.99 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.95 | 4.17 | 99.0 | 83.4 | 68.0-128 | | | 17.1 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.17 | 5.11 | 103 | 102 | 61.0-139 | | | 1.17 | 20 |
| Tetrachloroethene | 5.00 | 5.22 | 5.32 | 104 | 106 | 70.0-136 | | | 1.90 | 20 |
| Toluene | 5.00 | 5.26 | 5.35 | 105 | 107 | 75.0-121 | | | 1.70 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 5.14 | 4.85 | 103 | 97.0 | 59.0-139 | | | 5.81 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.84 | 4.52 | 96.8 | 90.4 | 62.0-137 | | | 6.84 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.08 | 5.50 | 102 | 110 | 69.0-126 | | | 7.94 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.37 | 5.17 | 107 | 103 | 78.0-123 | | | 3.80 | 20 |
| Trichloroethene | 5.00 | 5.13 | 5.48 | 103 | 110 | 76.0-126 | | | 6.60 | 20 |
| Trichlorofluoromethane | 5.00 | 5.47 | 5.65 | 109 | 113 | 61.0-142 | | | 3.24 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 5.40 | 5.19 | 108 | 104 | 67.0-129 | | | 3.97 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.27 | 5.30 | 105 | 106 | 70.0-126 | | | 0.568 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.28 | 5.14 | 106 | 103 | 74.0-124 | | | 2.69 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.44 | 5.50 | 109 | 110 | 73.0-127 | | | 1.10 | 20 |
| Vinyl chloride | 5.00 | 4.92 | 5.04 | 98.4 | 101 | 63.0-134 | | | 2.41 | 20 |
| Xylenes, Total | 15.0 | 16.1 | 15.7 | 107 | 105 | 72.0-127 | | | 2.52 | 20 |
| Ethyl ether | 5.00 | 4.95 | 4.93 | 99.0 | 98.6 | 64.0-137 | | | 0.405 | 20 |
| Tetrahydrofuran | 5.00 | 4.86 | 5.38 | 97.2 | 108 | 37.0-146 | | | 10.2 | 24 |
| Iodomethane | 25.0 | 26.0 | 25.3 | 104 | 101 | 74.0-134 | | | 2.73 | 20 |
| Allyl chloride | 25.0 | 24.6 | 24.4 | 98.4 | 97.6 | 70.0-131 | | | 0.816 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 3.52 | 3.49 | 70.4 | 69.8 | 45.0-143 | | | 0.856 | 20 |
| *(S) Toluene-d8* | | | | *103* | *105* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *100* | *102* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *98.4* | *98.3* | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R3859513-3 11/05/22 21:34

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3859513-3 11/05/22 21:34

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | 0.294 | J | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *99.6* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859513-1 11/05/22 20:17 • (LCSD) R3859513-2 11/05/22 20:37

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 24.6 | 25.2 | 98.4 | 101 | 10.0-160 | | | 2.41 | 31 |
| Acrylonitrile | 25.0 | 26.6 | 27.4 | 106 | 110 | 45.0-153 | | | 2.96 | 22 |
| Benzene | 5.00 | 5.01 | 4.81 | 100 | 96.2 | 70.0-123 | | | 4.07 | 20 |
| Bromobenzene | 5.00 | 4.96 | 4.84 | 99.2 | 96.8 | 73.0-121 | | | 2.45 | 20 |
| Bromodichloromethane | 5.00 | 5.29 | 5.20 | 106 | 104 | 73.0-121 | | | 1.72 | 20 |
| Bromoform | 5.00 | 4.82 | 4.73 | 96.4 | 94.6 | 64.0-132 | | | 1.88 | 20 |
| Bromomethane | 5.00 | 4.21 | 4.19 | 84.2 | 83.8 | 56.0-147 | | | 0.476 | 20 |
| n-Butylbenzene | 5.00 | 5.21 | 5.12 | 104 | 102 | 68.0-135 | | | 1.74 | 20 |
| sec-Butylbenzene | 5.00 | 5.28 | 5.02 | 106 | 100 | 74.0-130 | | | 5.05 | 20 |
| tert-Butylbenzene | 5.00 | 5.12 | 5.01 | 102 | 100 | 75.0-127 | | | 2.17 | 20 |
| Carbon tetrachloride | 5.00 | 5.34 | 4.85 | 107 | 97.0 | 66.0-128 | | | 9.62 | 20 |
| Chlorobenzene | 5.00 | 4.85 | 4.63 | 97.0 | 92.6 | 76.0-128 | | | 4.64 | 20 |
| Chlorodibromomethane | 5.00 | 5.20 | 4.91 | 104 | 98.2 | 74.0-127 | | | 5.74 | 20 |
| Chloroethane | 5.00 | 4.51 | 4.54 | 90.2 | 90.8 | 61.0-134 | | | 0.663 | 20 |
| Chloroform | 5.00 | 5.24 | 4.82 | 105 | 96.4 | 72.0-123 | | | 8.35 | 20 |
| Chloromethane | 5.00 | 4.49 | 4.06 | 89.8 | 81.2 | 51.0-138 | | | 10.1 | 20 |
| 2-Chlorotoluene | 5.00 | 5.41 | 4.91 | 108 | 98.2 | 75.0-124 | | | 9.69 | 20 |
| 4-Chlorotoluene | 5.00 | 5.38 | 5.08 | 108 | 102 | 75.0-124 | | | 5.74 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.55 | 4.49 | 91.0 | 89.8 | 59.0-130 | | | 1.33 | 20 |
| 1,2-Dibromoethane | 5.00 | 4.77 | 4.82 | 95.4 | 96.4 | 74.0-128 | | | 1.04 | 20 |
| Dibromomethane | 5.00 | 5.31 | 5.02 | 106 | 100 | 75.0-122 | | | 5.61 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 4.90 | 4.78 | 98.0 | 95.6 | 76.0-124 | | | 2.48 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 4.97 | 4.81 | 99.4 | 96.2 | 76.0-125 | | | 3.27 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 4.68 | 4.62 | 93.6 | 92.4 | 77.0-121 | | | 1.29 | 20 |
| Dichlorodifluoromethane | 5.00 | 3.94 | 3.81 | 78.8 | 76.2 | 43.0-156 | | | 3.35 | 20 |
| 1,1-Dichloroethane | 5.00 | 4.99 | 4.90 | 99.8 | 98.0 | 70.0-127 | | | 1.82 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.57 | 4.52 | 91.4 | 90.4 | 65.0-131 | | | 1.10 | 20 |
| 1,1-Dichloroethene | 5.00 | 4.85 | 4.60 | 97.0 | 92.0 | 65.0-131 | | | 5.29 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 4.95 | 4.92 | 99.0 | 98.4 | 73.0-125 | | | 0.608 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 4.90 | 4.69 | 98.0 | 93.8 | 71.0-125 | | | 4.38 | 20 |
| 1,2-Dichloropropane | 5.00 | 4.96 | 4.91 | 99.2 | 98.2 | 74.0-125 | | | 1.01 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.10 | 4.76 | 102 | 95.2 | 73.0-125 | | | 6.90 | 20 |
| 1,3-Dichloropropane | 5.00 | 4.72 | 4.68 | 94.4 | 93.6 | 80.0-125 | | | 0.851 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 4.99 | 4.87 | 99.8 | 97.4 | 76.0-127 | | | 2.43 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 4.81 | 4.74 | 96.2 | 94.8 | 73.0-127 | | | 1.47 | 20 |
| 2,2-Dichloropropane | 5.00 | 5.28 | 5.19 | 106 | 104 | 59.0-135 | | | 1.72 | 20 |
| Di-isopropyl ether | 5.00 | 5.06 | 5.10 | 101 | 102 | 60.0-136 | | | 0.787 | 20 |
| Ethylbenzene | 5.00 | 5.00 | 4.63 | 100 | 92.6 | 74.0-126 | | | 7.68 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 4.64 | 4.93 | 92.8 | 98.6 | 57.0-150 | | | 6.06 | 20 |
| Isopropylbenzene | 5.00 | 5.61 | 5.11 | 112 | 102 | 72.0-127 | | | 9.33 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859513-1 11/05/22 20:17 • (LCSD) R3859513-2 11/05/22 20:37

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.37 | 5.08 | 107 | 102 | 72.0-133 | | | 5.55 | 20 |
| 2-Butanone (MEK) | 25.0 | 26.7 | 27.3 | 107 | 109 | 30.0-160 | | | 2.22 | 24 |
| Methylene Chloride | 5.00 | 4.70 | 4.32 | 94.0 | 86.4 | 68.0-123 | | | 8.43 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 28.9 | 28.8 | 116 | 115 | 56.0-143 | | | 0.347 | 20 |
| Methyl tert-butyl ether | 5.00 | 4.78 | 4.96 | 95.6 | 99.2 | 66.0-132 | | | 3.70 | 20 |
| Naphthalene | 5.00 | 4.64 | 4.63 | 92.8 | 92.6 | 59.0-130 | | | 0.216 | 20 |
| n-Propylbenzene | 5.00 | 5.65 | 5.01 | 113 | 100 | 74.0-126 | | | 12.0 | 20 |
| Styrene | 5.00 | 5.19 | 4.92 | 104 | 98.4 | 72.0-127 | | | 5.34 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.05 | 4.84 | 101 | 96.8 | 74.0-129 | | | 4.25 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.74 | 5.05 | 94.8 | 101 | 68.0-128 | | | 6.33 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.21 | 4.95 | 104 | 99.0 | 61.0-139 | | | 5.12 | 20 |
| Tetrachloroethene | 5.00 | 5.03 | 4.86 | 101 | 97.2 | 70.0-136 | | | 3.44 | 20 |
| Toluene | 5.00 | 4.96 | 4.73 | 99.2 | 94.6 | 75.0-121 | | | 4.75 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.79 | 4.84 | 95.8 | 96.8 | 59.0-139 | | | 1.04 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.51 | 4.54 | 90.2 | 90.8 | 62.0-137 | | | 0.663 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.35 | 4.97 | 107 | 99.4 | 69.0-126 | | | 7.36 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 4.96 | 4.90 | 99.2 | 98.0 | 78.0-123 | | | 1.22 | 20 |
| Trichloroethene | 5.00 | 4.94 | 4.58 | 98.8 | 91.6 | 76.0-126 | | | 7.56 | 20 |
| Trichlorofluoromethane | 5.00 | 5.39 | 5.18 | 108 | 104 | 61.0-142 | | | 3.97 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 4.75 | 4.86 | 95.0 | 97.2 | 67.0-129 | | | 2.29 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.25 | 4.89 | 105 | 97.8 | 70.0-126 | | | 7.10 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.02 | 4.97 | 100 | 99.4 | 74.0-124 | | | 1.00 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.22 | 5.10 | 104 | 102 | 73.0-127 | | | 2.33 | 20 |
| Vinyl chloride | 5.00 | 4.63 | 4.32 | 92.6 | 86.4 | 63.0-134 | | | 6.93 | 20 |
| Xylenes, Total | 15.0 | 15.2 | 14.5 | 101 | 96.7 | 72.0-127 | | | 4.71 | 20 |
| Ethyl ether | 5.00 | 4.80 | 4.80 | 96.0 | 96.0 | 64.0-137 | | | 0.000 | 20 |
| Tetrahydrofuran | 5.00 | 4.99 | 4.87 | 99.8 | 97.4 | 37.0-146 | | | 2.43 | 24 |
| Iodomethane | 25.0 | 23.7 | 23.2 | 94.8 | 92.8 | 74.0-134 | | | 2.13 | 20 |
| Allyl chloride | 25.0 | 24.8 | 24.0 | 99.2 | 96.0 | 70.0-131 | | | 3.28 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 4.15 | 4.55 | 83.0 | 91.0 | 45.0-143 | | | 9.20 | 20 |
| *(S) Toluene-d8* | | | | *105* | *104* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *102* | *99.2* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *101* | *103* | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R3859542-3 11/08/22 22:23

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | 0.0860 | J | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3859542-3 11/08/22 22:23

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *103* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *104* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *95.1* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859542-1 11/08/22 21:06 • (LCSD) R3859542-2 11/08/22 21:25

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 22.7 | 21.4 | 90.8 | 85.6 | 10.0-160 | | | 5.90 | 31 |
| Acrylonitrile | 25.0 | 26.0 | 25.1 | 104 | 100 | 45.0-153 | | | 3.52 | 22 |
| Benzene | 5.00 | 4.84 | 4.78 | 96.8 | 95.6 | 70.0-123 | | | 1.25 | 20 |
| Bromobenzene | 5.00 | 4.92 | 4.98 | 98.4 | 99.6 | 73.0-121 | | | 1.21 | 20 |
| Bromodichloromethane | 5.00 | 5.05 | 4.84 | 101 | 96.8 | 73.0-121 | | | 4.25 | 20 |
| Bromoform | 5.00 | 4.93 | 4.75 | 98.6 | 95.0 | 64.0-132 | | | 3.72 | 20 |
| Bromomethane | 5.00 | 5.49 | 4.00 | 110 | 80.0 | 56.0-147 | | J3 | 31.4 | 20 |
| n-Butylbenzene | 5.00 | 4.90 | 4.84 | 98.0 | 96.8 | 68.0-135 | | | 1.23 | 20 |
| sec-Butylbenzene | 5.00 | 5.30 | 5.17 | 106 | 103 | 74.0-130 | | | 2.48 | 20 |
| tert-Butylbenzene | 5.00 | 4.99 | 5.21 | 99.8 | 104 | 75.0-127 | | | 4.31 | 20 |
| Carbon tetrachloride | 5.00 | 5.21 | 5.10 | 104 | 102 | 66.0-128 | | | 2.13 | 20 |
| Chlorobenzene | 5.00 | 4.89 | 4.84 | 97.8 | 96.8 | 76.0-128 | | | 1.03 | 20 |
| Chlorodibromomethane | 5.00 | 5.07 | 5.15 | 101 | 103 | 74.0-127 | | | 1.57 | 20 |
| Chloroethane | 5.00 | 4.88 | 3.84 | 97.6 | 76.8 | 61.0-134 | | J3 | 23.9 | 20 |
| Chloroform | 5.00 | 4.94 | 4.77 | 98.8 | 95.4 | 72.0-123 | | | 3.50 | 20 |
| Chloromethane | 5.00 | 3.96 | 3.89 | 79.2 | 77.8 | 51.0-138 | | | 1.78 | 20 |
| 2-Chlorotoluene | 5.00 | 4.45 | 5.49 | 89.0 | 110 | 75.0-124 | | J3 | 20.9 | 20 |
| 4-Chlorotoluene | 5.00 | 5.41 | 5.30 | 108 | 106 | 75.0-124 | | | 2.05 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.40 | 4.24 | 88.0 | 84.8 | 59.0-130 | | | 3.70 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.04 | 5.02 | 101 | 100 | 74.0-128 | | | 0.398 | 20 |
| Dibromomethane | 5.00 | 5.19 | 5.09 | 104 | 102 | 75.0-122 | | | 1.95 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 4.74 | 4.74 | 94.8 | 94.8 | 76.0-124 | | | 0.000 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 5.00 | 4.85 | 100 | 97.0 | 76.0-125 | | | 3.05 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 4.83 | 4.55 | 96.6 | 91.0 | 77.0-121 | | | 5.97 | 20 |
| Dichlorodifluoromethane | 5.00 | 3.42 | 2.95 | 68.4 | 59.0 | 43.0-156 | | | 14.8 | 20 |
| 1,1-Dichloroethane | 5.00 | 4.99 | 4.68 | 99.8 | 93.6 | 70.0-127 | | | 6.41 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.60 | 4.40 | 92.0 | 88.0 | 65.0-131 | | | 4.44 | 20 |
| 1,1-Dichloroethene | 5.00 | 4.86 | 4.61 | 97.2 | 92.2 | 65.0-131 | | | 5.28 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 4.89 | 4.90 | 97.8 | 98.0 | 73.0-125 | | | 0.204 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.20 | 5.04 | 104 | 101 | 71.0-125 | | | 3.12 | 20 |
| 1,2-Dichloropropane | 5.00 | 4.79 | 4.77 | 95.8 | 95.4 | 74.0-125 | | | 0.418 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.07 | 4.75 | 101 | 95.0 | 73.0-125 | | | 6.52 | 20 |
| 1,3-Dichloropropane | 5.00 | 4.80 | 4.90 | 96.0 | 98.0 | 80.0-125 | | | 2.06 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 5.12 | 4.94 | 102 | 98.8 | 76.0-127 | | | 3.58 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 4.77 | 4.87 | 95.4 | 97.4 | 73.0-127 | | | 2.07 | 20 |
| 2,2-Dichloropropane | 5.00 | 5.16 | 5.34 | 103 | 107 | 59.0-135 | | | 3.43 | 20 |
| Di-isopropyl ether | 5.00 | 4.75 | 4.69 | 95.0 | 93.8 | 60.0-136 | | | 1.27 | 20 |
| Ethylbenzene | 5.00 | 4.89 | 4.89 | 97.8 | 97.8 | 74.0-126 | | | 0.000 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 4.63 | 4.34 | 92.6 | 86.8 | 57.0-150 | | | 6.47 | 20 |
| Isopropylbenzene | 5.00 | 5.56 | 5.40 | 111 | 108 | 72.0-127 | | | 2.92 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859542-1 11/08/22 21:06 • (LCSD) R3859542-2 11/08/22 21:25

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.12 | 5.11 | 102 | 102 | 72.0-133 | | | 0.196 | 20 |
| 2-Butanone (MEK) | 25.0 | 26.3 | 25.5 | 105 | 102 | 30.0-160 | | | 3.09 | 24 |
| Methylene Chloride | 5.00 | 4.66 | 4.67 | 93.2 | 93.4 | 68.0-123 | | | 0.214 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 27.8 | 28.4 | 111 | 114 | 56.0-143 | | | 2.14 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.10 | 4.97 | 102 | 99.4 | 66.0-132 | | | 2.58 | 20 |
| Naphthalene | 5.00 | 4.47 | 4.62 | 89.4 | 92.4 | 59.0-130 | | | 3.30 | 20 |
| n-Propylbenzene | 5.00 | 5.42 | 5.46 | 108 | 109 | 74.0-126 | | | 0.735 | 20 |
| Styrene | 5.00 | 5.24 | 5.10 | 105 | 102 | 72.0-127 | | | 2.71 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.12 | 5.00 | 102 | 100 | 74.0-129 | | | 2.37 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.73 | 4.85 | 94.6 | 97.0 | 68.0-128 | | | 2.51 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 4.98 | 4.90 | 99.6 | 98.0 | 61.0-139 | | | 1.62 | 20 |
| Tetrachloroethene | 5.00 | 5.32 | 5.24 | 106 | 105 | 70.0-136 | | | 1.52 | 20 |
| Toluene | 5.00 | 5.03 | 4.98 | 101 | 99.6 | 75.0-121 | | | 0.999 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.48 | 4.91 | 89.6 | 98.2 | 59.0-139 | | | 9.16 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.42 | 4.31 | 88.4 | 86.2 | 62.0-137 | | | 2.52 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.06 | 4.89 | 101 | 97.8 | 69.0-126 | | | 3.42 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 4.92 | 5.06 | 98.4 | 101 | 78.0-123 | | | 2.81 | 20 |
| Trichloroethene | 5.00 | 4.95 | 4.81 | 99.0 | 96.2 | 76.0-126 | | | 2.87 | 20 |
| Trichlorofluoromethane | 5.00 | 5.46 | 4.65 | 109 | 93.0 | 61.0-142 | | | 16.0 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 5.06 | 5.14 | 101 | 103 | 67.0-129 | | | 1.57 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 4.99 | 4.97 | 99.8 | 99.4 | 70.0-126 | | | 0.402 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 4.95 | 4.91 | 99.0 | 98.2 | 74.0-124 | | | 0.811 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.14 | 5.15 | 103 | 103 | 73.0-127 | | | 0.194 | 20 |
| Vinyl chloride | 5.00 | 4.45 | 4.32 | 89.0 | 86.4 | 63.0-134 | | | 2.96 | 20 |
| Xylenes, Total | 15.0 | 15.4 | 15.1 | 103 | 101 | 72.0-127 | | | 1.97 | 20 |
| Ethyl ether | 5.00 | 4.78 | 4.89 | 95.6 | 97.8 | 64.0-137 | | | 2.28 | 20 |
| Tetrahydrofuran | 5.00 | 5.29 | 5.24 | 106 | 105 | 37.0-146 | | | 0.950 | 24 |
| Iodomethane | 25.0 | 24.9 | 23.3 | 99.6 | 93.2 | 74.0-134 | | | 6.64 | 20 |
| Allyl chloride | 25.0 | 25.3 | 24.7 | 101 | 98.8 | 70.0-131 | | | 2.40 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 5.18 | 5.05 | 104 | 101 | 45.0-143 | | | 2.54 | 20 |
| *(S) Toluene-d8* | | | | *104* | *107* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *108* | *101* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *98.0* | *94.3* | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R3860809-2 11/11/22 12:10

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| *(S) Toluene-d8* | *115* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *106* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3860809-1 11/11/22 10:51 • (LCSD) R3860809-3 11/11/22 13:22

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 5.00 | 4.65 | 5.01 | 93.0 | 100 | 73.0-125 | | | 7.45 | 20 |
| Tetrachloroethene | 5.00 | 4.68 | 4.75 | 93.6 | 95.0 | 70.0-136 | | | 1.48 | 20 |
| Vinyl chloride | 5.00 | 4.62 | 4.15 | 92.4 | 83.0 | 63.0-134 | | | 10.7 | 20 |
| *(S) Toluene-d8* | | | | *108* | *106* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *105* | *106* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *106* | *110* | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R3860810-2 11/11/22 12:10

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| *(S) Toluene-d8* | *115* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *106* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3860810-1 11/11/22 10:51 • (LCSD) R3860810-3 11/11/22 13:22

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | 5.00 | 4.68 | 4.75 | 93.6 | 95.0 | 70.0-136 | | | 1.48 | 20 |
| *(S) Toluene-d8* | | | | *108* | *106* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *105* | *106* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *106* | *110* | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R3861808-3 11/16/22 12:31

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *98.4* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *96.7* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3861808-1 11/16/22 11:14 • (LCSD) R3861808-2 11/16/22 11:33

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 5.00 | 5.06 | 5.32 | 101 | 106 | 73.0-125 | | | 5.01 | 20 |
| Tetrachloroethene | 5.00 | 5.02 | 5.27 | 100 | 105 | 70.0-136 | | | 4.86 | 20 |
| Trichloroethene | 5.00 | 4.95 | 5.09 | 99.0 | 102 | 76.0-126 | | | 2.79 | 20 |
| *(S) Toluene-d8* | | | | *105* | *104* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *103* | *103* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *96.1* | *96.0* | *70.0-130* | | | | |

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| B | The same analyte is found in the associated blank. |
| C3 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable. |
| C4 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result. |
| E | The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL). |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J3 | The associated batch QC was outside the established quality control range for precision. |
| P1 | RPD value not applicable for sample concentrations less than 5 times the reporting limit. |
| Q | Sample was prepared and/or analyzed past holding time as defined in the method. Concentrations should be considered minimum values. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LAO000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

**2101 Fourth Ave., Suite 1310**
**Seattle, WA 98121**

Billing Information:
**Attn: Accounts Payable**
**2101 4th Avenue, Suite 1310**
**Seattle, WA 98121**

Pres Chk

Report to:
**Brian O'Neal/Bill Haldeman**

Email To:
**Shannon.McKernan@nv5.com;brian.oneal@nv5**

Project Description:
**American Linen**

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: **206-529-3980**

Client Project # 1413001.10.701.02

Lab Project # **PESENVSWA-ALP**

Collected by (print): ARS

Site/Facility ID #

P.O. # **443018-1413001.05.601**

Collected by (signature):

Immediately Packed on Ice N ___ Y X

***Rush?*** (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1552983

E040

Acctnum: **PESENVSWA**
Template: **T218236**
Prelogin: **P957562**
PM: **546 - Jared Starkey**
PB: JJ 10/17/22
Shipped Via:

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | | | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-312-110122 | Grab | GW | — | 11-01-22 | 0913 | 9 | X | X | X | X | | X | X | X | | | | -01 |
| MW111-110122 | | GW | — | | 0946 | | X | X | X | X | | X | X | X | | | | -02 |
| MW103-110122 | | GW | — | | 1018 | | X | X | X | X | | X | X | X | | | | -03 |
| MW109-110122 | | GW | — | | 1053 | | X | X | X | X | | X | X | X | | | | -04 |
| MW311-110122 | | GW | — | | 1136 | | X | X | X | X | | X | X | X | | | | -05 |
| MW108-110122 | | GW | — | | 1209 | | X | X | X | X | | X | X | X | | | | -06 |
| MW-310-110122 | | GW | — | | 1245 | | X | X | X | X | | X | X | X | | | | -07 |
| MW126-110122 | | GW | — | | 1328 | | X | X | X | X | | X | X | X | | | | -08 |
| ~~MW-331-110122~~ (ARS) | | GW | — | | | | | | | | | | | | | | | |
| MW-331-110122 | | GW | — | | 1402 | | X | X | X | X | | X | X | X | | | | -09 |

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

**Remarks:**

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / No HCl / MeoH TBR | If preservation required by Login: Date/Time |
|---|---|---|---|---|---|
| | 11-01-22 | 1700 | | 1 | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: °C Bottles Received: 234 | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: 11-2-22 Time: 0900 | Hold: Condition: NCF / OK |

Company Name/Address:
**PES Environmental, Inc.- WA**

2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Billing Information:
Attn: Accounts Payable
2101 4th Avenue, Suite 1310
Seattle, WA 98121

Pres Chk

Report to:
Brian O'Neal/Bill Haldeman

Email To:
Shannon.McKernan@nv5.com;brian.oneal@nv5

Project Description:
American Linen

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: 206-529-3980

Client Project #
1413.001.10.701.02

Lab Project #
PESENVSWA-ALP

Collected by (print):
AJS

Site/Facility ID #

P.O. #
443018-1413001.05.601

Collected by (signature):
Immediately
Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-318-110122 | Grab | GW | — | 11-01-22 | 1453 | 9 | X | X | X | X | | X | X | X | | -10 |
| MW-309-110122 | | GW | — | | 1415 | | X | X | X | X | | X | X | X | | -11 |
| MW-308-110122 | | GW | — | | 1342 | | X | X | X | X | | X | X | X | | -12 |
| MW122-110122 | | GW | — | | 1311 | | X | X | X | X | | X | X | X | | -13 |
| MW-158A-110122 | | GW | — | | 1141 | | X | X | X | X | | X | X | X | | -14 |
| MW-143-110122 | | GW | — | | 1218 | | X | X | X | X | | X | X | X | | -15 |
| MW-313-110122 | | GW | — | | 1053 | | X | X | X | X | | X | X | X | | -16 |
| MW-314-110122 | | GW | — | | 1014 | | X | X | X | X | | X | X | X | | -17 |
| MW110-110122 | | GW | — | | 0931 | | X | X | X | X | | X | X | X | | -18 |
| | | GW | (AJS) | | | | | | | | | | | | | |

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1552983

Table #

Acctnum: PESENVSWA
Template: T218236
Prelogin: P957562
PM: 546 - Jared Starkey
PB: JJK 10/27/22

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other ____

Remarks:

pH ____ Temp ____
Flow ____ Other ____

Samples returned via:
__ UPS __ FedEx __ Courier ____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / No HCl / MeoH TBR | If preservation required by Login: Date/Time |
|---|---|---|---|---|---|
| | 11-01-22 | 17:00 | | 1 | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: °C Bottles Received: 234 | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: 11-2-22 Time: 09a | Hold: Condition: NCF / OK |

Company Name/Address:
**PES Environmental, Inc.- WA**

**2101 Fourth Ave., Suite 1310**
**Seattle, WA 98121**

Billing Information:
**Attn: Accounts Payable**
**2101 4th Avenue, Suite 1310**
**Seattle, WA 98121**

Pres Chk

Report to:
**Brian O'Neal/Bill Haldeman**

Email To:
**Shannon.McKernan@nv5.com;brian.oneal@nv5**

Project Description:
**American Linen**

City/State Collected: **Seattle, WA**

Please Circle: PT MT CT ET

Phone: **206-529-3980**

Client Project #
**1413.001.10.701.02**

Lab Project #
**PESENVSWA-ALP**

Collected by (print):
**AJS**

Site/Facility ID #

P.O. # **1413.001.10.701.02**
~~**443018-1413001.05.601**~~

Collected by (signature):
Immediately
Packed on Ice N ___ Y ___

***Rush?*** (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | | | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FMW-131-110122 | Grab | GW | — | ~~11~~ (NEW) 11/1/22 | 1047 | 9 | X | X | X | X | | X | X | X | | | | -19 |
| GEI-2-110122 | " | GW | | 11/1/22 | 1247 | " | X | X | X | X | | X | X | X | | | | -20 |
| FMW-137-110122 | | GW | | | 1454 | | X | X | X | X | | X | X | X | | | | -21 |
| MW-342-110122 | | GW | | | 1024 | | X | X | X | X | | X | X | X | | | | -22 |
| MW-343-110122 | | GW | | | 1211 | | X | X | X | X | | X | X | X | | | | -23 |
| MW-329-110122 | | GW | | | 1440 | | X | X | X | X | | X | X | X | | | | -24 |
| MW128-110122 | | GW | | | 1344 | | X | X | X | X | | X | X | X | | | | -25 |
| MW-317-110122 | ↓ | GW | | | 1458 | ↓ | X | X | X | X | | X | X | X | | | | -26 |
| TB-110122 | — | GW | — | ↓ | — | 1 | | | | | | | | X | | | | -27 |
| | | GW | | | | | | | | | | | | | | | | |

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1552983

Table #

Acctnum: **PESENVSWA**
Template: **T218236**
Prelogin: **P957562**
PM: **546 - Jared Starkey**
PB:

Shipped Via:

* Matrix:
**SS** - Soil **AIR** - Air **F** - Filter
**GW** - Groundwater **B** - Bioassay
**WW** - WasteWater
**DW** - Drinking Water
**OT** - Other_____

**Remarks:**

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / No HCl / MeoH TBR | If preservation required by Login: Date/Time |
|---|---|---|---|---|---|
| | 11-01-22 | 17:00 | | | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: °C Bottles Received: 234 | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: 11-2-22 Time: 0900 | Hold: / Condition: NCF / OK |

61552983

| Tracking Numbers | Temperature |
| --- | --- |
| 6094 5459 7078 | GBA7 3.6 |
| 7056 | GBA7 1.2 |
| 7067 | GBA7 2.9 |
| | |
| | |
| | |

# ANALYTICAL REPORT

November 21, 2022



## PES Environmental, Inc.- WA

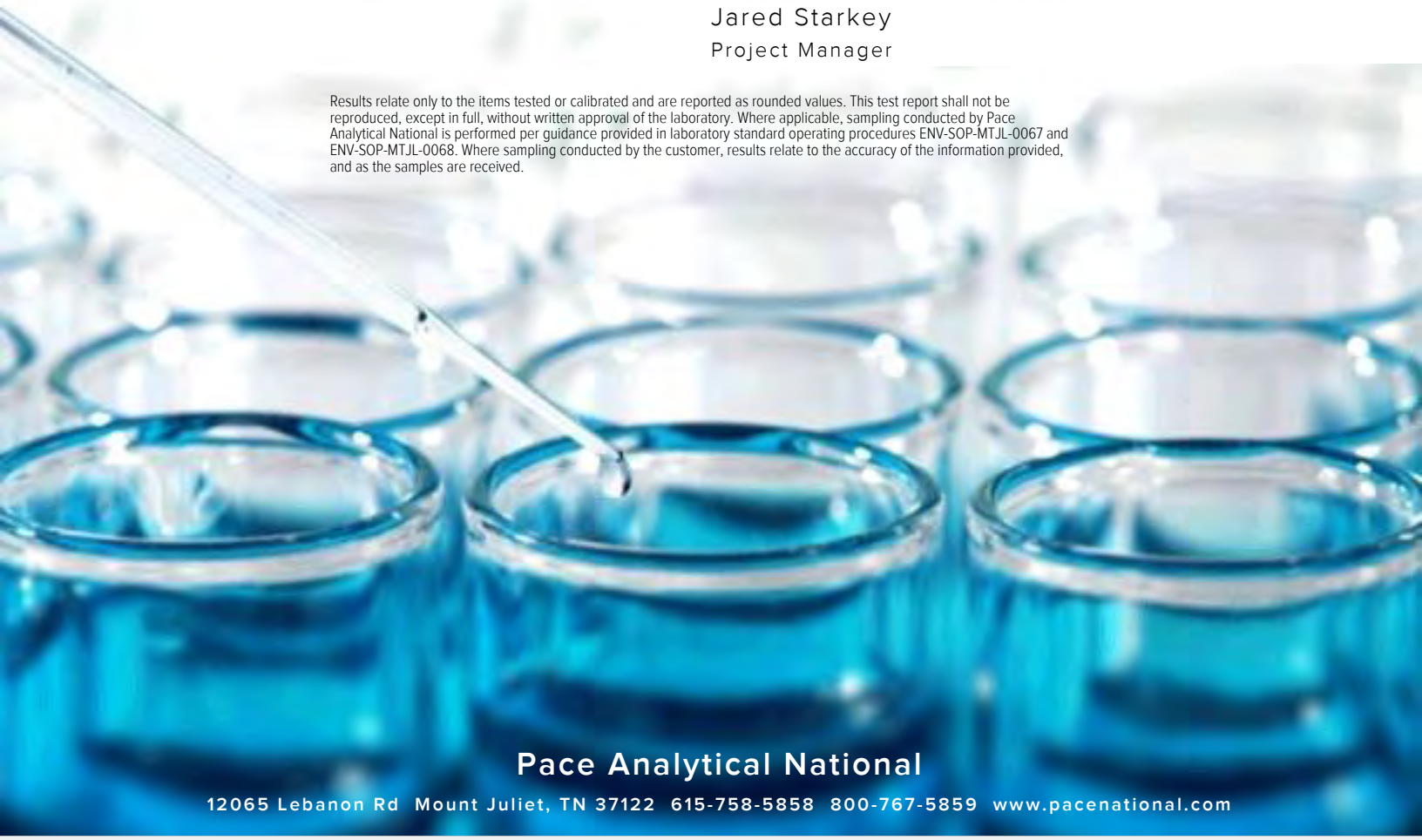
| | |
|---|---|
| Sample Delivery Group: | L1553833 |
| Samples Received: | 11/04/2022 |
| Project Number: | 1413.001.10.701.02 |
| Description: | American Linen |

Report To: Brian O'Neal/Bill Haldeman
2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## MW-340-110222 L1553833-01 GW

Collected by: NEW | Collected date/time: 11/02/22 10:23 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958273 | 1 | 11/13/22 11:08 | 11/13/22 11:08 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954382 | 1 | 11/04/22 14:18 | 11/04/22 14:18 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962430 | 1 | 11/20/22 01:47 | 11/20/22 01:47 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959228 | 1 | 11/14/22 22:50 | 11/16/22 14:22 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956350 | 1 | 11/09/22 08:55 | 11/09/22 08:55 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956765 | 10 | 11/09/22 13:50 | 11/09/22 13:50 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956117 | 1 | 11/09/22 12:33 | 11/09/22 12:33 | JAH | Mt. Juliet, TN |

## MW-327-110222 L1553833-02 GW

Collected by: NEW | Collected date/time: 11/02/22 11:31 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958273 | 1 | 11/13/22 11:13 | 11/13/22 11:13 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954382 | 1 | 11/04/22 11:14 | 11/04/22 11:14 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962430 | 1 | 11/20/22 02:02 | 11/20/22 02:02 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959228 | 1 | 11/14/22 22:50 | 11/16/22 14:35 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956350 | 1 | 11/09/22 09:02 | 11/09/22 09:02 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956765 | 10 | 11/09/22 13:53 | 11/09/22 13:53 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956117 | 1 | 11/09/22 12:53 | 11/09/22 12:53 | JAH | Mt. Juliet, TN |

## FMW-140-110222 L1553833-03 GW

Collected by: NEW | Collected date/time: 11/02/22 14:12 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958273 | 1 | 11/13/22 11:19 | 11/13/22 11:19 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954382 | 1 | 11/04/22 12:01 | 11/04/22 12:01 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962431 | 1 | 11/19/22 19:24 | 11/19/22 19:24 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959228 | 1 | 11/14/22 22:50 | 11/16/22 14:38 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956350 | 1 | 11/09/22 09:10 | 11/09/22 09:10 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956117 | 1 | 11/09/22 13:12 | 11/09/22 13:12 | JAH | Mt. Juliet, TN |

## MW104-110222 L1553833-04 GW

Collected by: NEW | Collected date/time: 11/02/22 10:44 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958273 | 1 | 11/13/22 11:26 | 11/13/22 11:26 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954382 | 1 | 11/04/22 12:29 | 11/04/22 12:29 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962431 | 1 | 11/19/22 20:30 | 11/19/22 20:30 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959228 | 1 | 11/14/22 22:50 | 11/16/22 14:41 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956350 | 1 | 11/09/22 09:29 | 11/09/22 09:29 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956117 | 1 | 11/09/22 14:09 | 11/09/22 14:09 | JAH | Mt. Juliet, TN |

## MW-145R-110222 L1553833-05 GW

Collected by: NEW | Collected date/time: 11/02/22 13:10 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958273 | 1 | 11/13/22 11:35 | 11/13/22 11:35 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954382 | 1 | 11/04/22 12:15 | 11/04/22 12:15 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962431 | 1 | 11/19/22 21:32 | 11/19/22 21:32 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959228 | 1 | 11/14/22 22:50 | 11/16/22 14:44 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956350 | 1 | 11/09/22 09:33 | 11/09/22 09:33 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956117 | 1 | 11/09/22 14:29 | 11/09/22 14:29 | JAH | Mt. Juliet, TN |

## MW-144R-110222 L1553833-06 GW

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| NEW | 11/02/22 15:10 | 11/04/22 09:00 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958273 | 1 | 11/13/22 11:49 | 11/13/22 11:49 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954382 | 1 | 11/04/22 12:42 | 11/04/22 12:42 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962431 | 1 | 11/19/22 21:55 | 11/19/22 21:55 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959228 | 1 | 11/14/22 22:50 | 11/16/22 15:27 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956350 | 1 | 11/09/22 09:36 | 11/09/22 09:36 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956765 | 10 | 11/09/22 13:56 | 11/09/22 13:56 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956117 | 1 | 11/09/22 15:03 | 11/09/22 15:03 | JAH | Mt. Juliet, TN |

## EQ-110222 L1553833-07 GW

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| NEW | 11/02/22 16:15 | 11/04/22 09:00 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958273 | 1 | 11/13/22 11:55 | 11/13/22 11:55 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954382 | 1 | 11/04/22 12:56 | 11/04/22 12:56 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962431 | 1 | 11/19/22 23:07 | 11/19/22 23:07 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959228 | 1 | 11/14/22 22:50 | 11/16/22 15:30 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956350 | 1 | 11/09/22 09:39 | 11/09/22 09:39 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956117 | 1 | 11/09/22 15:22 | 11/09/22 15:22 | JAH | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 467000 | | 8450 | 20000 | 1 | 11/13/2022 11:08 | WG1958273 |

Sample Narrative:

L1553833-01 WG1958273: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 14600 | | 379 | 1000 | 1 | 11/04/2022 14:18 | WG1954382 |
| Nitrate | 724 | T8 | 48.0 | 100 | 1 | 11/04/2022 14:18 | WG1954382 |
| Sulfate | 2570 | J | 594 | 5000 | 1 | 11/04/2022 14:18 | WG1954382 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 5100 | | 102 | 1000 | 1 | 11/20/2022 01:47 | WG1962430 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 14700 | | 28.1 | 100 | 1 | 11/16/2022 14:22 | WG1959228 |
| Manganese | 1720 | | 0.704 | 5.00 | 1 | 11/16/2022 14:22 | WG1959228 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 16000 | | 2.87 | 6.78 | 10 | 11/09/2022 13:50 | WG1956765 |
| Ethane | 3.62 | | 0.296 | 1.29 | 1 | 11/09/2022 08:55 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 08:55 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 2.30 | | 0.548 | 1.00 | 1 | 11/09/2022 12:33 | WG1956117 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 12:33 | WG1956117 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 12:33 | WG1956117 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 12:33 | WG1956117 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 12:33 | WG1956117 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 12:33 | WG1956117 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 12:33 | WG1956117 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 12:33 | WG1956117 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 12:33 | WG1956117 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| Toluene | 0.131 | J | 0.0500 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 12:33 | WG1956117 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 12:33 | WG1956117 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 12:33 | WG1956117 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/09/2022 12:33* | WG1956117 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/09/2022 12:33* | WG1956117 |
| *(S) 1,2-Dichloroethane-d4* | *95.6* | | | *70.0-130* | | *11/09/2022 12:33* | WG1956117 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 224000 | | 8450 | 20000 | 1 | 11/13/2022 11:13 | WG1958273 |

Sample Narrative:

L1553833-02 WG1958273: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 72000 | | 379 | 1000 | 1 | 11/04/2022 11:14 | WG1954382 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/04/2022 11:14 | WG1954382 |
| Sulfate | U | | 594 | 5000 | 1 | 11/04/2022 11:14 | WG1954382 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 3110 | B | 102 | 1000 | 1 | 11/20/2022 02:02 | WG1962430 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 11900 | | 28.1 | 100 | 1 | 11/16/2022 14:35 | WG1959228 |
| Manganese | 786 | | 0.704 | 5.00 | 1 | 11/16/2022 14:35 | WG1959228 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 12900 | | 2.87 | 6.78 | 10 | 11/09/2022 13:53 | WG1956765 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 09:02 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 09:02 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.69 | | 0.548 | 1.00 | 1 | 11/09/2022 12:53 | WG1956117 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 12:53 | WG1956117 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 12:53 | WG1956117 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 12:53 | WG1956117 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 12:53 | WG1956117 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 12:53 | WG1956117 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 12:53 | WG1956117 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 12:53 | WG1956117 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 12:53 | WG1956117 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 12:53 | WG1956117 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 12:53 | WG1956117 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 12:53 | WG1956117 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/09/2022 12:53* | WG1956117 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/09/2022 12:53* | WG1956117 |
| *(S) 1,2-Dichloroethane-d4* | *95.9* | | | *70.0-130* | | *11/09/2022 12:53* | WG1956117 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 182000 | | 8450 | 20000 | 1 | 11/13/2022 11:19 | WG1958273 |

Sample Narrative:

L1553833-03 WG1958273: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 7960 | | 379 | 1000 | 1 | 11/04/2022 12:01 | WG1954382 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/04/2022 12:01 | WG1954382 |
| Sulfate | 4640 | J | 594 | 5000 | 1 | 11/04/2022 12:01 | WG1954382 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 7580 | | 102 | 1000 | 1 | 11/19/2022 19:24 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 7640 | | 28.1 | 100 | 1 | 11/16/2022 14:38 | WG1959228 |
| Manganese | 2540 | | 0.704 | 5.00 | 1 | 11/16/2022 14:38 | WG1959228 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 6390 | | 0.287 | 0.678 | 1 | 11/09/2022 09:10 | WG1956350 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 09:10 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 09:10 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 13:12 | WG1956117 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 13:12 | WG1956117 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 13:12 | WG1956117 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 13:12 | WG1956117 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 13:12 | WG1956117 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 13:12 | WG1956117 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 13:12 | WG1956117 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 13:12 | WG1956117 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 13:12 | WG1956117 |
| Naphthalene | 0.372 | J | 0.124 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 13:12 | WG1956117 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 13:12 | WG1956117 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 13:12 | WG1956117 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/09/2022 13:12* | WG1956117 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/09/2022 13:12* | WG1956117 |
| *(S) 1,2-Dichloroethane-d4* | *94.4* | | | *70.0-130* | | *11/09/2022 13:12* | WG1956117 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 195000 | | 8450 | 20000 | 1 | 11/13/2022 11:26 | WG1958273 |

Sample Narrative:

L1553833-04 WG1958273: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 10200 | | 379 | 1000 | 1 | 11/04/2022 12:29 | WG1954382 |
| Nitrate | U | T8 | 48.0 | 100 | 1 | 11/04/2022 12:29 | WG1954382 |
| Sulfate | 5450 | | 594 | 5000 | 1 | 11/04/2022 12:29 | WG1954382 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2960 | B | 102 | 1000 | 1 | 11/19/2022 20:30 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 3830 | | 28.1 | 100 | 1 | 11/16/2022 14:41 | WG1959228 |
| Manganese | 679 | | 0.704 | 5.00 | 1 | 11/16/2022 14:41 | WG1959228 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 114 | | 0.287 | 0.678 | 1 | 11/09/2022 09:29 | WG1956350 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 09:29 | WG1956350 |
| Ethene | 8.68 | | 0.422 | 1.27 | 1 | 11/09/2022 09:29 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 14:09 | WG1956117 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 14:09 | WG1956117 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 14:09 | WG1956117 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,1-Dichloroethene | 0.964 | | 0.0200 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| cis-1,2-Dichloroethene | 20.8 | | 0.0276 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| trans-1,2-Dichloroethene | 0.625 | | 0.0572 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 14:09 | WG1956117 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 14:09 | WG1956117 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 14:09 | WG1956117 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 14:09 | WG1956117 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 14:09 | WG1956117 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 14:09 | WG1956117 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| Trichloroethene | 0.437 | | 0.0160 | 0.0400 | 1 | 11/09/2022 14:09 | WG1956117 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| Vinyl chloride | 30.3 | | 0.0273 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 14:09 | WG1956117 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| Tetrahydrofuran | 0.960 | | 0.0900 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 14:09 | WG1956117 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| *(S) Toluene-d8* | *110* | | | *75.0-131* | | *11/09/2022 14:09* | WG1956117 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/09/2022 14:09* | WG1956117 |
| *(S) 1,2-Dichloroethane-d4* | *93.2* | | | *70.0-130* | | *11/09/2022 14:09* | WG1956117 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 279000 | | 8450 | 20000 | 1 | 11/13/2022 11:35 | WG1958273 |

Sample Narrative:

L1553833-05 WG1958273: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 27700 | | 379 | 1000 | 1 | 11/04/2022 12:15 | WG1954382 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/04/2022 12:15 | WG1954382 |
| Sulfate | 26500 | | 594 | 5000 | 1 | 11/04/2022 12:15 | WG1954382 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 2050 | B | 102 | 1000 | 1 | 11/19/2022 21:32 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 451 | | 28.1 | 100 | 1 | 11/16/2022 14:44 | WG1959228 |
| Manganese | 317 | | 0.704 | 5.00 | 1 | 11/16/2022 14:44 | WG1959228 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 1610 | | 0.287 | 0.678 | 1 | 11/09/2022 09:33 | WG1956350 |
| Ethane | 4.52 | | 0.296 | 1.29 | 1 | 11/09/2022 09:33 | WG1956350 |
| Ethene | 1.81 | | 0.422 | 1.27 | 1 | 11/09/2022 09:33 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 14:29 | WG1956117 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 14:29 | WG1956117 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 14:29 | WG1956117 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 14:29 | WG1956117 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 14:29 | WG1956117 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 14:29 | WG1956117 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 14:29 | WG1956117 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 14:29 | WG1956117 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 14:29 | WG1956117 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 14:29 | WG1956117 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 14:29 | WG1956117 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| Tetrahydrofuran | 0.183 | J | 0.0900 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 14:29 | WG1956117 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/09/2022 14:29* | WG1956117 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/09/2022 14:29* | WG1956117 |
| *(S) 1,2-Dichloroethane-d4* | *96.9* | | | *70.0-130* | | *11/09/2022 14:29* | WG1956117 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 823000 | | 8450 | 20000 | 1 | 11/13/2022 11:49 | WG1958273 |

Sample Narrative:

L1553833-06 WG1958273: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 101000 | | 379 | 1000 | 1 | 11/04/2022 12:42 | WG1954382 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/04/2022 12:42 | WG1954382 |
| Sulfate | 1010 | J | 594 | 5000 | 1 | 11/04/2022 12:42 | WG1954382 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4090 | B | 102 | 1000 | 1 | 11/19/2022 21:55 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 2810 | | 28.1 | 100 | 1 | 11/16/2022 15:27 | WG1959228 |
| Manganese | 1420 | | 0.704 | 5.00 | 1 | 11/16/2022 15:27 | WG1959228 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 27900 | | 2.87 | 6.78 | 10 | 11/09/2022 13:56 | WG1956765 |
| Ethane | 50.4 | | 0.296 | 1.29 | 1 | 11/09/2022 09:36 | WG1956350 |
| Ethene | 2.45 | | 0.422 | 1.27 | 1 | 11/09/2022 09:36 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 5.80 | | 0.548 | 1.00 | 1 | 11/09/2022 15:03 | WG1956117 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 15:03 | WG1956117 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 15:03 | WG1956117 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| cis-1,2-Dichloroethene | 0.131 | | 0.0276 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 15:03 | WG1956117 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 15:03 | WG1956117 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 15:03 | WG1956117 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 15:03 | WG1956117 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 15:03 | WG1956117 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 15:03 | WG1956117 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| Trichloroethene | 0.0830 | | 0.0160 | 0.0400 | 1 | 11/09/2022 15:03 | WG1956117 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| Vinyl chloride | 0.124 | | 0.0273 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 15:03 | WG1956117 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| Tetrahydrofuran | 0.190 | J | 0.0900 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 15:03 | WG1956117 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/09/2022 15:03* | WG1956117 |
| *(S) 4-Bromofluorobenzene* | *99.9* | | | *67.0-138* | | *11/09/2022 15:03* | WG1956117 |
| *(S) 1,2-Dichloroethane-d4* | *95.4* | | | *70.0-130* | | *11/09/2022 15:03* | WG1956117 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | U | | 8450 | 20000 | 1 | 11/13/2022 11:55 | WG1958273 |

Sample Narrative:

L1553833-07 WG1958273: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | U | | 379 | 1000 | 1 | 11/04/2022 12:56 | WG1954382 |
| Nitrate | 206 | | 48.0 | 100 | 1 | 11/04/2022 12:56 | WG1954382 |
| Sulfate | U | | 594 | 5000 | 1 | 11/04/2022 12:56 | WG1954382 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 116 | B J | 102 | 1000 | 1 | 11/19/2022 23:07 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | U | | 28.1 | 100 | 1 | 11/16/2022 15:30 | WG1959228 |
| Manganese | 1.21 | J | 0.704 | 5.00 | 1 | 11/16/2022 15:30 | WG1959228 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | U | | 0.287 | 0.678 | 1 | 11/09/2022 09:39 | WG1956350 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 09:39 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 09:39 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 2.29 | | 0.548 | 1.00 | 1 | 11/09/2022 15:22 | WG1956117 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 15:22 | WG1956117 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 15:22 | WG1956117 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 15:22 | WG1956117 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 15:22 | WG1956117 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 15:22 | WG1956117 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 15:22 | WG1956117 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 15:22 | WG1956117 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 15:22 | WG1956117 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 15:22 | WG1956117 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 15:22 | WG1956117 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 15:22 | WG1956117 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 15:22 | WG1956117 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 15:22 | WG1956117 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 15:22 | WG1956117 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 15:22 | WG1956117 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 15:22 | WG1956117 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 15:22 | WG1956117 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 15:22 | WG1956117 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 15:22 | WG1956117 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 15:22 | WG1956117 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 15:22 | WG1956117 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 15:22 | WG1956117 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 15:22 | WG1956117 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 15:22 | WG1956117 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 15:22 | WG1956117 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 15:22 | WG1956117 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 15:22 | WG1956117 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 15:22 | WG1956117 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 15:22 | WG1956117 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 15:22 | WG1956117 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 15:22 | WG1956117 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| Toluene | 0.151 | J | 0.0500 | 0.200 | 1 | 11/09/2022 15:22 | WG1956117 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 15:22 | WG1956117 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/09/2022 15:22 | WG1956117 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 15:22 | WG1956117 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 15:22 | WG1956117 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 15:22 | WG1956117 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 15:22 | WG1956117 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 15:22 | WG1956117 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 15:22 | WG1956117 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 15:22 | WG1956117 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 15:22 | WG1956117 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 15:22 | WG1956117 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 15:22 | WG1956117 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/09/2022 15:22 | WG1956117 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/09/2022 15:22* | WG1956117 |
| *(S) 4-Bromofluorobenzene* | *107* | | | *67.0-138* | | *11/09/2022 15:22* | WG1956117 |
| *(S) 1,2-Dichloroethane-d4* | *97.5* | | | *70.0-130* | | *11/09/2022 15:22* | WG1956117 |

## Method Blank (MB)

(MB) R3860438-2 11/13/22 09:56

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1553760-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1553760-01 11/13/22 10:02 • (DUP) R3860438-3 11/13/22 10:06

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 523000 | 518000 | 1 | 0.915 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

## L1553812-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1553812-04 11/13/22 10:57 • (DUP) R3860438-4 11/13/22 11:03

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 349000 | 350000 | 1 | 0.143 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3860438-1 11/13/22 09:49

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 101000 | 101 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3857942-1 11/04/22 10:11

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1553833-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1553833-06 11/04/22 12:42 • (DUP) R3857942-3 11/04/22 13:37

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 101000 | 101000 | 1 | 0.172 | | 15 |
| Nitrate | U | U | 1 | 0.000 | | 15 |
| Sulfate | 1010 | 1010 | 1 | 0.0495 | J | 15 |

## L1553812-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1553812-03 11/04/22 16:49 • (DUP) R3857942-6 11/04/22 17:03

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 26000 | 26200 | 1 | 0.893 | | 15 |
| Nitrate | 68.3 | 69.4 | 1 | 1.60 | J | 15 |
| Sulfate | 95700 | 95900 | 1 | 0.208 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3857942-2 11/04/22 10:25

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 40900 | 102 | 80.0-120 | |
| Nitrate | 8000 | 7940 | 99.2 | 80.0-120 | |
| Sulfate | 40000 | 40300 | 101 | 80.0-120 | |

## L1553833-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553833-06 11/04/22 12:42 • (MS) R3857942-4 11/04/22 13:51 • (MSD) R3857942-5 11/04/22 14:04

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 101000 | 144000 | 145000 | 86.8 | 88.2 | 1 | 80.0-120 | | | 0.479 | 15 |
| Nitrate | 5000 | U | 4300 | 4340 | 86.1 | 86.9 | 1 | 80.0-120 | | | 0.941 | 15 |
| Sulfate | 50000 | 1010 | 45800 | 46300 | 89.7 | 90.6 | 1 | 80.0-120 | | | 0.981 | 15 |

## L1553812-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1553812-03 11/04/22 16:49 • (MS) R3857942-7 11/04/22 17:16

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 26000 | 72900 | 93.9 | 1 | 80.0-120 | |
| Nitrate | 5000 | 68.3 | 4540 | 89.4 | 1 | 80.0-120 | |
| Sulfate | 50000 | 95700 | 136000 | 80.7 | 1 | 80.0-120 | |

## Method Blank (MB)

(MB) R3863117-2 11/19/22 10:06

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 357 | J | 102 | 1000 |

## L1552408-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1552408-08 11/19/22 23:05 • (DUP) R3863117-7 11/19/22 23:23

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 7920 | 8030 | 1 | 1.40 | | 20 |

## L1552420-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552420-01 11/20/22 00:13 • (DUP) R3863117-8 11/20/22 00:26

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1860 | 1850 | 1 | 0.700 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3863117-1 11/19/22 09:54

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 76000 | 101 | 85.0-115 | |

## L1552408-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552408-06 11/19/22 21:16 • (MS) R3863117-3 11/19/22 21:41 • (MSD) R3863117-4 11/19/22 21:59

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 5260 | 59300 | 59000 | 108 | 108 | 1 | 80.0-120 | | | 0.541 | 20 |

## L1552408-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1552408-07 11/19/22 22:12 • (MS) R3863117-5 11/19/22 22:30 • (MSD) R3863117-6 11/19/22 22:47

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 1180 | 54600 | 54600 | 107 | 107 | 1 | 80.0-120 | | | 0.0366 | 20 |

## Method Blank (MB)

(MB) R3863237-2 11/19/22 18:29

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 637 | J | 102 | 1000 |

## L1553833-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1553833-06 11/19/22 21:55 • (DUP) R3863237-7 11/19/22 22:14

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4090 | 3940 | 1 | 3.76 | | 20 |

## L1553859-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1553859-04 11/20/22 01:04 • (DUP) R3863237-8 11/20/22 01:24

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1340 | 1150 | 1 | 15.3 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3863237-1 11/19/22 18:04

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 74400 | 99.1 | 85.0-115 | |

## L1553833-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553833-03 11/19/22 19:24 • (MS) R3863237-3 11/19/22 19:48 • (MSD) R3863237-4 11/19/22 20:07

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 7580 | 56600 | 56200 | 98.1 | 97.3 | 1 | 80.0-120 | | | 0.744 | 20 |

## L1553833-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553833-04 11/19/22 20:30 • (MS) R3863237-5 11/19/22 20:54 • (MSD) R3863237-6 11/19/22 21:13

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 2960 | 49600 | 48800 | 93.3 | 91.7 | 1 | 80.0-120 | | | 1.58 | 20 |

## Method Blank (MB)

(MB) R3861880-1 11/16/22 14:15

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3861880-2 11/16/22 14:18

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Iron | 5000 | 5730 | 115 | 80.0-120 | |
| Manganese | 50.0 | 54.9 | 110 | 80.0-120 | |

## L1553833-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553833-01 11/16/22 14:22 • (MS) R3861880-4 11/16/22 14:28 • (MSD) R3861880-5 11/16/22 14:31

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Iron | 5000 | 14700 | 20000 | 19700 | 105 | 98.6 | 1 | 75.0-125 | | | 1.59 | 20 |
| Manganese | 50.0 | 1720 | 1760 | 1780 | 79.9 | 108 | 1 | 75.0-125 | | | 0.796 | 20 |

## Method Blank (MB)

(MB) R3858748-2 11/09/22 08:44

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1553859-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1553859-02 11/09/22 09:50 • (DUP) R3858748-3 11/09/22 09:53

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 10.2 | 10.5 | 1 | 2.90 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1554116-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1554116-05 11/09/22 10:28 • (DUP) R3858748-4 11/09/22 10:34

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3858748-1 11/09/22 08:37 • (LCSD) R3858748-5 11/09/22 10:37

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 66.1 | 66.0 | 97.5 | 97.3 | 85.0-115 | | | 0.151 | 20 |
| Ethane | 129 | 121 | 116 | 93.8 | 89.9 | 85.0-115 | | | 4.22 | 20 |
| Ethene | 127 | 122 | 118 | 96.1 | 92.9 | 85.0-115 | | | 3.33 | 20 |

## Method Blank (MB)

(MB) R3859035-2 11/09/22 13:47

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Methane | U | | 0.287 | 0.678 |

## L1553979-27 Original Sample (OS) • Duplicate (DUP)

(OS) L1553979-27 11/09/22 14:13 • (DUP) R3859035-3 11/09/22 14:43

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | 7210 | 7800 | 10 | 7.86 | | 20 |

## L1553987-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1553987-02 11/09/22 15:47 • (DUP) R3859035-4 11/09/22 15:54

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | 33.5 | 26.5 | 1 | 23.3 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859035-1 11/09/22 13:44 • (LCSD) R3859035-7 11/09/22 16:03

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 71.0 | 67.2 | 105 | 99.1 | 85.0-115 | | | 5.50 | 20 |

## L1553979-31 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553979-31 11/09/22 14:38 • (MS) R3859035-5 11/09/22 15:56 • (MSD) R3859035-6 11/09/22 15:59

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 678 | 10600 | 10400 | 11100 | 0.000 | 73.7 | 10 | 85.0-115 | V | V | 6.51 | 20 |

## Method Blank (MB)

(MB) R3859602-3 11/09/22 09:21

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3859602-3 11/09/22 09:21

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *110* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *97.2* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *93.1* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859602-1 11/09/22 08:04 • (LCSD) R3859602-2 11/09/22 08:23

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 24.8 | 26.3 | 99.2 | 105 | 10.0-160 | | | 5.87 | 31 |
| Acrylonitrile | 25.0 | 26.6 | 27.2 | 106 | 109 | 45.0-153 | | | 2.23 | 22 |
| Benzene | 5.00 | 5.01 | 5.10 | 100 | 102 | 70.0-123 | | | 1.78 | 20 |
| Bromobenzene | 5.00 | 5.10 | 5.06 | 102 | 101 | 73.0-121 | | | 0.787 | 20 |
| Bromodichloromethane | 5.00 | 5.01 | 5.22 | 100 | 104 | 73.0-121 | | | 4.11 | 20 |
| Bromoform | 5.00 | 4.67 | 4.87 | 93.4 | 97.4 | 64.0-132 | | | 4.19 | 20 |
| Bromomethane | 5.00 | 4.71 | 4.28 | 94.2 | 85.6 | 56.0-147 | | | 9.57 | 20 |
| n-Butylbenzene | 5.00 | 5.07 | 5.51 | 101 | 110 | 68.0-135 | | | 8.32 | 20 |
| sec-Butylbenzene | 5.00 | 5.30 | 5.62 | 106 | 112 | 74.0-130 | | | 5.86 | 20 |
| tert-Butylbenzene | 5.00 | 5.08 | 5.37 | 102 | 107 | 75.0-127 | | | 5.55 | 20 |
| Carbon tetrachloride | 5.00 | 5.08 | 5.33 | 102 | 107 | 66.0-128 | | | 4.80 | 20 |
| Chlorobenzene | 5.00 | 4.85 | 4.94 | 97.0 | 98.8 | 76.0-128 | | | 1.84 | 20 |
| Chlorodibromomethane | 5.00 | 5.09 | 5.31 | 102 | 106 | 74.0-127 | | | 4.23 | 20 |
| Chloroethane | 5.00 | 4.53 | 4.32 | 90.6 | 86.4 | 61.0-134 | | | 4.75 | 20 |
| Chloroform | 5.00 | 5.06 | 5.00 | 101 | 100 | 72.0-123 | | | 1.19 | 20 |
| Chloromethane | 5.00 | 4.25 | 4.30 | 85.0 | 86.0 | 51.0-138 | | | 1.17 | 20 |
| 2-Chlorotoluene | 5.00 | 5.39 | 5.53 | 108 | 111 | 75.0-124 | | | 2.56 | 20 |
| 4-Chlorotoluene | 5.00 | 5.41 | 5.37 | 108 | 107 | 75.0-124 | | | 0.742 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.15 | 4.90 | 83.0 | 98.0 | 59.0-130 | | | 16.6 | 20 |
| 1,2-Dibromoethane | 5.00 | 4.98 | 5.09 | 99.6 | 102 | 74.0-128 | | | 2.18 | 20 |
| Dibromomethane | 5.00 | 5.12 | 5.21 | 102 | 104 | 75.0-122 | | | 1.74 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 4.86 | 5.36 | 97.2 | 107 | 76.0-124 | | | 9.78 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 5.00 | 5.25 | 100 | 105 | 76.0-125 | | | 4.88 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 4.85 | 4.88 | 97.0 | 97.6 | 77.0-121 | | | 0.617 | 20 |
| Dichlorodifluoromethane | 5.00 | 3.55 | 3.57 | 71.0 | 71.4 | 43.0-156 | | | 0.562 | 20 |
| 1,1-Dichloroethane | 5.00 | 4.94 | 5.11 | 98.8 | 102 | 70.0-127 | | | 3.38 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.45 | 4.64 | 89.0 | 92.8 | 65.0-131 | | | 4.18 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.16 | 5.17 | 103 | 103 | 65.0-131 | | | 0.194 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.00 | 5.10 | 100 | 102 | 73.0-125 | | | 1.98 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.08 | 5.32 | 102 | 106 | 71.0-125 | | | 4.62 | 20 |
| 1,2-Dichloropropane | 5.00 | 5.01 | 5.04 | 100 | 101 | 74.0-125 | | | 0.597 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.21 | 5.17 | 104 | 103 | 73.0-125 | | | 0.771 | 20 |
| 1,3-Dichloropropane | 5.00 | 4.99 | 5.03 | 99.8 | 101 | 80.0-125 | | | 0.798 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 5.01 | 5.00 | 100 | 100 | 76.0-127 | | | 0.200 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 4.81 | 4.97 | 96.2 | 99.4 | 73.0-127 | | | 3.27 | 20 |
| 2,2-Dichloropropane | 5.00 | 4.81 | 5.13 | 96.2 | 103 | 59.0-135 | | | 6.44 | 20 |
| Di-isopropyl ether | 5.00 | 5.03 | 5.15 | 101 | 103 | 60.0-136 | | | 2.36 | 20 |
| Ethylbenzene | 5.00 | 4.92 | 4.93 | 98.4 | 98.6 | 74.0-126 | | | 0.203 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 4.52 | 4.97 | 90.4 | 99.4 | 57.0-150 | | | 9.48 | 20 |
| Isopropylbenzene | 5.00 | 5.50 | 5.62 | 110 | 112 | 72.0-127 | | | 2.16 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859602-1 11/09/22 08:04 • (LCSD) R3859602-2 11/09/22 08:23

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.21 | 5.59 | 104 | 112 | 72.0-133 | | | 7.04 | 20 |
| 2-Butanone (MEK) | 25.0 | 27.0 | 30.3 | 108 | 121 | 30.0-160 | | | 11.5 | 24 |
| Methylene Chloride | 5.00 | 4.80 | 4.84 | 96.0 | 96.8 | 68.0-123 | | | 0.830 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 28.7 | 29.0 | 115 | 116 | 56.0-143 | | | 1.04 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.08 | 5.33 | 102 | 107 | 66.0-132 | | | 4.80 | 20 |
| Naphthalene | 5.00 | 4.35 | 4.93 | 87.0 | 98.6 | 59.0-130 | | | 12.5 | 20 |
| n-Propylbenzene | 5.00 | 5.62 | 6.31 | 112 | 126 | 74.0-126 | | | 11.6 | 20 |
| Styrene | 5.00 | 5.14 | 5.37 | 103 | 107 | 72.0-127 | | | 4.38 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.05 | 5.15 | 101 | 103 | 74.0-129 | | | 1.96 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.58 | 4.85 | 91.6 | 97.0 | 68.0-128 | | | 5.73 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.32 | 5.26 | 106 | 105 | 61.0-139 | | | 1.13 | 20 |
| Tetrachloroethene | 5.00 | 5.56 | 5.45 | 111 | 109 | 70.0-136 | | | 2.00 | 20 |
| Toluene | 5.00 | 5.15 | 5.15 | 103 | 103 | 75.0-121 | | | 0.000 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.51 | 5.26 | 90.2 | 105 | 59.0-139 | | | 15.4 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.26 | 5.08 | 85.2 | 102 | 62.0-137 | | | 17.6 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.10 | 4.98 | 102 | 99.6 | 69.0-126 | | | 2.38 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.09 | 5.20 | 102 | 104 | 78.0-123 | | | 2.14 | 20 |
| Trichloroethene | 5.00 | 5.12 | 5.23 | 102 | 105 | 76.0-126 | | | 2.13 | 20 |
| Trichlorofluoromethane | 5.00 | 5.60 | 5.49 | 112 | 110 | 61.0-142 | | | 1.98 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 4.86 | 5.07 | 97.2 | 101 | 67.0-129 | | | 4.23 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.07 | 5.56 | 101 | 111 | 70.0-126 | | | 9.22 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.05 | 5.31 | 101 | 106 | 74.0-124 | | | 5.02 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.28 | 5.49 | 106 | 110 | 73.0-127 | | | 3.90 | 20 |
| Vinyl chloride | 5.00 | 4.12 | 4.38 | 82.4 | 87.6 | 63.0-134 | | | 6.12 | 20 |
| Xylenes, Total | 15.0 | 15.6 | 14.6 | 104 | 97.3 | 72.0-127 | | | 6.62 | 20 |
| Ethyl ether | 5.00 | 5.13 | 5.15 | 103 | 103 | 64.0-137 | | | 0.389 | 20 |
| Tetrahydrofuran | 5.00 | 5.12 | 4.88 | 102 | 97.6 | 37.0-146 | | | 4.80 | 24 |
| Iodomethane | 25.0 | 25.3 | 25.8 | 101 | 103 | 74.0-134 | | | 1.96 | 20 |
| Allyl chloride | 25.0 | 24.5 | 25.5 | 98.0 | 102 | 70.0-131 | | | 4.00 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 3.71 | 4.07 | 74.2 | 81.4 | 45.0-143 | | | 9.25 | 20 |
| *(S) Toluene-d8* | | | | *106* | *105* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *101* | *101* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *96.8* | *95.8* | *70.0-130* | | | | |

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| B | The same analyte is found in the associated blank. |
| C3 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable. |
| C4 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result. |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| T8 | Sample(s) received past/too close to holding time expiration. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

**2101 Fourth Ave., Suite 1310**
**Seattle, WA 98121**

Billing Information:
**Attn: Accounts Payable**
**2101 4th Avenue, Suite 1310**
**Seattle, WA 98121**

Pres Chk

Report to:
**Brian O'Neal/Bill Haldeman**

Email To:
**Shannon.McKernan@nv5.com;brian.oneal@nv5**

Project Description:
**American Linen**

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: **206-529-3980**

Client Project #
1413.001.10.701.02

Lab Project #
**PESENVSWA-ALP**

Collected by (print):
NEW

Site/Facility ID #

P.O. # 1413.001.10.701.02
~~443018-1413001.05.601~~

Collected by (signature):
NEW
Immediately
Packed on Ice N ___ Y ✓

***Rush?*** (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-340-110222 | Grab | GW | — | 11/2/22 | 1023 | 9 | X | X | X | X | | X | X | X | | 01 |
| MW-327-110222 | | GW | | | 1131 | 9 | X | X | X | X | | X | X | X | | 02 |
| ~~FMW-110222~~ (NEW) | | GW | | | | | | | | | | | | | NEW | |
| FMW-140-110222 | | GW | — | | 1412 | 9 | X | X | X | X | | X | X | X | | 03 |
| MW104-110222 | | GW | — | | 1044 | 9 | X | X | X | X | | X | X | X | | 04 |
| MW-145R-110222 | | GW | — | | 1310 | 9 | X | X | X | X | | X | X | X | | 05 |
| MW-144R-110222 | | GW | — | | 1510 | 9 | X | X | X | X | | X | X | X | | 06 |
| EQ-110222 | | GW | — | | 1615 | 9 | X | X | X | X | | X | X | X | | 07 |
| ~~TB-110222~~ (NEW) | | GW | — | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

**Remarks:** 15

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 6094 5459 7089

Sample Receipt Checklist
COC Seal Present/Intact: __NP Y ~~N~~
COC Signed/Accurate: ~~Y~~ __N
Bottles arrive intact: ~~Y~~ __N
Correct bottles used: ~~Y~~ __N
Sufficient volume sent: ~~Y~~ __N
If Applicable
VOA Zero Headspace: ~~Y~~ __N
Preservation Correct/Checked: ~~Y~~ __N
RAD Screen <0.5 mR/hr: ~~Y~~ __N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / No HCL / MeoH TBR | |
|---|---|---|---|---|---|
| Natalie Wisdom | 11/2/22 | 1723 | | | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: (FBO) °C .4 .4 | Bottles Received: 63 |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: 11/4/22 | Time: 0900 |

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

11/4

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 455989

**G061**

Acctnum: **PESENVSWA**
Template: **T218236**
Prelogin: **P957562**
PM: **546 - Jared Starkey**
PB:

Shipped Via:

# 11/04/22 - NCF L1553833 PESENVSWA

R5

**Time estimate:** oh **Time spent:** oh

**Members**

Matthew Shacklock (responsible) JS Jared Starkey

- [x] Parameter(s) past holding time
- [ ] Temperature not in range
- [ ] Improper container type
- [ ] pH not in range
- [ ] Insufficient sample volume
- [ ] Sample is biphasic
- [ ] Vials received with headspace
- [ ] Broken container
- [ ] Sufficient sample remains
- [ ] If broken container: Insufficient packing material around container
- [ ] If broken container: Insufficient packing material inside cooler
- [ ] If broken container: Improper handling by carrier:_____
- [ ] If broken container: Sample was frozen
- [ ] If broken container: Container lid not intact
- [ ] Client informed by Call
- [ ] Client informed by Email
- [ ] Client informed by Voicemail
- [ ] Date/Time:_____
- [ ] PM initials:_____
- [ ] Client Contact:_____

**Comments**

*Matthew Shacklock* *4 November 2022 10:38 AM*

MW-340-110222 Nitrate OOH
MW-1040-110222 goes out at 1044

*Jared Starkey* *7 November 2022 8:10 AM*

Run/log ASAP

*Matthew Shacklock* *7 November 2022 9:35 AM*

Done

# ANALYTICAL REPORT

November 21, 2022



## PES Environmental, Inc.- WA

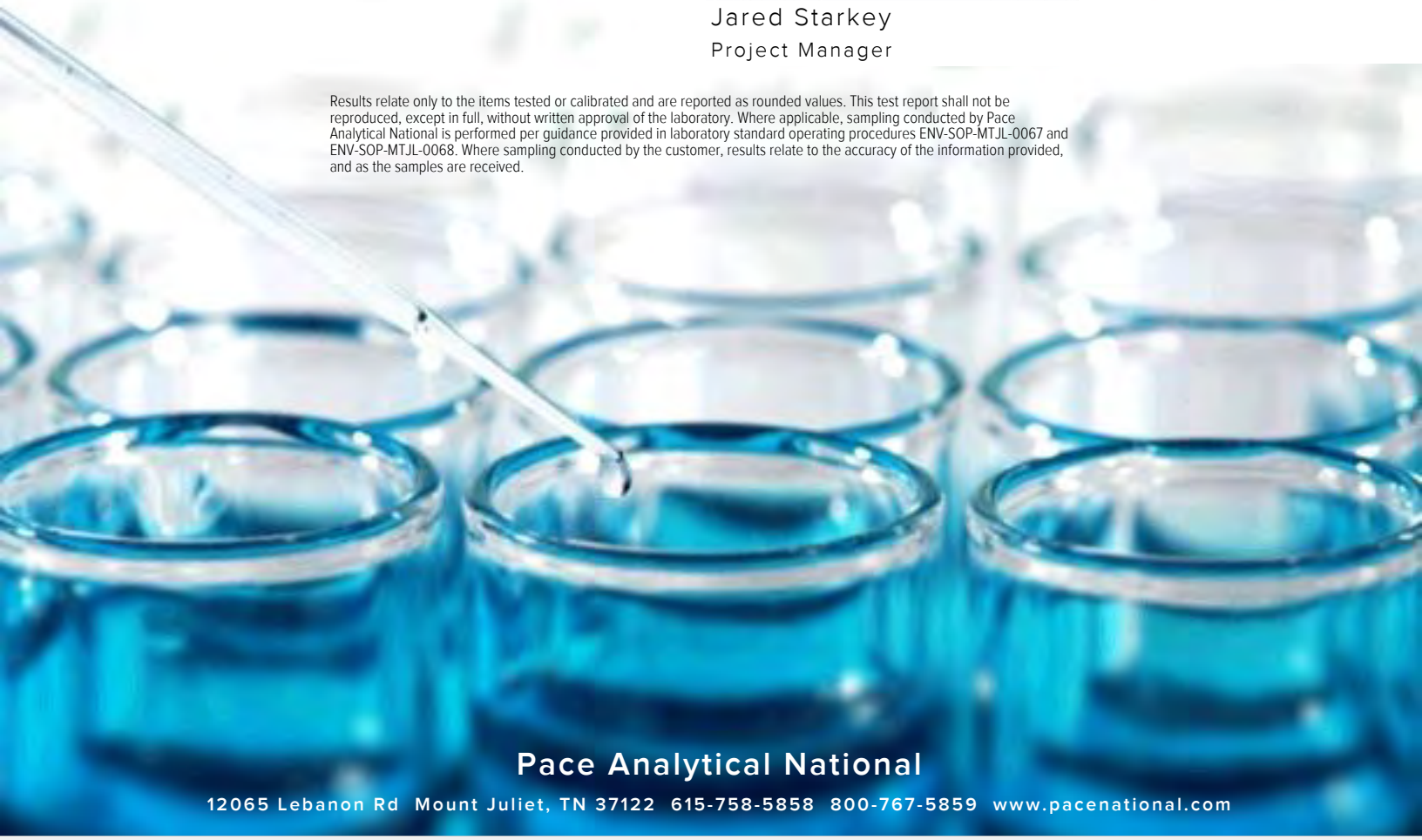
| | |
|---|---|
| Sample Delivery Group: | L1553859 |
| Samples Received: | 11/04/2022 |
| Project Number: | 1413.001.10.701.02 |
| Description: | American Linen |

Report To: Brian O'Neal/Bill Haldeman
2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## MW-316-110222 L1553859-01 GW

Collected by: NEW | Collected date/time: 11/02/22 14:04 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958273 | 1 | 11/13/22 12:00 | 11/13/22 12:00 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954319 | 1 | 11/04/22 14:09 | 11/04/22 14:09 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962431 | 1 | 11/20/22 00:16 | 11/20/22 00:16 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959228 | 1 | 11/14/22 22:50 | 11/16/22 15:33 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956350 | 1 | 11/09/22 09:43 | 11/09/22 09:43 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956117 | 1 | 11/09/22 15:41 | 11/09/22 15:41 | JAH | Mt. Juliet, TN |

## MW-315-110222 L1553859-02 GW

Collected by: NEW | Collected date/time: 11/02/22 13:28 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958273 | 1 | 11/13/22 12:08 | 11/13/22 12:08 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954319 | 1 | 11/04/22 12:54 | 11/04/22 12:54 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962431 | 1 | 11/20/22 00:30 | 11/20/22 00:30 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959228 | 1 | 11/14/22 22:50 | 11/16/22 15:37 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956350 | 1 | 11/09/22 09:50 | 11/09/22 09:50 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956117 | 1 | 11/09/22 16:16 | 11/09/22 16:16 | JAH | Mt. Juliet, TN |

## MW119-110222 L1553859-03 GW

Collected by: NEW | Collected date/time: 11/02/22 11:21 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958273 | 1 | 11/13/22 12:15 | 11/13/22 12:15 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954319 | 1 | 11/04/22 11:20 | 11/04/22 11:20 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962431 | 1 | 11/20/22 00:48 | 11/20/22 00:48 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959228 | 1 | 11/14/22 22:50 | 11/16/22 15:40 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956350 | 1 | 11/09/22 09:56 | 11/09/22 09:56 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956117 | 1 | 11/09/22 16:35 | 11/09/22 16:35 | JAH | Mt. Juliet, TN |

## MW-983-110222 L1553859-04 GW

Collected by: NEW | Collected date/time: 11/02/22 13:00 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958280 | 1 | 11/13/22 09:22 | 11/13/22 09:22 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954319 | 1 | 11/04/22 12:20 | 11/04/22 12:20 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962431 | 1 | 11/20/22 01:04 | 11/20/22 01:04 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959244 | 1 | 11/15/22 09:59 | 11/16/22 00:47 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956350 | 1 | 11/09/22 10:00 | 11/09/22 10:00 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956117 | 1 | 11/09/22 16:54 | 11/09/22 16:54 | JAH | Mt. Juliet, TN |

## MW-319-110222 L1553859-05 GW

Collected by: NEW | Collected date/time: 11/02/22 12:07 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958280 | 1 | 11/13/22 09:26 | 11/13/22 09:26 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954319 | 1 | 11/04/22 12:06 | 11/04/22 12:06 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962431 | 1 | 11/20/22 02:31 | 11/20/22 02:31 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959244 | 1 | 11/15/22 09:59 | 11/16/22 01:00 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956350 | 1 | 11/09/22 10:04 | 11/09/22 10:04 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956792 | 1 | 11/09/22 21:46 | 11/09/22 21:46 | JAH | Mt. Juliet, TN |

## MW-982-110222 L1553859-06 GW

Collected by: NEW | Collected date/time: 11/02/22 11:00 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958280 | 1 | 11/13/22 09:30 | 11/13/22 09:30 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954319 | 1 | 11/04/22 15:08 | 11/04/22 15:08 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962431 | 1 | 11/20/22 02:48 | 11/20/22 02:48 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959244 | 1 | 11/15/22 09:59 | 11/16/22 01:03 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956350 | 1 | 11/09/22 10:07 | 11/09/22 10:07 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956792 | 1 | 11/09/22 22:05 | 11/09/22 22:05 | JAH | Mt. Juliet, TN |

## MW-325-110222 L1553859-07 GW

Collected by: NEW | Collected date/time: 11/02/22 10:01 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958280 | 1 | 11/13/22 09:35 | 11/13/22 09:35 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954319 | 1 | 11/04/22 15:23 | 11/04/22 15:23 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962431 | 1 | 11/20/22 03:05 | 11/20/22 03:05 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959244 | 1 | 11/15/22 09:59 | 11/16/22 01:07 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956350 | 1 | 11/09/22 10:11 | 11/09/22 10:11 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956792 | 1 | 11/09/22 22:24 | 11/09/22 22:24 | JAH | Mt. Juliet, TN |

## MW-326-110222 L1553859-08 GW

Collected by: NEW | Collected date/time: 11/02/22 10:46 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958280 | 1 | 11/13/22 09:39 | 11/13/22 09:39 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954319 | 1 | 11/04/22 15:38 | 11/04/22 15:38 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962431 | 1 | 11/20/22 03:21 | 11/20/22 03:21 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959244 | 1 | 11/15/22 09:59 | 11/16/22 01:17 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956350 | 1 | 11/09/22 10:14 | 11/09/22 10:14 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956792 | 1 | 11/09/22 22:43 | 11/09/22 22:43 | JAH | Mt. Juliet, TN |

## MW-984-110222 L1553859-09 GW

Collected by: NEW | Collected date/time: 11/02/22 12:00 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958280 | 1 | 11/13/22 09:43 | 11/13/22 09:43 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954319 | 1 | 11/04/22 11:35 | 11/04/22 11:35 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962431 | 1 | 11/20/22 03:34 | 11/20/22 03:34 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959244 | 1 | 11/15/22 09:59 | 11/16/22 01:20 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956350 | 1 | 11/09/22 10:17 | 11/09/22 10:17 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956792 | 1 | 11/09/22 23:02 | 11/09/22 23:02 | JAH | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 193000 | | 8450 | 20000 | 1 | 11/13/2022 12:00 | WG1958273 |

Sample Narrative:

L1553859-01 WG1958273: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 8980 | | 379 | 1000 | 1 | 11/04/2022 14:09 | WG1954319 |
| Nitrate | 362 | | 48.0 | 100 | 1 | 11/04/2022 14:09 | WG1954319 |
| Sulfate | 25000 | | 594 | 5000 | 1 | 11/04/2022 14:09 | WG1954319 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 931 | B J | 102 | 1000 | 1 | 11/20/2022 00:16 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1230 | | 28.1 | 100 | 1 | 11/16/2022 15:33 | WG1959228 |
| Manganese | 160 | | 0.704 | 5.00 | 1 | 11/16/2022 15:33 | WG1959228 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 36.2 | | 0.287 | 0.678 | 1 | 11/09/2022 09:43 | WG1956350 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 09:43 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 09:43 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 15:41 | WG1956117 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 15:41 | WG1956117 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 15:41 | WG1956117 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 15:41 | WG1956117 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 15:41 | WG1956117 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 15:41 | WG1956117 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 15:41 | WG1956117 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 15:41 | WG1956117 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 15:41 | WG1956117 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| Toluene | 0.0830 | J | 0.0500 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 15:41 | WG1956117 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 15:41 | WG1956117 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 15:41 | WG1956117 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/09/2022 15:41* | WG1956117 |
| *(S) 4-Bromofluorobenzene* | *98.3* | | | *67.0-138* | | *11/09/2022 15:41* | WG1956117 |
| *(S) 1,2-Dichloroethane-d4* | *97.3* | | | *70.0-130* | | *11/09/2022 15:41* | WG1956117 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 119000 | | 8450 | 20000 | 1 | 11/13/2022 12:08 | WG1958273 |

Sample Narrative:

L1553859-02 WG1958273: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 5990 | | 379 | 1000 | 1 | 11/04/2022 12:54 | WG1954319 |
| Nitrate | 373 | | 48.0 | 100 | 1 | 11/04/2022 12:54 | WG1954319 |
| Sulfate | 32400 | | 594 | 5000 | 1 | 11/04/2022 12:54 | WG1954319 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 643 | B J | 102 | 1000 | 1 | 11/20/2022 00:30 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 909 | | 28.1 | 100 | 1 | 11/16/2022 15:37 | WG1959228 |
| Manganese | 165 | | 0.704 | 5.00 | 1 | 11/16/2022 15:37 | WG1959228 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 10.2 | | 0.287 | 0.678 | 1 | 11/09/2022 09:50 | WG1956350 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 09:50 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 09:50 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 16:16 | WG1956117 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 16:16 | WG1956117 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 16:16 | WG1956117 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 16:16 | WG1956117 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 16:16 | WG1956117 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 16:16 | WG1956117 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 16:16 | WG1956117 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 16:16 | WG1956117 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 16:16 | WG1956117 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 16:16 | WG1956117 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 16:16 | WG1956117 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 16:16 | WG1956117 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/09/2022 16:16* | WG1956117 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/09/2022 16:16* | WG1956117 |
| *(S) 1,2-Dichloroethane-d4* | *96.5* | | | *70.0-130* | | *11/09/2022 16:16* | WG1956117 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 265000 | | 8450 | 20000 | 1 | 11/13/2022 12:15 | WG1958273 |

Sample Narrative:

L1553859-03 WG1958273: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 22200 | | 379 | 1000 | 1 | 11/04/2022 11:20 | WG1954319 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/04/2022 11:20 | WG1954319 |
| Sulfate | 108000 | | 594 | 5000 | 1 | 11/04/2022 11:20 | WG1954319 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 1220 | B | 102 | 1000 | 1 | 11/20/2022 00:48 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 3210 | | 28.1 | 100 | 1 | 11/16/2022 15:40 | WG1959228 |
| Manganese | 1070 | | 0.704 | 5.00 | 1 | 11/16/2022 15:40 | WG1959228 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 166 | | 0.287 | 0.678 | 1 | 11/09/2022 09:56 | WG1956350 |
| Ethane | 2.09 | | 0.296 | 1.29 | 1 | 11/09/2022 09:56 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 09:56 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 16:35 | WG1956117 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 16:35 | WG1956117 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 16:35 | WG1956117 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,1-Dichloroethane | 0.439 | | 0.0230 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,1-Dichloroethene | 0.267 | | 0.0200 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| cis-1,2-Dichloroethene | 64.0 | | 0.0276 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| trans-1,2-Dichloroethene | 0.152 | J | 0.0572 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 16:35 | WG1956117 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 16:35 | WG1956117 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 16:35 | WG1956117 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 16:35 | WG1956117 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 16:35 | WG1956117 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 16:35 | WG1956117 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| Tetrachloroethene | 0.0920 | J | 0.0280 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| Trichloroethene | 5.28 | | 0.0160 | 0.0400 | 1 | 11/09/2022 16:35 | WG1956117 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| Vinyl chloride | 5.65 | | 0.0273 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 16:35 | WG1956117 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 16:35 | WG1956117 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/09/2022 16:35* | WG1956117 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *11/09/2022 16:35* | WG1956117 |
| *(S) 1,2-Dichloroethane-d4* | *96.4* | | | *70.0-130* | | *11/09/2022 16:35* | WG1956117 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 265000 | | 8450 | 20000 | 1 | 11/13/2022 09:22 | WG1958280 |

Sample Narrative:

L1553859-04 WG1958280: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 22200 | | 379 | 1000 | 1 | 11/04/2022 12:20 | WG1954319 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/04/2022 12:20 | WG1954319 |
| Sulfate | 108000 | | 594 | 5000 | 1 | 11/04/2022 12:20 | WG1954319 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1340 | B | 102 | 1000 | 1 | 11/20/2022 01:04 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 2980 | | 28.1 | 100 | 1 | 11/16/2022 00:47 | WG1959244 |
| Manganese | 1020 | | 0.704 | 5.00 | 1 | 11/16/2022 00:47 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 169 | | 0.287 | 0.678 | 1 | 11/09/2022 10:00 | WG1956350 |
| Ethane | 1.61 | | 0.296 | 1.29 | 1 | 11/09/2022 10:00 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 10:00 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 16:54 | WG1956117 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 16:54 | WG1956117 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 16:54 | WG1956117 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,1-Dichloroethane | 0.385 | | 0.0230 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,2-Dichloroethane | 0.141 | | 0.0190 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,1-Dichloroethene | 0.212 | | 0.0200 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| cis-1,2-Dichloroethene | 58.9 | | 0.0276 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| trans-1,2-Dichloroethene | 0.139 | J | 0.0572 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 16:54 | WG1956117 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 16:54 | WG1956117 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 16:54 | WG1956117 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 16:54 | WG1956117 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 16:54 | WG1956117 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 16:54 | WG1956117 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| Tetrachloroethene | 0.0880 | J | 0.0280 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| Trichloroethene | 4.81 | | 0.0160 | 0.0400 | 1 | 11/09/2022 16:54 | WG1956117 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| Vinyl chloride | 4.96 | | 0.0273 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 16:54 | WG1956117 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 16:54 | WG1956117 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/09/2022 16:54* | WG1956117 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/09/2022 16:54* | WG1956117 |
| *(S) 1,2-Dichloroethane-d4* | *98.0* | | | *70.0-130* | | *11/09/2022 16:54* | WG1956117 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 263000 | | 8450 | 20000 | 1 | 11/13/2022 09:26 | WG1958280 |

Sample Narrative:

L1553859-05 WG1958280: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 22200 | | 379 | 1000 | 1 | 11/04/2022 12:06 | WG1954319 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/04/2022 12:06 | WG1954319 |
| Sulfate | 108000 | | 594 | 5000 | 1 | 11/04/2022 12:06 | WG1954319 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 1430 | B | 102 | 1000 | 1 | 11/20/2022 02:31 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 3110 | | 28.1 | 100 | 1 | 11/16/2022 01:00 | WG1959244 |
| Manganese | 1030 | | 0.704 | 5.00 | 1 | 11/16/2022 01:00 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 145 | | 0.287 | 0.678 | 1 | 11/09/2022 10:04 | WG1956350 |
| Ethane | 1.69 | | 0.296 | 1.29 | 1 | 11/09/2022 10:04 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 10:04 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 21:46 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 21:46 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 21:46 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,1-Dichloroethane | 0.375 | | 0.0230 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,1-Dichloroethene | 0.265 | | 0.0200 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| cis-1,2-Dichloroethene | 60.8 | | 0.0276 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| trans-1,2-Dichloroethene | 0.138 | J | 0.0572 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 21:46 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 21:46 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 21:46 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 21:46 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 21:46 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 21:46 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| Tetrachloroethene | 0.0900 | J | 0.0280 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| Trichloroethene | 4.72 | | 0.0160 | 0.0400 | 1 | 11/09/2022 21:46 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| Vinyl chloride | 5.83 | | 0.0273 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 21:46 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| Tetrahydrofuran | 0.151 | J | 0.0900 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 21:46 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/09/2022 21:46* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/09/2022 21:46* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *95.1* | | | *70.0-130* | | *11/09/2022 21:46* | WG1956792 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 265000 | | 8450 | 20000 | 1 | 11/13/2022 09:30 | WG1958280 |

Sample Narrative:

L1553859-06 WG1958280: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 22200 | T8 | 379 | 1000 | 1 | 11/04/2022 15:08 | WG1954319 |
| Nitrate | U | T8 | 48.0 | 100 | 1 | 11/04/2022 15:08 | WG1954319 |
| Sulfate | 109000 | T8 | 594 | 5000 | 1 | 11/04/2022 15:08 | WG1954319 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 1300 | B | 102 | 1000 | 1 | 11/20/2022 02:48 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 3030 | | 28.1 | 100 | 1 | 11/16/2022 01:03 | WG1959244 |
| Manganese | 1010 | | 0.704 | 5.00 | 1 | 11/16/2022 01:03 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 161 | | 0.287 | 0.678 | 1 | 11/09/2022 10:07 | WG1956350 |
| Ethane | 1.99 | | 0.296 | 1.29 | 1 | 11/09/2022 10:07 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 10:07 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 22:05 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 22:05 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 22:05 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,1-Dichloroethane | 0.403 | | 0.0230 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,1-Dichloroethene | 0.266 | | 0.0200 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| cis-1,2-Dichloroethene | 59.8 | | 0.0276 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| trans-1,2-Dichloroethene | 0.136 | J | 0.0572 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 22:05 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 22:05 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 22:05 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 22:05 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 22:05 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 22:05 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| Tetrachloroethene | 0.0890 | J | 0.0280 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| Trichloroethene | 5.11 | | 0.0160 | 0.0400 | 1 | 11/09/2022 22:05 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| Vinyl chloride | 5.60 | | 0.0273 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 22:05 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 22:05 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/09/2022 22:05* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *98.5* | | | *67.0-138* | | *11/09/2022 22:05* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *94.9* | | | *70.0-130* | | *11/09/2022 22:05* | WG1956792 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 181000 | | 8450 | 20000 | 1 | 11/13/2022 09:35 | WG1958280 |

Sample Narrative:

L1553859-07 WG1958280: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 14500 | | 379 | 1000 | 1 | 11/04/2022 15:23 | WG1954319 |
| Nitrate | 1380 | T8 | 48.0 | 100 | 1 | 11/04/2022 15:23 | WG1954319 |
| Sulfate | 61000 | | 594 | 5000 | 1 | 11/04/2022 15:23 | WG1954319 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 1120 | B | 102 | 1000 | 1 | 11/20/2022 03:05 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 1010 | | 28.1 | 100 | 1 | 11/16/2022 01:07 | WG1959244 |
| Manganese | 613 | | 0.704 | 5.00 | 1 | 11/16/2022 01:07 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 1.77 | | 0.287 | 0.678 | 1 | 11/09/2022 10:11 | WG1956350 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 10:11 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 10:11 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 22:24 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 22:24 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 22:24 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| cis-1,2-Dichloroethene | 1.12 | | 0.0276 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 22:24 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 22:24 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 22:24 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 22:24 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 22:24 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 22:24 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| Toluene | 0.0950 | J | 0.0500 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 22:24 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 22:24 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 22:24 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/09/2022 22:24* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/09/2022 22:24* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *94.6* | | | *70.0-130* | | *11/09/2022 22:24* | WG1956792 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 188000 | | 8450 | 20000 | 1 | 11/13/2022 09:39 | WG1958280 |

Sample Narrative:

L1553859-08 WG1958280: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 16000 | | 379 | 1000 | 1 | 11/04/2022 15:38 | WG1954319 |
| Nitrate | 219 | T8 | 48.0 | 100 | 1 | 11/04/2022 15:38 | WG1954319 |
| Sulfate | 62700 | | 594 | 5000 | 1 | 11/04/2022 15:38 | WG1954319 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 470 | B J | 102 | 1000 | 1 | 11/20/2022 03:21 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 440 | | 28.1 | 100 | 1 | 11/16/2022 01:17 | WG1959244 |
| Manganese | 427 | | 0.704 | 5.00 | 1 | 11/16/2022 01:17 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 1.84 | | 0.287 | 0.678 | 1 | 11/09/2022 10:14 | WG1956350 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 10:14 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 10:14 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 22:43 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 22:43 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 22:43 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| cis-1,2-Dichloroethene | 8.75 | | 0.0276 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 22:43 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 22:43 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 22:43 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 22:43 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 22:43 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 22:43 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| Tetrachloroethene | 0.114 | | 0.0280 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| Toluene | 0.236 | | 0.0500 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| Trichloroethene | 0.774 | | 0.0160 | 0.0400 | 1 | 11/09/2022 22:43 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 22:43 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 22:43 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/09/2022 22:43* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/09/2022 22:43* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *98.6* | | | *70.0-130* | | *11/09/2022 22:43* | WG1956792 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 194000 | | 8450 | 20000 | 1 | 11/13/2022 09:43 | WG1958280 |

Sample Narrative:
L1553859-09 WG1958280: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 15900 | | 379 | 1000 | 1 | 11/04/2022 11:35 | WG1954319 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/04/2022 11:35 | WG1954319 |
| Sulfate | 63600 | | 594 | 5000 | 1 | 11/04/2022 11:35 | WG1954319 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 384 | B J | 102 | 1000 | 1 | 11/20/2022 03:34 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 454 | | 28.1 | 100 | 1 | 11/16/2022 01:20 | WG1959244 |
| Manganese | 428 | | 0.704 | 5.00 | 1 | 11/16/2022 01:20 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 2.18 | | 0.287 | 0.678 | 1 | 11/09/2022 10:17 | WG1956350 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 10:17 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 10:17 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.53 | | 0.548 | 1.00 | 1 | 11/09/2022 23:02 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 23:02 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 23:02 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| cis-1,2-Dichloroethene | 8.77 | | 0.0276 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 23:02 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 23:02 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 23:02 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 23:02 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 23:02 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 23:02 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| Tetrachloroethene | 0.133 | | 0.0280 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| Toluene | 0.185 | J | 0.0500 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| Trichloroethene | 0.780 | | 0.0160 | 0.0400 | 1 | 11/09/2022 23:02 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 23:02 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 23:02 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/09/2022 23:02* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/09/2022 23:02* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *96.0* | | | *70.0-130* | | *11/09/2022 23:02* | WG1956792 |

## Method Blank (MB)

(MB) R3860438-2 11/13/22 09:56

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1553760-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1553760-01 11/13/22 10:02 • (DUP) R3860438-3 11/13/22 10:06

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 523000 | 518000 | 1 | 0.915 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

## L1553812-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1553812-04 11/13/22 10:57 • (DUP) R3860438-4 11/13/22 11:03

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 349000 | 350000 | 1 | 0.143 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3860438-1 11/13/22 09:49

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 101000 | 101 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3860433-2 11/13/22 09:06

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1553733-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1553733-01 11/13/22 09:12 • (DUP) R3860433-3 11/13/22 09:17

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 53200 | 54200 | 1 | 1.84 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 headsapce

DUP: Endpoint pH 4.5

## L1554288-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1554288-03 11/13/22 10:52 • (DUP) R3860433-4 11/13/22 10:57

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 218000 | 222000 | 1 | 1.55 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3860433-1 11/13/22 09:02

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 101000 | 101 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Method Blank (MB)

(MB) R3857553-1 11/04/22 10:00

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1553859-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1553859-08 11/04/22 15:38 • (DUP) R3857553-2 11/04/22 16:23

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Chloride | 16000 | 15800 | 1 | 1.23 | | 15 |
| Nitrate | 219 | 201 | 1 | 8.66 | | 15 |
| Sulfate | 62700 | 62700 | 1 | 0.0319 | | 15 |

## L1553500-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1553500-15 11/04/22 14:38 • (DUP) R3857553-4 11/04/22 17:37

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Chloride | 29100 | 29200 | 1 | 0.161 | | 15 |
| Nitrate | 869 | 877 | 1 | 0.974 | | 15 |
| Sulfate | 3200 | 2990 | 1 | 6.77 | J | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3857553-7 11/04/22 18:22

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Chloride | 40000 | 40900 | 102 | 80.0-120 | |
| Nitrate | 8000 | 7880 | 98.5 | 80.0-120 | |
| Sulfate | 40000 | 41700 | 104 | 80.0-120 | |

## L1553859-08 Original Sample (OS) • Matrix Spike (MS)

(OS) L1553859-08 11/04/22 15:38 • (MS) R3857553-3 11/04/22 16:38

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 16000 | 65800 | 99.6 | 1 | 80.0-120 | |
| Nitrate | 5000 | 219 | 5200 | 99.5 | 1 | 80.0-120 | |
| Sulfate | 50000 | 62700 | 110000 | 95.3 | 1 | 80.0-120 | |

## L1553500-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553500-15 11/04/22 14:38 • (MS) R3857553-5 11/04/22 17:52 • (MSD) R3857553-6 11/04/22 18:07

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 29100 | 78400 | 80000 | 98.5 | 102 | 1 | 80.0-120 | | | 2.06 | 15 |
| Nitrate | 5000 | 869 | 5520 | 5640 | 93.0 | 95.4 | 1 | 80.0-120 | | | 2.15 | 15 |
| Sulfate | 50000 | 3200 | 52200 | 53800 | 98.0 | 101 | 1 | 80.0-120 | | | 2.98 | 15 |

# QUALITY CONTROL SUMMARY

L1553859-01,02,03,04,05,06,07,08,09

## Method Blank (MB)

(MB) R3863237-2 11/19/22 18:29

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 637 | J | 102 | 1000 |

## L1553833-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1553833-06 11/19/22 21:55 • (DUP) R3863237-7 11/19/22 22:14

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4090 | 3940 | 1 | 3.76 | | 20 |

## L1553859-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1553859-04 11/20/22 01:04 • (DUP) R3863237-8 11/20/22 01:24

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1340 | 1150 | 1 | 15.3 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3863237-1 11/19/22 18:04

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 74400 | 99.1 | 85.0-115 | |

## L1553833-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553833-03 11/19/22 19:24 • (MS) R3863237-3 11/19/22 19:48 • (MSD) R3863237-4 11/19/22 20:07

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 7580 | 56600 | 56200 | 98.1 | 97.3 | 1 | 80.0-120 | | | 0.744 | 20 |

## L1553833-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553833-04 11/19/22 20:30 • (MS) R3863237-5 11/19/22 20:54 • (MSD) R3863237-6 11/19/22 21:13

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 2960 | 49600 | 48800 | 93.3 | 91.7 | 1 | 80.0-120 | | | 1.58 | 20 |

## Method Blank (MB)

(MB) R3861880-1 11/16/22 14:15

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3861880-2 11/16/22 14:18

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Iron | 5000 | 5730 | 115 | 80.0-120 | |
| Manganese | 50.0 | 54.9 | 110 | 80.0-120 | |

## L1553833-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553833-01 11/16/22 14:22 • (MS) R3861880-4 11/16/22 14:28 • (MSD) R3861880-5 11/16/22 14:31

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Iron | 5000 | 14700 | 20000 | 19700 | 105 | 98.6 | 1 | 75.0-125 | | | 1.59 | 20 |
| Manganese | 50.0 | 1720 | 1760 | 1780 | 79.9 | 108 | 1 | 75.0-125 | | | 0.796 | 20 |

## Method Blank (MB)

(MB) R3861544-1 11/16/22 00:40

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3861544-2 11/16/22 00:43

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Iron | 5000 | 4960 | 99.2 | 80.0-120 | |
| Manganese | 50.0 | 50.9 | 102 | 80.0-120 | |

## L1553859-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553859-04 11/16/22 00:47 • (MS) R3861544-4 11/16/22 00:53 • (MSD) R3861544-5 11/16/22 00:57

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Iron | 5000 | 2980 | 8080 | 8030 | 102 | 101 | 1 | 75.0-125 | | | 0.678 | 20 |
| Manganese | 50.0 | 1020 | 1090 | 1070 | 128 | 100 | 1 | 75.0-125 | V | | 1.27 | 20 |

## Method Blank (MB)

(MB) R3858748-2 11/09/22 08:44

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1553859-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1553859-02 11/09/22 09:50 • (DUP) R3858748-3 11/09/22 09:53

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | 10.2 | 10.5 | 1 | 2.90 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1554116-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1554116-05 11/09/22 10:28 • (DUP) R3858748-4 11/09/22 10:34

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3858748-1 11/09/22 08:37 • (LCSD) R3858748-5 11/09/22 10:37

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 66.1 | 66.0 | 97.5 | 97.3 | 85.0-115 | | | 0.151 | 20 |
| Ethane | 129 | 121 | 116 | 93.8 | 89.9 | 85.0-115 | | | 4.22 | 20 |
| Ethene | 127 | 122 | 118 | 96.1 | 92.9 | 85.0-115 | | | 3.33 | 20 |

## Method Blank (MB)

(MB) R3859602-3 11/09/22 09:21

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3859602-3 11/09/22 09:21

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *110* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *97.2* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *93.1* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859602-1 11/09/22 08:04 • (LCSD) R3859602-2 11/09/22 08:23

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 24.8 | 26.3 | 99.2 | 105 | 10.0-160 | | | 5.87 | 31 |
| Acrylonitrile | 25.0 | 26.6 | 27.2 | 106 | 109 | 45.0-153 | | | 2.23 | 22 |
| Benzene | 5.00 | 5.01 | 5.10 | 100 | 102 | 70.0-123 | | | 1.78 | 20 |
| Bromobenzene | 5.00 | 5.10 | 5.06 | 102 | 101 | 73.0-121 | | | 0.787 | 20 |
| Bromodichloromethane | 5.00 | 5.01 | 5.22 | 100 | 104 | 73.0-121 | | | 4.11 | 20 |
| Bromoform | 5.00 | 4.67 | 4.87 | 93.4 | 97.4 | 64.0-132 | | | 4.19 | 20 |
| Bromomethane | 5.00 | 4.71 | 4.28 | 94.2 | 85.6 | 56.0-147 | | | 9.57 | 20 |
| n-Butylbenzene | 5.00 | 5.07 | 5.51 | 101 | 110 | 68.0-135 | | | 8.32 | 20 |
| sec-Butylbenzene | 5.00 | 5.30 | 5.62 | 106 | 112 | 74.0-130 | | | 5.86 | 20 |
| tert-Butylbenzene | 5.00 | 5.08 | 5.37 | 102 | 107 | 75.0-127 | | | 5.55 | 20 |
| Carbon tetrachloride | 5.00 | 5.08 | 5.33 | 102 | 107 | 66.0-128 | | | 4.80 | 20 |
| Chlorobenzene | 5.00 | 4.85 | 4.94 | 97.0 | 98.8 | 76.0-128 | | | 1.84 | 20 |
| Chlorodibromomethane | 5.00 | 5.09 | 5.31 | 102 | 106 | 74.0-127 | | | 4.23 | 20 |
| Chloroethane | 5.00 | 4.53 | 4.32 | 90.6 | 86.4 | 61.0-134 | | | 4.75 | 20 |
| Chloroform | 5.00 | 5.06 | 5.00 | 101 | 100 | 72.0-123 | | | 1.19 | 20 |
| Chloromethane | 5.00 | 4.25 | 4.30 | 85.0 | 86.0 | 51.0-138 | | | 1.17 | 20 |
| 2-Chlorotoluene | 5.00 | 5.39 | 5.53 | 108 | 111 | 75.0-124 | | | 2.56 | 20 |
| 4-Chlorotoluene | 5.00 | 5.41 | 5.37 | 108 | 107 | 75.0-124 | | | 0.742 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.15 | 4.90 | 83.0 | 98.0 | 59.0-130 | | | 16.6 | 20 |
| 1,2-Dibromoethane | 5.00 | 4.98 | 5.09 | 99.6 | 102 | 74.0-128 | | | 2.18 | 20 |
| Dibromomethane | 5.00 | 5.12 | 5.21 | 102 | 104 | 75.0-122 | | | 1.74 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 4.86 | 5.36 | 97.2 | 107 | 76.0-124 | | | 9.78 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 5.00 | 5.25 | 100 | 105 | 76.0-125 | | | 4.88 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 4.85 | 4.88 | 97.0 | 97.6 | 77.0-121 | | | 0.617 | 20 |
| Dichlorodifluoromethane | 5.00 | 3.55 | 3.57 | 71.0 | 71.4 | 43.0-156 | | | 0.562 | 20 |
| 1,1-Dichloroethane | 5.00 | 4.94 | 5.11 | 98.8 | 102 | 70.0-127 | | | 3.38 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.45 | 4.64 | 89.0 | 92.8 | 65.0-131 | | | 4.18 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.16 | 5.17 | 103 | 103 | 65.0-131 | | | 0.194 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.00 | 5.10 | 100 | 102 | 73.0-125 | | | 1.98 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.08 | 5.32 | 102 | 106 | 71.0-125 | | | 4.62 | 20 |
| 1,2-Dichloropropane | 5.00 | 5.01 | 5.04 | 100 | 101 | 74.0-125 | | | 0.597 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.21 | 5.17 | 104 | 103 | 73.0-125 | | | 0.771 | 20 |
| 1,3-Dichloropropane | 5.00 | 4.99 | 5.03 | 99.8 | 101 | 80.0-125 | | | 0.798 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 5.01 | 5.00 | 100 | 100 | 76.0-127 | | | 0.200 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 4.81 | 4.97 | 96.2 | 99.4 | 73.0-127 | | | 3.27 | 20 |
| 2,2-Dichloropropane | 5.00 | 4.81 | 5.13 | 96.2 | 103 | 59.0-135 | | | 6.44 | 20 |
| Di-isopropyl ether | 5.00 | 5.03 | 5.15 | 101 | 103 | 60.0-136 | | | 2.36 | 20 |
| Ethylbenzene | 5.00 | 4.92 | 4.93 | 98.4 | 98.6 | 74.0-126 | | | 0.203 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 4.52 | 4.97 | 90.4 | 99.4 | 57.0-150 | | | 9.48 | 20 |
| Isopropylbenzene | 5.00 | 5.50 | 5.62 | 110 | 112 | 72.0-127 | | | 2.16 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859602-1 11/09/22 08:04 • (LCSD) R3859602-2 11/09/22 08:23

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.21 | 5.59 | 104 | 112 | 72.0-133 | | | 7.04 | 20 |
| 2-Butanone (MEK) | 25.0 | 27.0 | 30.3 | 108 | 121 | 30.0-160 | | | 11.5 | 24 |
| Methylene Chloride | 5.00 | 4.80 | 4.84 | 96.0 | 96.8 | 68.0-123 | | | 0.830 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 28.7 | 29.0 | 115 | 116 | 56.0-143 | | | 1.04 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.08 | 5.33 | 102 | 107 | 66.0-132 | | | 4.80 | 20 |
| Naphthalene | 5.00 | 4.35 | 4.93 | 87.0 | 98.6 | 59.0-130 | | | 12.5 | 20 |
| n-Propylbenzene | 5.00 | 5.62 | 6.31 | 112 | 126 | 74.0-126 | | | 11.6 | 20 |
| Styrene | 5.00 | 5.14 | 5.37 | 103 | 107 | 72.0-127 | | | 4.38 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.05 | 5.15 | 101 | 103 | 74.0-129 | | | 1.96 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.58 | 4.85 | 91.6 | 97.0 | 68.0-128 | | | 5.73 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.32 | 5.26 | 106 | 105 | 61.0-139 | | | 1.13 | 20 |
| Tetrachloroethene | 5.00 | 5.56 | 5.45 | 111 | 109 | 70.0-136 | | | 2.00 | 20 |
| Toluene | 5.00 | 5.15 | 5.15 | 103 | 103 | 75.0-121 | | | 0.000 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.51 | 5.26 | 90.2 | 105 | 59.0-139 | | | 15.4 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.26 | 5.08 | 85.2 | 102 | 62.0-137 | | | 17.6 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.10 | 4.98 | 102 | 99.6 | 69.0-126 | | | 2.38 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.09 | 5.20 | 102 | 104 | 78.0-123 | | | 2.14 | 20 |
| Trichloroethene | 5.00 | 5.12 | 5.23 | 102 | 105 | 76.0-126 | | | 2.13 | 20 |
| Trichlorofluoromethane | 5.00 | 5.60 | 5.49 | 112 | 110 | 61.0-142 | | | 1.98 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 4.86 | 5.07 | 97.2 | 101 | 67.0-129 | | | 4.23 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.07 | 5.56 | 101 | 111 | 70.0-126 | | | 9.22 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.05 | 5.31 | 101 | 106 | 74.0-124 | | | 5.02 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.28 | 5.49 | 106 | 110 | 73.0-127 | | | 3.90 | 20 |
| Vinyl chloride | 5.00 | 4.12 | 4.38 | 82.4 | 87.6 | 63.0-134 | | | 6.12 | 20 |
| Xylenes, Total | 15.0 | 15.6 | 14.6 | 104 | 97.3 | 72.0-127 | | | 6.62 | 20 |
| Ethyl ether | 5.00 | 5.13 | 5.15 | 103 | 103 | 64.0-137 | | | 0.389 | 20 |
| Tetrahydrofuran | 5.00 | 5.12 | 4.88 | 102 | 97.6 | 37.0-146 | | | 4.80 | 24 |
| Iodomethane | 25.0 | 25.3 | 25.8 | 101 | 103 | 74.0-134 | | | 1.96 | 20 |
| Allyl chloride | 25.0 | 24.5 | 25.5 | 98.0 | 102 | 70.0-131 | | | 4.00 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 3.71 | 4.07 | 74.2 | 81.4 | 45.0-143 | | | 9.25 | 20 |
| *(S) Toluene-d8* | | | | *106* | *105* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *101* | *101* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *96.8* | *95.8* | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R3859639-3 11/09/22 19:03

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3859639-3 11/09/22 19:03

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *99.7* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *95.4* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859639-1 11/09/22 17:33 • (LCSD) R3859639-2 11/09/22 18:05

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 26.7 | 27.4 | 107 | 110 | 10.0-160 | | | 2.59 | 31 |
| Acrylonitrile | 25.0 | 27.0 | 27.2 | 108 | 109 | 45.0-153 | | | 0.738 | 22 |
| Benzene | 5.00 | 5.25 | 5.31 | 105 | 106 | 70.0-123 | | | 1.14 | 20 |
| Bromobenzene | 5.00 | 5.15 | 5.27 | 103 | 105 | 73.0-121 | | | 2.30 | 20 |
| Bromodichloromethane | 5.00 | 5.54 | 5.40 | 111 | 108 | 73.0-121 | | | 2.56 | 20 |
| Bromoform | 5.00 | 5.04 | 4.84 | 101 | 96.8 | 64.0-132 | | | 4.05 | 20 |
| Bromomethane | 5.00 | 4.47 | 4.64 | 89.4 | 92.8 | 56.0-147 | | | 3.73 | 20 |
| n-Butylbenzene | 5.00 | 5.13 | 5.40 | 103 | 108 | 68.0-135 | | | 5.13 | 20 |
| sec-Butylbenzene | 5.00 | 5.60 | 5.74 | 112 | 115 | 74.0-130 | | | 2.47 | 20 |
| tert-Butylbenzene | 5.00 | 5.28 | 5.40 | 106 | 108 | 75.0-127 | | | 2.25 | 20 |
| Carbon tetrachloride | 5.00 | 5.28 | 5.18 | 106 | 104 | 66.0-128 | | | 1.91 | 20 |
| Chlorobenzene | 5.00 | 5.16 | 5.07 | 103 | 101 | 76.0-128 | | | 1.76 | 20 |
| Chlorodibromomethane | 5.00 | 5.53 | 5.32 | 111 | 106 | 74.0-127 | | | 3.87 | 20 |
| Chloroethane | 5.00 | 4.89 | 4.59 | 97.8 | 91.8 | 61.0-134 | | | 6.33 | 20 |
| Chloroform | 5.00 | 5.12 | 5.02 | 102 | 100 | 72.0-123 | | | 1.97 | 20 |
| Chloromethane | 5.00 | 5.00 | 4.56 | 100 | 91.2 | 51.0-138 | | | 9.21 | 20 |
| 2-Chlorotoluene | 5.00 | 5.40 | 5.50 | 108 | 110 | 75.0-124 | | | 1.83 | 20 |
| 4-Chlorotoluene | 5.00 | 5.54 | 5.95 | 111 | 119 | 75.0-124 | | | 7.14 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.49 | 4.55 | 89.8 | 91.0 | 59.0-130 | | | 1.33 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.23 | 5.31 | 105 | 106 | 74.0-128 | | | 1.52 | 20 |
| Dibromomethane | 5.00 | 5.43 | 5.81 | 109 | 116 | 75.0-122 | | | 6.76 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 4.80 | 5.00 | 96.0 | 100 | 76.0-124 | | | 4.08 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 5.16 | 5.20 | 103 | 104 | 76.0-125 | | | 0.772 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 5.00 | 5.12 | 100 | 102 | 77.0-121 | | | 2.37 | 20 |
| Dichlorodifluoromethane | 5.00 | 4.67 | 4.56 | 93.4 | 91.2 | 43.0-156 | | | 2.38 | 20 |
| 1,1-Dichloroethane | 5.00 | 5.29 | 5.16 | 106 | 103 | 70.0-127 | | | 2.49 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.73 | 4.84 | 94.6 | 96.8 | 65.0-131 | | | 2.30 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.29 | 5.00 | 106 | 100 | 65.0-131 | | | 5.64 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.35 | 5.18 | 107 | 104 | 73.0-125 | | | 3.23 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.44 | 5.26 | 109 | 105 | 71.0-125 | | | 3.36 | 20 |
| 1,2-Dichloropropane | 5.00 | 5.23 | 5.18 | 105 | 104 | 74.0-125 | | | 0.961 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.48 | 5.04 | 110 | 101 | 73.0-125 | | | 8.37 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.02 | 5.02 | 100 | 100 | 80.0-125 | | | 0.000 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 5.24 | 5.31 | 105 | 106 | 76.0-127 | | | 1.33 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 5.14 | 4.93 | 103 | 98.6 | 73.0-127 | | | 4.17 | 20 |
| 2,2-Dichloropropane | 5.00 | 5.54 | 5.28 | 111 | 106 | 59.0-135 | | | 4.81 | 20 |
| Di-isopropyl ether | 5.00 | 5.29 | 5.30 | 106 | 106 | 60.0-136 | | | 0.189 | 20 |
| Ethylbenzene | 5.00 | 5.14 | 5.15 | 103 | 103 | 74.0-126 | | | 0.194 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 4.43 | 4.21 | 88.6 | 84.2 | 57.0-150 | | | 5.09 | 20 |
| Isopropylbenzene | 5.00 | 5.62 | 5.52 | 112 | 110 | 72.0-127 | | | 1.80 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859639-1 11/09/22 17:33 • (LCSD) R3859639-2 11/09/22 18:05

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.40 | 5.70 | 108 | 114 | 72.0-133 | | | 5.41 | 20 |
| 2-Butanone (MEK) | 25.0 | 26.3 | 27.0 | 105 | 108 | 30.0-160 | | | 2.63 | 24 |
| Methylene Chloride | 5.00 | 5.12 | 5.30 | 102 | 106 | 68.0-123 | | | 3.45 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 29.7 | 30.7 | 119 | 123 | 56.0-143 | | | 3.31 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.17 | 5.43 | 103 | 109 | 66.0-132 | | | 4.91 | 20 |
| Naphthalene | 5.00 | 4.36 | 4.44 | 87.2 | 88.8 | 59.0-130 | | | 1.82 | 20 |
| n-Propylbenzene | 5.00 | 5.77 | 5.68 | 115 | 114 | 74.0-126 | | | 1.57 | 20 |
| Styrene | 5.00 | 5.21 | 5.21 | 104 | 104 | 72.0-127 | | | 0.000 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.34 | 5.19 | 107 | 104 | 74.0-129 | | | 2.85 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.99 | 5.24 | 99.8 | 105 | 68.0-128 | | | 4.89 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.38 | 5.32 | 108 | 106 | 61.0-139 | | | 1.12 | 20 |
| Tetrachloroethene | 5.00 | 5.49 | 5.35 | 110 | 107 | 70.0-136 | | | 2.58 | 20 |
| Toluene | 5.00 | 5.32 | 5.16 | 106 | 103 | 75.0-121 | | | 3.05 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.64 | 4.39 | 92.8 | 87.8 | 59.0-139 | | | 5.54 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.01 | 4.36 | 80.2 | 87.2 | 62.0-137 | | | 8.36 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.12 | 5.18 | 102 | 104 | 69.0-126 | | | 1.17 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.25 | 5.22 | 105 | 104 | 78.0-123 | | | 0.573 | 20 |
| Trichloroethene | 5.00 | 5.35 | 4.99 | 107 | 99.8 | 76.0-126 | | | 6.96 | 20 |
| Trichlorofluoromethane | 5.00 | 5.79 | 5.73 | 116 | 115 | 61.0-142 | | | 1.04 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 5.34 | 5.68 | 107 | 114 | 67.0-129 | | | 6.17 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.39 | 5.40 | 108 | 108 | 70.0-126 | | | 0.185 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.10 | 5.27 | 102 | 105 | 74.0-124 | | | 3.28 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.49 | 5.63 | 110 | 113 | 73.0-127 | | | 2.52 | 20 |
| Vinyl chloride | 5.00 | 5.28 | 4.75 | 106 | 95.0 | 63.0-134 | | | 10.6 | 20 |
| Xylenes, Total | 15.0 | 14.7 | 15.7 | 98.0 | 105 | 72.0-127 | | | 6.58 | 20 |
| Ethyl ether | 5.00 | 5.32 | 5.41 | 106 | 108 | 64.0-137 | | | 1.68 | 20 |
| Tetrahydrofuran | 5.00 | 4.44 | 4.87 | 88.8 | 97.4 | 37.0-146 | | | 9.24 | 24 |
| Iodomethane | 25.0 | 26.5 | 25.6 | 106 | 102 | 74.0-134 | | | 3.45 | 20 |
| Allyl chloride | 25.0 | 26.4 | 25.1 | 106 | 100 | 70.0-131 | | | 5.05 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 3.82 | 4.25 | 76.4 | 85.0 | 45.0-143 | | | 10.7 | 20 |
| *(S) Toluene-d8* | | | | *107* | *104* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *99.1* | *97.4* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *98.9* | *96.3* | *70.0-130* | | | | |

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| B | The same analyte is found in the associated blank. |
| C3 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable. |
| C4 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result. |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| T8 | Sample(s) received past/too close to holding time expiration. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

**2101 Fourth Ave., Suite 1310**
**Seattle, WA 98121**

Billing Information:
**Attn: Accounts Payable**
**2101 4th Avenue, Suite 1310**
**Seattle, WA 98121**

Pres Chk

Report to:
**Brian O'Neal/Bill Haldeman**

Email To:
**Shannon.McKernan@nv5.com;brian.oneal@nv5**

Project Description:
**American Linen**

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: **206-529-3980**

Client Project #
1413.001.10.701.02

Lab Project #
**PESENVSWA-ALP**

Collected by (print):
NEW

Site/Facility ID #

P.O. # 1413.001.10.701.02
~~443018-1413001.05.601~~

Collected by (signature):
NEW

Immediately Packed on Ice N ___ Y ✓

***Rush?*** (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FE,G,MNG 250mlHDPE-HNO3 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | | | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-316-110222 | Grab | GW | — | 11/2/22 | 1404 | 9 | X | X | X | X | | X | X | X | | | | -01 |
| MW-315-110222 | | GW | — | | 1328 | | X | X | X | X | | X | X | X | | | | -02 |
| MW119-110222 | | GW | — | | 1121 | | X | X | X | X | | X | X | X | | | | -03 |
| MW-983-110222 | | GW | — | | 1300 | | X | X | X | X | | X | X | X | | | | -04 |
| MW-319-110222 | | GW | — | | 1207 | | X | X | X | X | | X | X | X | | | | -05 |
| MW-982-110222 | | GW | — | | 1100 | | X | X | X | X | | X | X | X | | | | -06 |
| MW-325-110222 | | GW | — | | 1001 | | X | X | X | X | | X | X | X | | | | -07 |
| MW-326-110222 | | GW | — | | 1046 | | X | X | X | X | | X | X | X | | | | -08 |
| MW-984-110222 | ↓ | GW | — | ↓ | 1200 | 4 | X | X | X | X | | X | X | X | | | | -09 |
| | | GW | | | | | | | | | | | | | | | | |

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1553859

**E135**

Acctnum: **PESENVSWA**
Template: **T218236**
Prelogin: **P957562**
PM: **546 - Jared Starkey**
PB:
Shipped Via:

* Matrix:
**SS** - Soil **AIR** - Air **F** - Filter
**GW** - Groundwater **B** - Bioassay
**WW** - WasteWater
**DW** - Drinking Water
**OT** - Other_____

**Remarks:**

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 6094 5459 7090

Sample Receipt Checklist
COC Seal Present/Intact: ~~NP~~ Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) |
|---|---|---|---|
| Natalie Winston | 11/2/22 | 1723 | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) |
| | | | Matt Lynn |

Trip Blank Received: Yes (No) HCL / MeoH TBR

Temp: 6BA2C Bottles Received: 0.4 +0=0.4 72

Date: 11-4-22 Time: 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

# ANALYTICAL REPORT

November 21, 2022



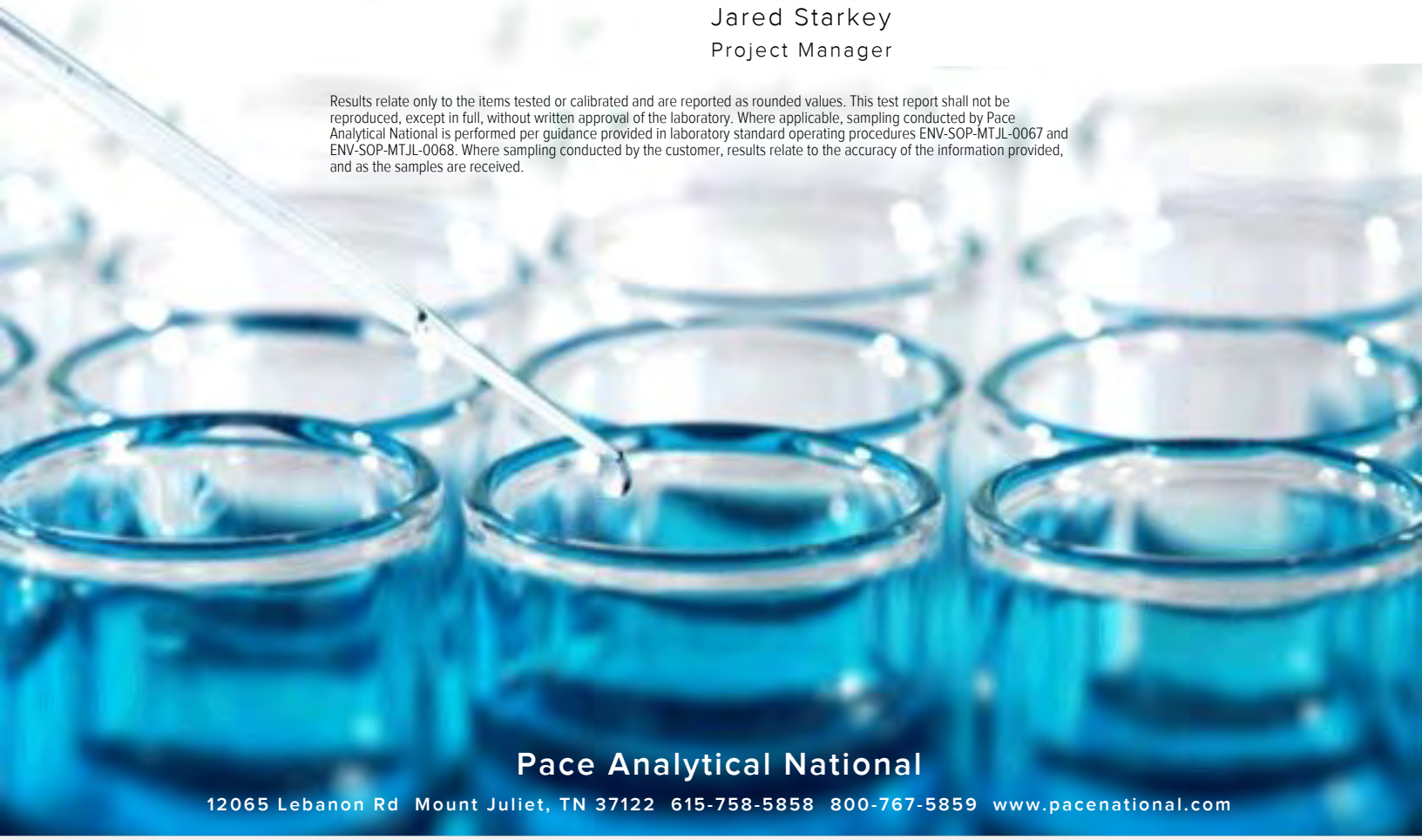
## PES Environmental, Inc.- WA

| | |
|---|---|
| Sample Delivery Group: | L1553890 |
| Samples Received: | 11/04/2022 |
| Project Number: | 1413.001.10.701.02 |
| Description: | American Linen |
| Report To: | Brian O'Neal/Bill Haldeman |
| | 2101 Fourth Ave., Suite 1310 |
| | Seattle, WA 98121 |

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## MW-328-110222 L1553890-01 GW

Collected by: NEW | Collected date/time: 11/02/22 09:51 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958280 | 1 | 11/13/22 09:54 | 11/13/22 09:54 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954449 | 1 | 11/04/22 17:10 | 11/04/22 17:10 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962434 | 1 | 11/20/22 15:16 | 11/20/22 15:16 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959244 | 1 | 11/15/22 09:59 | 11/16/22 01:23 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956350 | 1 | 11/09/22 10:20 | 11/09/22 10:20 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956765 | 10 | 11/09/22 14:00 | 11/09/22 14:00 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956792 | 1 | 11/09/22 23:21 | 11/09/22 23:21 | JAH | Mt. Juliet, TN |

## MW-341-110222 L1553890-02 GW

Collected by: NEW | Collected date/time: 11/02/22 10:29 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958280 | 1 | 11/13/22 09:58 | 11/13/22 09:58 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954449 | 1 | 11/04/22 17:47 | 11/04/22 17:47 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962434 | 1 | 11/20/22 15:35 | 11/20/22 15:35 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959244 | 1 | 11/15/22 09:59 | 11/16/22 01:26 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956352 | 1 | 11/09/22 11:01 | 11/09/22 11:01 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956792 | 1 | 11/09/22 23:41 | 11/09/22 23:41 | JAH | Mt. Juliet, TN |

## MW-339-110222 L1553890-03 GW

Collected by: NEW | Collected date/time: 11/02/22 11:04 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958280 | 1 | 11/13/22 10:03 | 11/13/22 10:03 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954449 | 1 | 11/04/22 18:00 | 11/04/22 18:00 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962434 | 1 | 11/20/22 15:50 | 11/20/22 15:50 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959244 | 1 | 11/15/22 09:59 | 11/16/22 01:30 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956352 | 1 | 11/09/22 11:05 | 11/09/22 11:05 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956792 | 1 | 11/10/22 00:00 | 11/10/22 00:00 | JAH | Mt. Juliet, TN |

## MW-337-110222 L1553890-04 GW

Collected by: NEW | Collected date/time: 11/02/22 11:47 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958280 | 1 | 11/13/22 10:07 | 11/13/22 10:07 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954449 | 1 | 11/04/22 18:12 | 11/04/22 18:12 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962434 | 1 | 11/20/22 16:06 | 11/20/22 16:06 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959244 | 1 | 11/15/22 09:59 | 11/16/22 01:33 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956352 | 1 | 11/09/22 11:08 | 11/09/22 11:08 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956792 | 1 | 11/10/22 00:32 | 11/10/22 00:32 | JAH | Mt. Juliet, TN |

## MW-338-110222 L1553890-05 GW

Collected by: NEW | Collected date/time: 11/02/22 12:16 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958280 | 1 | 11/13/22 10:12 | 11/13/22 10:12 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954449 | 1 | 11/04/22 18:25 | 11/04/22 18:25 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962434 | 1 | 11/20/22 16:24 | 11/20/22 16:24 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959244 | 1 | 11/15/22 09:59 | 11/16/22 01:36 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956352 | 1 | 11/09/22 11:11 | 11/09/22 11:11 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956765 | 10 | 11/09/22 14:04 | 11/09/22 14:04 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956792 | 1 | 11/10/22 00:51 | 11/10/22 00:51 | JAH | Mt. Juliet, TN |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

# SAMPLE SUMMARY

## MW-333-110222 L1553890-06 GW

Collected by: NEW
Collected date/time: 11/02/22 14:09
Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958280 | 1 | 11/13/22 10:15 | 11/13/22 10:15 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954449 | 1 | 11/04/22 13:50 | 11/04/22 13:50 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962434 | 1 | 11/20/22 16:43 | 11/20/22 16:43 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959244 | 1 | 11/15/22 09:59 | 11/16/22 01:40 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956352 | 1 | 11/09/22 11:15 | 11/09/22 11:15 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956765 | 10 | 11/09/22 14:08 | 11/09/22 14:08 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956792 | 10 | 11/10/22 04:03 | 11/10/22 04:03 | JAH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1957713 | 10 | 11/11/22 17:57 | 11/11/22 17:57 | ACG | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Sample Delivery Group (SDG) Narrative

**pH outside of method requirement.**

| Lab Sample ID | Project Sample ID | Method |
|---|---|---|
| L1553890-06 | MW-333-110222 | 8260D |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 509000 | | 8450 | 20000 | 1 | 11/13/2022 09:54 | WG1958280 |

Sample Narrative:

L1553890-01 WG1958280: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 14000 | | 379 | 1000 | 1 | 11/04/2022 17:10 | WG1954449 |
| Nitrate | U | T8 | 48.0 | 100 | 1 | 11/04/2022 17:10 | WG1954449 |
| Sulfate | U | | 594 | 5000 | 1 | 11/04/2022 17:10 | WG1954449 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 4420 | | 102 | 1000 | 1 | 11/20/2022 15:16 | WG1962434 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 9310 | | 28.1 | 100 | 1 | 11/16/2022 01:23 | WG1959244 |
| Manganese | 253 | | 0.704 | 5.00 | 1 | 11/16/2022 01:23 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 22600 | | 2.87 | 6.78 | 10 | 11/09/2022 14:00 | WG1956765 |
| Ethane | 17.0 | | 0.296 | 1.29 | 1 | 11/09/2022 10:20 | WG1956350 |
| Ethene | 15.1 | | 0.422 | 1.27 | 1 | 11/09/2022 10:20 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 23:21 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| Benzene | 8.47 | | 0.0160 | 0.0400 | 1 | 11/09/2022 23:21 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 23:21 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| cis-1,2-Dichloroethene | 0.344 | | 0.0276 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 23:21 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 23:21 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 23:21 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 23:21 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 23:21 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 23:21 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 23:21 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| Vinyl chloride | 2.18 | | 0.0273 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 23:21 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 23:21 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/09/2022 23:21* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/09/2022 23:21* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *97.0* | | | *70.0-130* | | *11/09/2022 23:21* | WG1956792 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 387000 | | 8450 | 20000 | 1 | 11/13/2022 09:58 | WG1958280 |

Sample Narrative:

L1553890-02 WG1958280: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 21100 | | 379 | 1000 | 1 | 11/04/2022 17:47 | WG1954449 |
| Nitrate | 162 | T8 | 48.0 | 100 | 1 | 11/04/2022 17:47 | WG1954449 |
| Sulfate | 31500 | | 594 | 5000 | 1 | 11/04/2022 17:47 | WG1954449 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2700 | B | 102 | 1000 | 1 | 11/20/2022 15:35 | WG1962434 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 7610 | | 28.1 | 100 | 1 | 11/16/2022 01:26 | WG1959244 |
| Manganese | 552 | | 0.704 | 5.00 | 1 | 11/16/2022 01:26 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 872 | | 0.287 | 0.678 | 1 | 11/09/2022 11:01 | WG1956352 |
| Ethane | 6.26 | | 0.296 | 1.29 | 1 | 11/09/2022 11:01 | WG1956352 |
| Ethene | 10.5 | | 0.422 | 1.27 | 1 | 11/09/2022 11:01 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 23:41 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| Benzene | 25.7 | | 0.0160 | 0.0400 | 1 | 11/09/2022 23:41 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 23:41 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| cis-1,2-Dichloroethene | 6.29 | | 0.0276 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| Di-isopropyl ether | 0.237 | | 0.0140 | 0.0400 | 1 | 11/09/2022 23:41 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 23:41 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 23:41 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 23:41 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 23:41 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 23:41 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 23:41 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| Vinyl chloride | 26.5 | | 0.0273 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 23:41 | WG1956792 |
| Ethyl Ether | 0.117 | | 0.0170 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 23:41 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *11/09/2022 23:41* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *99.9* | | | *67.0-138* | | *11/09/2022 23:41* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *95.9* | | | *70.0-130* | | *11/09/2022 23:41* | WG1956792 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 317000 | | 8450 | 20000 | 1 | 11/13/2022 10:03 | WG1958280 |

Sample Narrative:

L1553890-03 WG1958280: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 25500 | | 379 | 1000 | 1 | 11/04/2022 18:00 | WG1954449 |
| Nitrate | 518 | T8 | 48.0 | 100 | 1 | 11/04/2022 18:00 | WG1954449 |
| Sulfate | 35000 | | 594 | 5000 | 1 | 11/04/2022 18:00 | WG1954449 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 3920 | B | 102 | 1000 | 1 | 11/20/2022 15:50 | WG1962434 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1660 | | 28.1 | 100 | 1 | 11/16/2022 01:30 | WG1959244 |
| Manganese | 605 | | 0.704 | 5.00 | 1 | 11/16/2022 01:30 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 22.9 | | 0.287 | 0.678 | 1 | 11/09/2022 11:05 | WG1956352 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 11:05 | WG1956352 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 11:05 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/10/2022 00:00 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 00:00 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 00:00 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 00:00 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 00:00 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 00:00 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 00:00 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 00:00 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 00:00 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 00:00 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 00:00 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 00:00 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/10/2022 00:00* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/10/2022 00:00* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *95.3* | | | *70.0-130* | | *11/10/2022 00:00* | WG1956792 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 217000 | | 8450 | 20000 | 1 | 11/13/2022 10:07 | WG1958280 |

Sample Narrative:

L1553890-04 WG1958280: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 34100 | | 379 | 1000 | 1 | 11/04/2022 18:12 | WG1954449 |
| Nitrate | 108 | T8 | 48.0 | 100 | 1 | 11/04/2022 18:12 | WG1954449 |
| Sulfate | 4920 | J | 594 | 5000 | 1 | 11/04/2022 18:12 | WG1954449 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2500 | B | 102 | 1000 | 1 | 11/20/2022 16:06 | WG1962434 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 12000 | | 28.1 | 100 | 1 | 11/16/2022 01:33 | WG1959244 |
| Manganese | 1070 | | 0.704 | 5.00 | 1 | 11/16/2022 01:33 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 4260 | | 0.287 | 0.678 | 1 | 11/09/2022 11:08 | WG1956352 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 11:08 | WG1956352 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 11:08 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.93 | | 0.548 | 1.00 | 1 | 11/10/2022 00:32 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 00:32 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 00:32 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| cis-1,2-Dichloroethene | 0.112 | | 0.0276 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 00:32 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 00:32 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 00:32 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 00:32 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 00:32 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 00:32 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 00:32 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 00:32 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 00:32 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/10/2022 00:32* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/10/2022 00:32* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *97.6* | | | *70.0-130* | | *11/10/2022 00:32* | WG1956792 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 607000 | | 8450 | 20000 | 1 | 11/13/2022 10:12 | WG1958280 |

Sample Narrative:

L1553890-05 WG1958280: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 13100 | | 379 | 1000 | 1 | 11/04/2022 18:25 | WG1954449 |
| Nitrate | U | T8 | 48.0 | 100 | 1 | 11/04/2022 18:25 | WG1954449 |
| Sulfate | U | | 594 | 5000 | 1 | 11/04/2022 18:25 | WG1954449 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 8200 | | 102 | 1000 | 1 | 11/20/2022 16:24 | WG1962434 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 24400 | | 28.1 | 100 | 1 | 11/16/2022 01:36 | WG1959244 |
| Manganese | 1720 | | 0.704 | 5.00 | 1 | 11/16/2022 01:36 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 25800 | | 2.87 | 6.78 | 10 | 11/09/2022 14:04 | WG1956765 |
| Ethane | 6.02 | | 0.296 | 1.29 | 1 | 11/09/2022 11:11 | WG1956352 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 11:11 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.47 | | 0.548 | 1.00 | 1 | 11/10/2022 00:51 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 00:51 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 00:51 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 00:51 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 00:51 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 00:51 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 00:51 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 00:51 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 00:51 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 00:51 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 00:51 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 00:51 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *11/10/2022 00:51* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *98.6* | | | *67.0-138* | | *11/10/2022 00:51* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *98.3* | | | *70.0-130* | | *11/10/2022 00:51* | WG1956792 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 828000 | | 8450 | 20000 | 1 | 11/13/2022 10:15 | WG1958280 |

Sample Narrative:

L1553890-06 WG1958280: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 33700 | | 379 | 1000 | 1 | 11/04/2022 13:50 | WG1954449 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/04/2022 13:50 | WG1954449 |
| Sulfate | U | | 594 | 5000 | 1 | 11/04/2022 13:50 | WG1954449 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 12500 | | 102 | 1000 | 1 | 11/20/2022 16:43 | WG1962434 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 21700 | | 28.1 | 100 | 1 | 11/16/2022 01:40 | WG1959244 |
| Manganese | 1940 | | 0.704 | 5.00 | 1 | 11/16/2022 01:40 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 22000 | | 2.87 | 6.78 | 10 | 11/09/2022 14:08 | WG1956765 |
| Ethane | 6.07 | | 0.296 | 1.29 | 1 | 11/09/2022 11:15 | WG1956352 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 11:15 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 5.48 | 10.0 | 10 | 11/10/2022 04:03 | WG1956792 |
| Acrylonitrile | U | | 0.760 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Benzene | U | | 0.160 | 0.400 | 10 | 11/10/2022 04:03 | WG1956792 |
| Bromobenzene | U | | 0.420 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Bromodichloromethane | U | | 0.315 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Bromoform | U | | 2.39 | 10.0 | 10 | 11/10/2022 04:03 | WG1956792 |
| Bromomethane | U | | 1.48 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| n-Butylbenzene | U | | 1.53 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| sec-Butylbenzene | 2.45 | J | 1.01 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| tert-Butylbenzene | U | | 0.620 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Carbon tetrachloride | U | | 0.432 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Chlorobenzene | U | | 0.229 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Chlorodibromomethane | U | | 0.180 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Chloroethane | U | | 0.432 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Chloroform | U | | 0.166 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Chloromethane | U | | 0.556 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 2-Chlorotoluene | U | | 0.368 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 4-Chlorotoluene | U | | 0.452 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 2.04 | 10.0 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.210 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.400 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.580 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.680 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.788 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.327 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.230 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.190 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.200 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| cis-1,2-Dichloroethene | U | | 0.276 | 1.00 | 10 | 11/11/2022 17:57 | WG1957713 |
| trans-1,2-Dichloroethene | U | | 0.572 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.508 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.280 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.700 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.271 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.612 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.317 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Di-isopropyl ether | U | | 0.140 | 0.400 | 10 | 11/10/2022 04:03 | WG1956792 |
| Ethylbenzene | U | | 0.212 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 5.08 | 10.0 | 10 | 11/10/2022 04:03 | WG1956792 |
| Isopropylbenzene | 0.850 | J | 0.345 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| p-Isopropyltoluene | U | | 0.932 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 2-Butanone (MEK) | U | | 5.00 | 10.0 | 10 | 11/10/2022 04:03 | WG1956792 |
| Methylene Chloride | U | | 2.65 | 10.0 | 10 | 11/10/2022 04:03 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 4.00 | 10.0 | 10 | 11/10/2022 04:03 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.118 | 0.400 | 10 | 11/10/2022 04:03 | WG1956792 |
| Naphthalene | U | | 1.24 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| n-Propylbenzene | 2.60 | | 0.472 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Styrene | U | | 1.09 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.200 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.156 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.270 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Tetrachloroethene | U | | 0.280 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Toluene | U | | 0.500 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.250 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | C4 | 1.93 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.110 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.353 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Trichloroethene | U | | 0.160 | 0.400 | 10 | 11/10/2022 04:03 | WG1956792 |
| Trichlorofluoromethane | U | | 0.200 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 2.04 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.464 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.460 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.432 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Vinyl chloride | U | | 0.273 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Xylenes, Total | U | | 1.91 | 2.60 | 10 | 11/10/2022 04:03 | WG1956792 |
| Ethyl Ether | U | | 0.170 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Tetrahydrofuran | U | | 0.900 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Iodomethane | U | | 2.42 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Allyl chloride | U | | 5.80 | 10.0 | 10 | 11/10/2022 04:03 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.560 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/10/2022 04:03* | WG1956792 |
| *(S) Toluene-d8* | *113* | | | *75.0-131* | | *11/11/2022 17:57* | WG1957713 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/10/2022 04:03* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *96.8* | | | *67.0-138* | | *11/11/2022 17:57* | WG1957713 |
| *(S) 1,2-Dichloroethane-d4* | *96.7* | | | *70.0-130* | | *11/10/2022 04:03* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *103* | | | *70.0-130* | | *11/11/2022 17:57* | WG1957713 |

## Method Blank (MB)

(MB) R3860433-2 11/13/22 09:06

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1553733-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1553733-01 11/13/22 09:12 • (DUP) R3860433-3 11/13/22 09:17

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 53200 | 54200 | 1 | 1.84 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 headsapce

DUP: Endpoint pH 4.5

## L1554288-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1554288-03 11/13/22 10:52 • (DUP) R3860433-4 11/13/22 10:57

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 218000 | 222000 | 1 | 1.55 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3860433-1 11/13/22 09:02

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 101000 | 101 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3858543-1 11/04/22 10:05

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1553899-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1553899-06 11/04/22 12:28 • (DUP) R3858543-3 11/04/22 15:18

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 17400 | 17400 | 1 | 0.102 | | 15 |
| Nitrate | 847 | 836 | 1 | 1.21 | | 15 |
| Sulfate | 70000 | 69700 | 1 | 0.502 | | 15 |

## L1553899-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1553899-08 11/04/22 19:02 • (DUP) R3858543-6 11/04/22 19:14

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 62400 | 62800 | 1 | 0.523 | | 15 |
| Nitrate | 90.2 | 102 | 1 | 11.9 | | 15 |
| Sulfate | 116000 | 116000 | 1 | 0.403 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3858543-2 11/04/22 10:18

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 40800 | 102 | 80.0-120 | |
| Nitrate | 8000 | 8070 | 101 | 80.0-120 | |
| Sulfate | 40000 | 41100 | 103 | 80.0-120 | |

## L1553899-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553899-06 11/04/22 12:28 • (MS) R3858543-4 11/04/22 15:30 • (MSD) R3858543-5 11/04/22 15:43

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 17400 | 67600 | 67800 | 100 | 101 | 1 | 80.0-120 | | | 0.208 | 15 |
| Nitrate | 5000 | 847 | 5920 | 5940 | 102 | 102 | 1 | 80.0-120 | | | 0.207 | 15 |
| Sulfate | 50000 | 70000 | 117000 | 117000 | 93.9 | 94.3 | 1 | 80.0-120 | | | 0.133 | 15 |

## L1553899-08 Original Sample (OS) • Matrix Spike (MS)

(OS) L1553899-08 11/04/22 19:02 • (MS) R3858543-7 11/04/22 19:27

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 62400 | 110000 | 94.8 | 1 | 80.0-120 | |
| Nitrate | 5000 | 90.2 | 5180 | 102 | 1 | 80.0-120 | |
| Sulfate | 50000 | 116000 | 160000 | 89.1 | 1 | 80.0-120 | |

# QUALITY CONTROL SUMMARY

L1553890-01,02,03,04,05,06

## Method Blank (MB)

(MB) R3863239-2 11/20/22 08:27

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 435 | J | 102 | 1000 |

## L1553877-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1553877-04 11/20/22 11:34 • (DUP) R3863239-7 11/20/22 11:47

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1710 | 1480 | 1 | 14.5 | | 20 |

## L1553877-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1553877-13 11/20/22 14:05 • (DUP) R3863239-8 11/20/22 14:17

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1370 | 1270 | 1 | 7.37 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3863239-1 11/20/22 08:13

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 79400 | 106 | 85.0-115 | |

## L1553877-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553877-01 11/20/22 09:37 • (MS) R3863239-3 11/20/22 09:55 • (MSD) R3863239-4 11/20/22 10:13

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 18800 | 69600 | 69900 | 102 | 102 | 1 | 80.0-120 | | | 0.416 | 20 |

## L1553877-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553877-02 11/20/22 10:28 • (MS) R3863239-5 11/20/22 10:42 • (MSD) R3863239-6 11/20/22 10:57

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 2770 | 53500 | 53700 | 101 | 102 | 1 | 80.0-120 | | | 0.429 | 20 |

## Method Blank (MB)

(MB) R3861544-1 11/16/22 00:40

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3861544-2 11/16/22 00:43

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Iron | 5000 | 4960 | 99.2 | 80.0-120 | |
| Manganese | 50.0 | 50.9 | 102 | 80.0-120 | |

## L1553859-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553859-04 11/16/22 00:47 • (MS) R3861544-4 11/16/22 00:53 • (MSD) R3861544-5 11/16/22 00:57

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iron | 5000 | 2980 | 8080 | 8030 | 102 | 101 | 1 | 75.0-125 | | | 0.678 | 20 |
| Manganese | 50.0 | 1020 | 1090 | 1070 | 128 | 100 | 1 | 75.0-125 | V | | 1.27 | 20 |

## Method Blank (MB)

(MB) R3858748-2 11/09/22 08:44

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1553859-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1553859-02 11/09/22 09:50 • (DUP) R3858748-3 11/09/22 09:53

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1554116-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1554116-05 11/09/22 10:28 • (DUP) R3858748-4 11/09/22 10:34

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3858748-1 11/09/22 08:37 • (LCSD) R3858748-5 11/09/22 10:37

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Ethane | 129 | 121 | 116 | 93.8 | 89.9 | 85.0-115 | | | 4.22 | 20 |
| Ethene | 127 | 122 | 118 | 96.1 | 92.9 | 85.0-115 | | | 3.33 | 20 |

## Method Blank (MB)

(MB) R3858826-2 11/09/22 10:58

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1553923-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1553923-05 11/09/22 11:34 • (DUP) R3858826-3 11/09/22 11:38

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 1.56 | 2.39 | 1 | 42.0 | P1 | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1553923-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1553923-06 11/09/22 11:43 • (DUP) R3858826-4 11/09/22 12:27

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 523 | 527 | 1 | 0.762 | | 20 |
| Ethane | 6.06 | 4.30 | 1 | 34.0 | P1 | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3858826-1 11/09/22 10:50 • (LCSD) R3858826-5 11/09/22 12:31

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 71.7 | 70.0 | 106 | 103 | 85.0-115 | | | 2.40 | 20 |
| Ethane | 129 | 120 | 117 | 93.0 | 90.7 | 85.0-115 | | | 2.53 | 20 |
| Ethene | 127 | 121 | 118 | 95.3 | 92.9 | 85.0-115 | | | 2.51 | 20 |

## Method Blank (MB)

(MB) R3859035-2 11/09/22 13:47

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Methane | U | | 0.287 | 0.678 |

## L1553979-27 Original Sample (OS) • Duplicate (DUP)

(OS) L1553979-27 11/09/22 14:13 • (DUP) R3859035-3 11/09/22 14:43

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | 7210 | 7800 | 10 | 7.86 | | 20 |

## L1553987-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1553987-02 11/09/22 15:47 • (DUP) R3859035-4 11/09/22 15:54

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | 33.5 | 26.5 | 1 | 23.3 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859035-1 11/09/22 13:44 • (LCSD) R3859035-7 11/09/22 16:03

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 71.0 | 67.2 | 105 | 99.1 | 85.0-115 | | | 5.50 | 20 |

## L1553979-31 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553979-31 11/09/22 14:38 • (MS) R3859035-5 11/09/22 15:56 • (MSD) R3859035-6 11/09/22 15:59

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 678 | 10600 | 10400 | 11100 | 0.000 | 73.7 | 10 | 85.0-115 | V | V | 6.51 | 20 |

## Method Blank (MB)

(MB) R3859639-3 11/09/22 19:03

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3859639-3 11/09/22 19:03

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *99.7* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *95.4* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859639-1 11/09/22 17:33 • (LCSD) R3859639-2 11/09/22 18:05

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 26.7 | 27.4 | 107 | 110 | 10.0-160 | | | 2.59 | 31 |
| Acrylonitrile | 25.0 | 27.0 | 27.2 | 108 | 109 | 45.0-153 | | | 0.738 | 22 |
| Benzene | 5.00 | 5.25 | 5.31 | 105 | 106 | 70.0-123 | | | 1.14 | 20 |
| Bromobenzene | 5.00 | 5.15 | 5.27 | 103 | 105 | 73.0-121 | | | 2.30 | 20 |
| Bromodichloromethane | 5.00 | 5.54 | 5.40 | 111 | 108 | 73.0-121 | | | 2.56 | 20 |
| Bromoform | 5.00 | 5.04 | 4.84 | 101 | 96.8 | 64.0-132 | | | 4.05 | 20 |
| Bromomethane | 5.00 | 4.47 | 4.64 | 89.4 | 92.8 | 56.0-147 | | | 3.73 | 20 |
| n-Butylbenzene | 5.00 | 5.13 | 5.40 | 103 | 108 | 68.0-135 | | | 5.13 | 20 |
| sec-Butylbenzene | 5.00 | 5.60 | 5.74 | 112 | 115 | 74.0-130 | | | 2.47 | 20 |
| tert-Butylbenzene | 5.00 | 5.28 | 5.40 | 106 | 108 | 75.0-127 | | | 2.25 | 20 |
| Carbon tetrachloride | 5.00 | 5.28 | 5.18 | 106 | 104 | 66.0-128 | | | 1.91 | 20 |
| Chlorobenzene | 5.00 | 5.16 | 5.07 | 103 | 101 | 76.0-128 | | | 1.76 | 20 |
| Chlorodibromomethane | 5.00 | 5.53 | 5.32 | 111 | 106 | 74.0-127 | | | 3.87 | 20 |
| Chloroethane | 5.00 | 4.89 | 4.59 | 97.8 | 91.8 | 61.0-134 | | | 6.33 | 20 |
| Chloroform | 5.00 | 5.12 | 5.02 | 102 | 100 | 72.0-123 | | | 1.97 | 20 |
| Chloromethane | 5.00 | 5.00 | 4.56 | 100 | 91.2 | 51.0-138 | | | 9.21 | 20 |
| 2-Chlorotoluene | 5.00 | 5.40 | 5.50 | 108 | 110 | 75.0-124 | | | 1.83 | 20 |
| 4-Chlorotoluene | 5.00 | 5.54 | 5.95 | 111 | 119 | 75.0-124 | | | 7.14 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.49 | 4.55 | 89.8 | 91.0 | 59.0-130 | | | 1.33 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.23 | 5.31 | 105 | 106 | 74.0-128 | | | 1.52 | 20 |
| Dibromomethane | 5.00 | 5.43 | 5.81 | 109 | 116 | 75.0-122 | | | 6.76 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 4.80 | 5.00 | 96.0 | 100 | 76.0-124 | | | 4.08 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 5.16 | 5.20 | 103 | 104 | 76.0-125 | | | 0.772 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 5.00 | 5.12 | 100 | 102 | 77.0-121 | | | 2.37 | 20 |
| Dichlorodifluoromethane | 5.00 | 4.67 | 4.56 | 93.4 | 91.2 | 43.0-156 | | | 2.38 | 20 |
| 1,1-Dichloroethane | 5.00 | 5.29 | 5.16 | 106 | 103 | 70.0-127 | | | 2.49 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.73 | 4.84 | 94.6 | 96.8 | 65.0-131 | | | 2.30 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.29 | 5.00 | 106 | 100 | 65.0-131 | | | 5.64 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.35 | 5.18 | 107 | 104 | 73.0-125 | | | 3.23 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.44 | 5.26 | 109 | 105 | 71.0-125 | | | 3.36 | 20 |
| 1,2-Dichloropropane | 5.00 | 5.23 | 5.18 | 105 | 104 | 74.0-125 | | | 0.961 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.48 | 5.04 | 110 | 101 | 73.0-125 | | | 8.37 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.02 | 5.02 | 100 | 100 | 80.0-125 | | | 0.000 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 5.24 | 5.31 | 105 | 106 | 76.0-127 | | | 1.33 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 5.14 | 4.93 | 103 | 98.6 | 73.0-127 | | | 4.17 | 20 |
| 2,2-Dichloropropane | 5.00 | 5.54 | 5.28 | 111 | 106 | 59.0-135 | | | 4.81 | 20 |
| Di-isopropyl ether | 5.00 | 5.29 | 5.30 | 106 | 106 | 60.0-136 | | | 0.189 | 20 |
| Ethylbenzene | 5.00 | 5.14 | 5.15 | 103 | 103 | 74.0-126 | | | 0.194 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 4.43 | 4.21 | 88.6 | 84.2 | 57.0-150 | | | 5.09 | 20 |
| Isopropylbenzene | 5.00 | 5.62 | 5.52 | 112 | 110 | 72.0-127 | | | 1.80 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859639-1 11/09/22 17:33 • (LCSD) R3859639-2 11/09/22 18:05

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.40 | 5.70 | 108 | 114 | 72.0-133 | | | 5.41 | 20 |
| 2-Butanone (MEK) | 25.0 | 26.3 | 27.0 | 105 | 108 | 30.0-160 | | | 2.63 | 24 |
| Methylene Chloride | 5.00 | 5.12 | 5.30 | 102 | 106 | 68.0-123 | | | 3.45 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 29.7 | 30.7 | 119 | 123 | 56.0-143 | | | 3.31 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.17 | 5.43 | 103 | 109 | 66.0-132 | | | 4.91 | 20 |
| Naphthalene | 5.00 | 4.36 | 4.44 | 87.2 | 88.8 | 59.0-130 | | | 1.82 | 20 |
| n-Propylbenzene | 5.00 | 5.77 | 5.68 | 115 | 114 | 74.0-126 | | | 1.57 | 20 |
| Styrene | 5.00 | 5.21 | 5.21 | 104 | 104 | 72.0-127 | | | 0.000 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.34 | 5.19 | 107 | 104 | 74.0-129 | | | 2.85 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.99 | 5.24 | 99.8 | 105 | 68.0-128 | | | 4.89 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.38 | 5.32 | 108 | 106 | 61.0-139 | | | 1.12 | 20 |
| Tetrachloroethene | 5.00 | 5.49 | 5.35 | 110 | 107 | 70.0-136 | | | 2.58 | 20 |
| Toluene | 5.00 | 5.32 | 5.16 | 106 | 103 | 75.0-121 | | | 3.05 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.64 | 4.39 | 92.8 | 87.8 | 59.0-139 | | | 5.54 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.01 | 4.36 | 80.2 | 87.2 | 62.0-137 | | | 8.36 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.12 | 5.18 | 102 | 104 | 69.0-126 | | | 1.17 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.25 | 5.22 | 105 | 104 | 78.0-123 | | | 0.573 | 20 |
| Trichloroethene | 5.00 | 5.35 | 4.99 | 107 | 99.8 | 76.0-126 | | | 6.96 | 20 |
| Trichlorofluoromethane | 5.00 | 5.79 | 5.73 | 116 | 115 | 61.0-142 | | | 1.04 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 5.34 | 5.68 | 107 | 114 | 67.0-129 | | | 6.17 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.39 | 5.40 | 108 | 108 | 70.0-126 | | | 0.185 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.10 | 5.27 | 102 | 105 | 74.0-124 | | | 3.28 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.49 | 5.63 | 110 | 113 | 73.0-127 | | | 2.52 | 20 |
| Vinyl chloride | 5.00 | 5.28 | 4.75 | 106 | 95.0 | 63.0-134 | | | 10.6 | 20 |
| Xylenes, Total | 15.0 | 14.7 | 15.7 | 98.0 | 105 | 72.0-127 | | | 6.58 | 20 |
| Ethyl ether | 5.00 | 5.32 | 5.41 | 106 | 108 | 64.0-137 | | | 1.68 | 20 |
| Tetrahydrofuran | 5.00 | 4.44 | 4.87 | 88.8 | 97.4 | 37.0-146 | | | 9.24 | 24 |
| Iodomethane | 25.0 | 26.5 | 25.6 | 106 | 102 | 74.0-134 | | | 3.45 | 20 |
| Allyl chloride | 25.0 | 26.4 | 25.1 | 106 | 100 | 70.0-131 | | | 5.05 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 3.82 | 4.25 | 76.4 | 85.0 | 45.0-143 | | | 10.7 | 20 |
| *(S) Toluene-d8* | | | | *107* | *104* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *99.1* | *97.4* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *98.9* | *96.3* | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R3860811-2 11/11/22 12:10

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| *(S) Toluene-d8* | *115* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *106* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3860811-1 11/11/22 10:51 • (LCSD) R3860811-3 11/11/22 13:22

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 5.00 | 4.65 | 5.01 | 93.0 | 100 | 73.0-125 | | | 7.45 | 20 |
| *(S) Toluene-d8* | | | | *108* | *106* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *105* | *106* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *106* | *110* | *70.0-130* | | | | |

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| B | The same analyte is found in the associated blank. |
| C3 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable. |
| C4 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result. |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| P1 | RPD value not applicable for sample concentrations less than 5 times the reporting limit. |
| T8 | Sample(s) received past/too close to holding time expiration. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

**2101 Fourth Ave., Suite 1310**
**Seattle, WA 98121**

Billing Information:
**Attn: Accounts Payable**
**2101 4th Avenue, Suite 1310**
**Seattle, WA 98121**

Pres Chk

Report to:
**Brian O'Neal/Bill Haldeman**

Email To:
**Shannon.McKernan@nv5.com;brian.oneal@nv5**

Project Description:
**American Linen**

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: **206-529-3980**

Client Project #
1413.001.10.701.02

Lab Project #
**PESENVSWA-ALP**

Collected by (print):
NEW

Site/Facility ID #

P.O. # 1413.001.10.701.02
~~443018-1413001.05.601~~

Collected by (signature):
NEW
Immediately
Packed on Ice N ___ Y ✓

***Rush?*** (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1553890
B188

Table

Acctnum: **PESENVSWA**
Template: **T218236**
Prelogin: **P957562**
PM: **546 - Jared Starkey**
PB:

Shipped Via:

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 (<2) | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl (<2) | V8260ULLC 40mlAmb-HCl | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-328-110222 | Grab | GW | — | 11/2/22 | 0951 | 9 | X | X | X | X | | X | X | X | | -01 |
| MW-341-110222 | | GW | — | | 1029 | | X | X | X | X | | X | X | X | | -02 |
| MW-339-110222 | | GW | — | | 1104 | | X | X | X | X | | X | X | X | | -03 |
| MW-337-110222 | | GW | — | | 1147 | | X | X | X | X | | X | X | X | | -04 |
| MW-338-110222 | | GW | — | | 1216 | | X | X | X | X | | X | X | X | | -05 |
| MW-333-110222 | ↓ | GW | — | ↓ | 1409 | ↓ | X | X | X | X | | X | X | X | | -06 |
| | | GW | | | | | | | | NEW 11/2/22 | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |

* Matrix:
**SS** - Soil **AIR** - Air **F** - Filter
**GW** - Groundwater **B** - Bioassay
**WW** - WasteWater
**DW** - Drinking Water
**OT** - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 6094 5459 7104

Sample Receipt Checklist

| | | |
|---|---|---|
| COC Seal Present/Intact: | NP | Y N |
| COC Signed/Accurate: | | Y N |
| Bottles arrive intact: | | Y N |
| Correct bottles used: | | Y N |
| Sufficient volume sent: | | X N |
| **If Applicable** | | |
| VOA Zero Headspace: | | Y N |
| Preservation Correct/Checked: | | Y N |
| RAD Screen <0.5 mR/hr: | | Y N |

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / No HCL / MeoH TBR | If preservation required by Login: Date/Time |
|---|---|---|---|---|---|
| Natalie Winston | 11/2/22 | 1723 | | | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: °C Bottles Received: 0.7+0=0.7 59 | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: 11/4/22 Time: 9:40 | Hold: / Condition: NCF / OK |

# ANALYTICAL REPORT

November 21, 2022



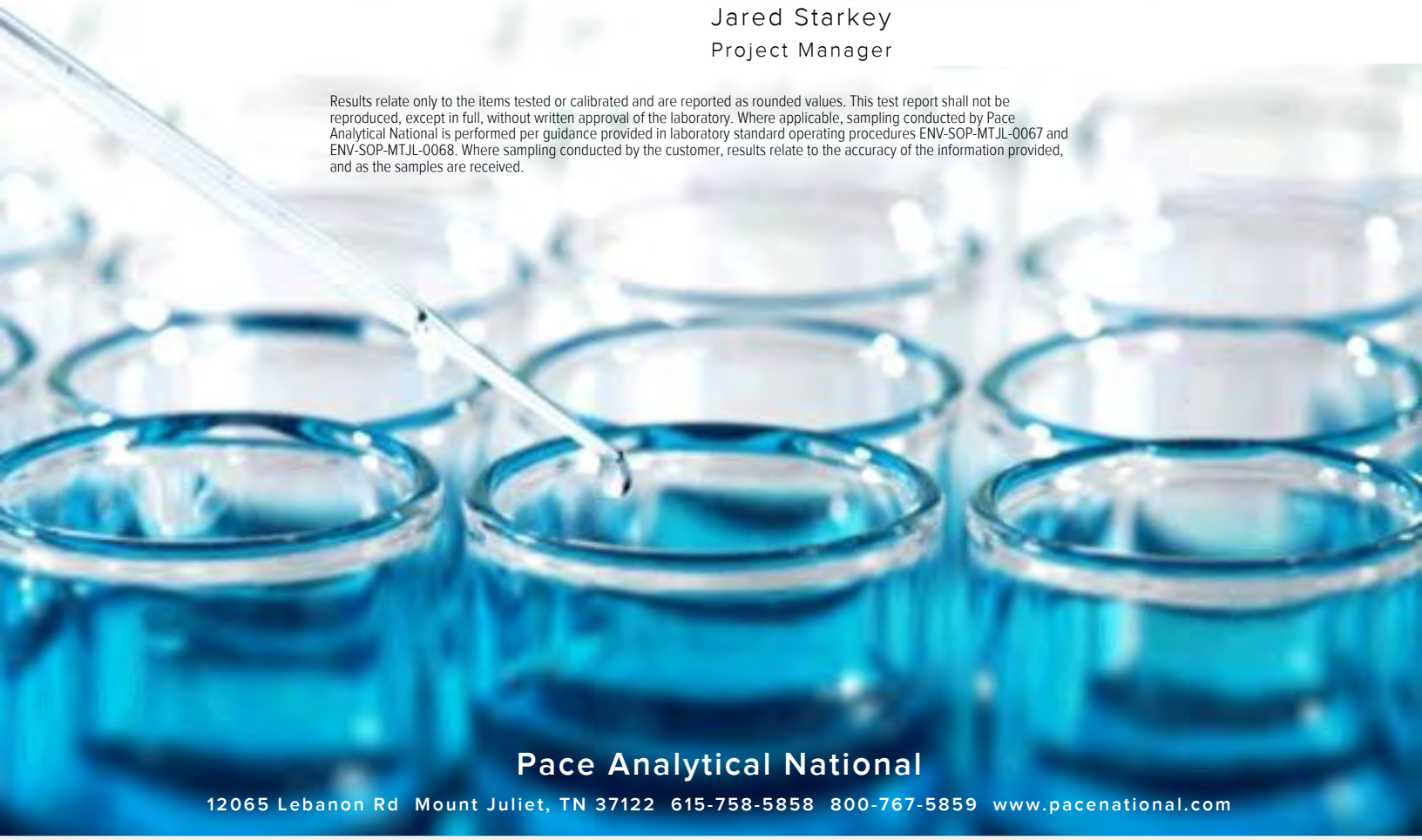
## PES Environmental, Inc.- WA

| | |
|---|---|
| Sample Delivery Group: | L1553923 |
| Samples Received: | 11/04/2022 |
| Project Number: | 1413.001.10.701.02 |
| Description: | American Linen |
| Report To: | Brian O'Neal/Bill Haldeman |
| | 2101 Fourth Ave., Suite 1310 |
| | Seattle, WA 98121 |

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## MW123-110322 L1553923-01 GW

Collected by: NEW | Collected date/time: 11/03/22 09:54 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958008 | 1 | 11/11/22 10:13 | 11/11/22 10:13 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954550 | 1 | 11/04/22 23:41 | 11/04/22 23:41 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962442 | 1 | 11/20/22 11:44 | 11/20/22 11:44 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959244 | 1 | 11/15/22 09:59 | 11/16/22 01:59 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956352 | 1 | 11/09/22 11:18 | 11/09/22 11:18 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956792 | 1 | 11/10/22 01:11 | 11/10/22 01:11 | JAH | Mt. Juliet, TN |

## MW-334-110322 L1553923-02 GW

Collected by: NEW | Collected date/time: 11/03/22 09:11 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958008 | 1 | 11/11/22 10:18 | 11/11/22 10:18 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954550 | 1 | 11/04/22 23:54 | 11/04/22 23:54 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962442 | 1 | 11/20/22 12:02 | 11/20/22 12:02 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959244 | 1 | 11/15/22 09:59 | 11/16/22 02:03 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956352 | 1 | 11/09/22 11:21 | 11/09/22 11:21 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956765 | 10 | 11/09/22 14:10 | 11/09/22 14:10 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956792 | 1 | 11/10/22 01:30 | 11/10/22 01:30 | JAH | Mt. Juliet, TN |

## MW-324-110322 L1553923-03 GW

Collected by: NEW | Collected date/time: 11/03/22 10:26 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958008 | 1 | 11/11/22 10:25 | 11/11/22 10:25 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954550 | 1 | 11/05/22 00:08 | 11/05/22 00:08 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962442 | 1 | 11/20/22 12:24 | 11/20/22 12:24 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959247 | 1 | 11/14/22 23:40 | 11/15/22 12:51 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956352 | 1 | 11/09/22 11:25 | 11/09/22 11:25 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956792 | 1 | 11/10/22 01:49 | 11/10/22 01:49 | JAH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1957713 | 25 | 11/11/22 18:17 | 11/11/22 18:17 | ACG | Mt. Juliet, TN |

## MW-335-110322 L1553923-04 GW

Collected by: NEW | Collected date/time: 11/03/22 11:00 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958008 | 1 | 11/11/22 10:30 | 11/11/22 10:30 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954550 | 1 | 11/05/22 00:22 | 11/05/22 00:22 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962442 | 1 | 11/20/22 12:39 | 11/20/22 12:39 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959247 | 1 | 11/14/22 23:40 | 11/15/22 12:55 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956352 | 1 | 11/09/22 11:28 | 11/09/22 11:28 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956792 | 1 | 11/10/22 02:08 | 11/10/22 02:08 | JAH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1957713 | 10 | 11/11/22 18:36 | 11/11/22 18:36 | ACG | Mt. Juliet, TN |

## MW-336-110322 L1553923-05 GW

Collected by: NEW | Collected date/time: 11/03/22 11:28 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958008 | 1 | 11/11/22 10:35 | 11/11/22 10:35 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954550 | 1 | 11/05/22 00:35 | 11/05/22 00:35 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962442 | 1 | 11/20/22 13:44 | 11/20/22 13:44 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959247 | 1 | 11/14/22 23:40 | 11/15/22 12:58 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956352 | 1 | 11/09/22 11:34 | 11/09/22 11:34 | JAP | Mt. Juliet, TN |

## MW-336-110322 L1553923-05 GW

Collected by: NEW
Collected date/time: 11/03/22 11:28
Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956792 | 1 | 11/10/22 02:27 | 11/10/22 02:27 | JAH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1957713 | 1 | 11/11/22 15:59 | 11/11/22 15:59 | ACG | Mt. Juliet, TN |

## MW115-110322 L1553923-06 GW

Collected by: NEW
Collected date/time: 11/03/22 12:06
Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958008 | 1 | 11/11/22 10:41 | 11/11/22 10:41 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954550 | 1 | 11/05/22 00:49 | 11/05/22 00:49 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962442 | 1 | 11/20/22 13:59 | 11/20/22 13:59 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959247 | 1 | 11/14/22 23:40 | 11/15/22 13:01 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956352 | 1 | 11/09/22 11:43 | 11/09/22 11:43 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956792 | 1 | 11/10/22 02:46 | 11/10/22 02:46 | JAH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1957713 | 1 | 11/11/22 16:19 | 11/11/22 16:19 | ACG | Mt. Juliet, TN |

## MW113-110322 L1553923-07 GW

Collected by: NEW
Collected date/time: 11/03/22 12:39
Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958008 | 1 | 11/11/22 10:47 | 11/11/22 10:47 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954550 | 1 | 11/05/22 01:03 | 11/05/22 01:03 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962442 | 1 | 11/20/22 14:20 | 11/20/22 14:20 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959247 | 1 | 11/14/22 23:40 | 11/15/22 13:13 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956352 | 1 | 11/09/22 11:47 | 11/09/22 11:47 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956792 | 1 | 11/10/22 03:06 | 11/10/22 03:06 | JAH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1957713 | 100 | 11/11/22 18:56 | 11/11/22 18:56 | ACG | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 346000 | | 8450 | 20000 | 1 | 11/11/2022 10:13 | WG1958008 |

Sample Narrative:

L1553923-01 WG1958008: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 22300 | | 379 | 1000 | 1 | 11/04/2022 23:41 | WG1954550 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/04/2022 23:41 | WG1954550 |
| Sulfate | 1770 | J | 594 | 5000 | 1 | 11/04/2022 23:41 | WG1954550 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4530 | B | 102 | 1000 | 1 | 11/20/2022 11:44 | WG1962442 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 3950 | | 28.1 | 100 | 1 | 11/16/2022 01:59 | WG1959244 |
| Manganese | 1730 | | 0.704 | 5.00 | 1 | 11/16/2022 01:59 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 5740 | | 0.287 | 0.678 | 1 | 11/09/2022 11:18 | WG1956352 |
| Ethane | 7.36 | | 0.296 | 1.29 | 1 | 11/09/2022 11:18 | WG1956352 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 11:18 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.66 | | 0.548 | 1.00 | 1 | 11/10/2022 01:11 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 01:11 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 01:11 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| Di-isopropyl ether | 0.133 | | 0.0140 | 0.0400 | 1 | 11/10/2022 01:11 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 01:11 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 01:11 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 01:11 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 01:11 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 01:11 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 01:11 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 01:11 | WG1956792 |
| Ethyl Ether | 0.427 | | 0.0170 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 01:11 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/10/2022 01:11* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/10/2022 01:11* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *97.5* | | | *70.0-130* | | *11/10/2022 01:11* | WG1956792 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 1240000 | | 8450 | 20000 | 1 | 11/11/2022 10:18 | WG1958008 |

Sample Narrative:

L1553923-02 WG1958008: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 26200 | | 379 | 1000 | 1 | 11/04/2022 23:54 | WG1954550 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/04/2022 23:54 | WG1954550 |
| Sulfate | U | | 594 | 5000 | 1 | 11/04/2022 23:54 | WG1954550 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 8910 | | 102 | 1000 | 1 | 11/20/2022 12:02 | WG1962442 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 10300 | | 28.1 | 100 | 1 | 11/16/2022 02:03 | WG1959244 |
| Manganese | 612 | | 0.704 | 5.00 | 1 | 11/16/2022 02:03 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 22300 | | 2.87 | 6.78 | 10 | 11/09/2022 14:10 | WG1956765 |
| Ethane | 4.35 | | 0.296 | 1.29 | 1 | 11/09/2022 11:21 | WG1956352 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 11:21 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/10/2022 01:30 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 01:30 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 01:30 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 01:30 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 01:30 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 01:30 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 01:30 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 01:30 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 01:30 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 01:30 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 01:30 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 01:30 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/10/2022 01:30* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *98.8* | | | *67.0-138* | | *11/10/2022 01:30* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *97.6* | | | *70.0-130* | | *11/10/2022 01:30* | WG1956792 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 611000 | | 8450 | 20000 | 1 | 11/11/2022 10:25 | WG1958008 |

Sample Narrative:

L1553923-03 WG1958008: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 19800 | | 379 | 1000 | 1 | 11/05/2022 00:08 | WG1954550 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 00:08 | WG1954550 |
| Sulfate | 90200 | | 594 | 5000 | 1 | 11/05/2022 00:08 | WG1954550 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 8110 | | 102 | 1000 | 1 | 11/20/2022 12:24 | WG1962442 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 7530 | | 28.1 | 100 | 1 | 11/15/2022 12:51 | WG1959247 |
| Manganese | 2080 | | 0.704 | 5.00 | 1 | 11/15/2022 12:51 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 1710 | | 0.287 | 0.678 | 1 | 11/09/2022 11:25 | WG1956352 |
| Ethane | 21.2 | | 0.296 | 1.29 | 1 | 11/09/2022 11:25 | WG1956352 |
| Ethene | 5.80 | | 0.422 | 1.27 | 1 | 11/09/2022 11:25 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/10/2022 01:49 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| Benzene | 1.03 | | 0.0160 | 0.0400 | 1 | 11/10/2022 01:49 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 01:49 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,1-Dichloroethane | 0.106 | | 0.0230 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,1-Dichloroethene | 4.53 | | 0.0200 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| cis-1,2-Dichloroethene | 1650 | | 0.690 | 2.50 | 25 | 11/11/2022 18:17 | WG1957713 |
| trans-1,2-Dichloroethene | 6.55 | | 0.0572 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 01:49 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 01:49 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 01:49 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 01:49 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 01:49 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 01:49 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| Trichloroethene | 0.147 | | 0.0160 | 0.0400 | 1 | 11/10/2022 01:49 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| Vinyl chloride | 74.0 | | 0.682 | 2.50 | 25 | 11/11/2022 18:17 | WG1957713 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 01:49 | WG1956792 |
| Ethyl Ether | 0.159 | | 0.0170 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 01:49 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/10/2022 01:49* | WG1956792 |
| *(S) Toluene-d8* | *110* | | | *75.0-131* | | *11/11/2022 18:17* | WG1957713 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/10/2022 01:49* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *98.0* | | | *67.0-138* | | *11/11/2022 18:17* | WG1957713 |
| *(S) 1,2-Dichloroethane-d4* | *96.8* | | | *70.0-130* | | *11/10/2022 01:49* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *106* | | | *70.0-130* | | *11/11/2022 18:17* | WG1957713 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 280000 | | 8450 | 20000 | 1 | 11/11/2022 10:30 | WG1958008 |

Sample Narrative:

L1553923-04 WG1958008: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 24300 | | 379 | 1000 | 1 | 11/05/2022 00:22 | WG1954550 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 00:22 | WG1954550 |
| Sulfate | 86700 | | 594 | 5000 | 1 | 11/05/2022 00:22 | WG1954550 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 2520 | B | 102 | 1000 | 1 | 11/20/2022 12:39 | WG1962442 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 135 | | 28.1 | 100 | 1 | 11/15/2022 12:55 | WG1959247 |
| Manganese | 1170 | | 0.704 | 5.00 | 1 | 11/15/2022 12:55 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 338 | | 0.287 | 0.678 | 1 | 11/09/2022 11:28 | WG1956352 |
| Ethane | 3.60 | | 0.296 | 1.29 | 1 | 11/09/2022 11:28 | WG1956352 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 11:28 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/10/2022 02:08 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 |
| Benzene | 0.278 | | 0.0160 | 0.0400 | 1 | 11/10/2022 02:08 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 02:08 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,1-Dichloroethene | 1.12 | | 0.0200 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| cis-1,2-Dichloroethene | 512 | | 0.276 | 1.00 | 10 | 11/11/2022 18:36 | WG1957713 |
| trans-1,2-Dichloroethene | 1.66 | | 0.0572 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 02:08 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 02:08 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 02:08 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 02:08 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 02:08 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 02:08 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| Tetrachloroethene | 125 | | 0.280 | 1.00 | 10 | 11/11/2022 18:36 | WG1957713 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| Trichloroethene | 220 | | 0.160 | 0.400 | 10 | 11/11/2022 18:36 | WG1957713 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| Vinyl chloride | U | | 0.273 | 1.00 | 10 | 11/11/2022 18:36 | WG1957713 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 02:08 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| Tetrahydrofuran | 0.198 | J | 0.0900 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 02:08 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/10/2022 02:08* | WG1956792 |
| *(S) Toluene-d8* | *114* | | | *75.0-131* | | *11/11/2022 18:36* | WG1957713 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/10/2022 02:08* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *99.8* | | | *67.0-138* | | *11/11/2022 18:36* | WG1957713 |
| *(S) 1,2-Dichloroethane-d4* | *97.4* | | | *70.0-130* | | *11/10/2022 02:08* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *103* | | | *70.0-130* | | *11/11/2022 18:36* | WG1957713 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 256000 | | 8450 | 20000 | 1 | 11/11/2022 10:35 | WG1958008 |

Sample Narrative:

L1553923-05 WG1958008: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 39600 | | 379 | 1000 | 1 | 11/05/2022 00:35 | WG1954550 |
| Nitrate | 830 | | 48.0 | 100 | 1 | 11/05/2022 00:35 | WG1954550 |
| Sulfate | 60400 | | 594 | 5000 | 1 | 11/05/2022 00:35 | WG1954550 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1700 | B | 102 | 1000 | 1 | 11/20/2022 13:44 | WG1962442 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | U | | 28.1 | 100 | 1 | 11/15/2022 12:58 | WG1959247 |
| Manganese | 1.01 | J | 0.704 | 5.00 | 1 | 11/15/2022 12:58 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 1.56 | P1 | 0.287 | 0.678 | 1 | 11/09/2022 11:34 | WG1956352 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 11:34 | WG1956352 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 11:34 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/10/2022 02:27 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 02:27 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 02:27 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| cis-1,2-Dichloroethene | 14.5 | | 0.0276 | 0.100 | 1 | 11/11/2022 15:59 | WG1957713 |
| trans-1,2-Dichloroethene | 0.127 | J | 0.0572 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 02:27 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 02:27 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 02:27 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 02:27 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 02:27 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 02:27 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| Tetrachloroethene | 0.0840 | J | 0.0280 | 0.100 | 1 | 11/11/2022 15:59 | WG1957713 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| Trichloroethene | 0.657 | | 0.0160 | 0.0400 | 1 | 11/11/2022 15:59 | WG1957713 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 02:27 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 02:27 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/10/2022 02:27* | WG1956792 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/11/2022 15:59* | WG1957713 |
| *(S) 4-Bromofluorobenzene* | *99.4* | | | *67.0-138* | | *11/10/2022 02:27* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *98.4* | | | *67.0-138* | | *11/11/2022 15:59* | WG1957713 |
| *(S) 1,2-Dichloroethane-d4* | *98.1* | | | *70.0-130* | | *11/10/2022 02:27* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *105* | | | *70.0-130* | | *11/11/2022 15:59* | WG1957713 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 302000 | | 8450 | 20000 | 1 | 11/11/2022 10:41 | WG1958008 |

Sample Narrative:

L1553923-06 WG1958008: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 24300 | | 379 | 1000 | 1 | 11/05/2022 00:49 | WG1954550 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 00:49 | WG1954550 |
| Sulfate | 21600 | | 594 | 5000 | 1 | 11/05/2022 00:49 | WG1954550 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 4510 | B | 102 | 1000 | 1 | 11/20/2022 13:59 | WG1962442 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 4050 | | 28.1 | 100 | 1 | 11/15/2022 13:01 | WG1959247 |
| Manganese | 1030 | | 0.704 | 5.00 | 1 | 11/15/2022 13:01 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 523 | | 0.287 | 0.678 | 1 | 11/09/2022 11:43 | WG1956352 |
| Ethane | 6.06 | P1 | 0.296 | 1.29 | 1 | 11/09/2022 11:43 | WG1956352 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 11:43 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/10/2022 02:46 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 02:46 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 02:46 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| cis-1,2-Dichloroethene | 0.103 | | 0.0276 | 0.100 | 1 | 11/11/2022 16:19 | WG1957713 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 02:46 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 02:46 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 02:46 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 02:46 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 02:46 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 02:46 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| Tetrachloroethene | 0.0760 | J | 0.0280 | 0.100 | 1 | 11/11/2022 16:19 | WG1957713 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 02:46 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| Vinyl chloride | 0.253 | | 0.0273 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 02:46 | WG1956792 |
| Ethyl Ether | 0.149 | | 0.0170 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 02:46 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/10/2022 02:46* | WG1956792 |
| *(S) Toluene-d8* | *115* | | | *75.0-131* | | *11/11/2022 16:19* | WG1957713 |
| *(S) 4-Bromofluorobenzene* | *99.4* | | | *67.0-138* | | *11/10/2022 02:46* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *11/11/2022 16:19* | WG1957713 |
| *(S) 1,2-Dichloroethane-d4* | *98.6* | | | *70.0-130* | | *11/10/2022 02:46* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *107* | | | *70.0-130* | | *11/11/2022 16:19* | WG1957713 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 526000 | | 8450 | 20000 | 1 | 11/11/2022 10:47 | WG1958008 |

Sample Narrative:

L1553923-07 WG1958008: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 67600 | | 379 | 1000 | 1 | 11/05/2022 01:03 | WG1954550 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 01:03 | WG1954550 |
| Sulfate | 68600 | | 594 | 5000 | 1 | 11/05/2022 01:03 | WG1954550 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 14000 | | 102 | 1000 | 1 | 11/20/2022 14:20 | WG1962442 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 8940 | | 28.1 | 100 | 1 | 11/15/2022 13:13 | WG1959247 |
| Manganese | 898 | | 0.704 | 5.00 | 1 | 11/15/2022 13:13 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 1360 | | 0.287 | 0.678 | 1 | 11/09/2022 11:47 | WG1956352 |
| Ethane | 46.5 | | 0.296 | 1.29 | 1 | 11/09/2022 11:47 | WG1956352 |
| Ethene | 10.8 | | 0.422 | 1.27 | 1 | 11/09/2022 11:47 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 1.80 | | 0.548 | 1.00 | 1 | 11/10/2022 03:06 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| Benzene | 2.29 | | 0.0160 | 0.0400 | 1 | 11/10/2022 03:06 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 03:06 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,1-Dichloroethane | 0.160 | | 0.0230 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,1-Dichloroethene | 7.74 | | 0.0200 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| cis-1,2-Dichloroethene | 5530 | | 2.76 | 10.0 | 100 | 11/11/2022 18:56 | WG1957713 |
| trans-1,2-Dichloroethene | 15.0 | | 0.0572 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,2-Dichloropropane | 0.117 | J | 0.0508 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 03:06 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 03:06 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 03:06 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 03:06 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 03:06 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 03:06 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| Tetrachloroethene | 20.8 | | 0.0280 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| Trichloroethene | 43.9 | | 0.0160 | 0.0400 | 1 | 11/10/2022 03:06 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| Vinyl chloride | 24.6 | | 0.0273 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 03:06 | WG1956792 |
| Ethyl Ether | 0.149 | | 0.0170 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| Tetrahydrofuran | 0.276 | J | 0.0900 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 03:06 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/10/2022 03:06* | WG1956792 |
| *(S) Toluene-d8* | *116* | | | *75.0-131* | | *11/11/2022 18:56* | WG1957713 |
| *(S) 4-Bromofluorobenzene* | *106* | | | *67.0-138* | | *11/10/2022 03:06* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/11/2022 18:56* | WG1957713 |
| *(S) 1,2-Dichloroethane-d4* | *97.6* | | | *70.0-130* | | *11/10/2022 03:06* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *108* | | | *70.0-130* | | *11/11/2022 18:56* | WG1957713 |

## Method Blank (MB)

(MB) R3859970-2 11/11/22 10:06

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1553978-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1553978-01 11/11/22 10:51 • (DUP) R3859970-3 11/11/22 11:05

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 225000 | 227000 | 1 | 0.715 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

## L1554093-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1554093-02 11/11/22 12:16 • (DUP) R3859970-4 11/11/22 12:21

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 709000 | 718000 | 1 | 1.34 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3859970-1 11/11/22 10:00

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 100000 | 100 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Method Blank (MB)

(MB) R3857983-1 11/04/22 20:28

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1553920-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1553920-08 11/04/22 22:04 • (DUP) R3857983-3 11/04/22 22:18

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 16600 | 16400 | 1 | 1.27 | | 15 |
| Nitrate | 665 | 656 | 1 | 1.44 | | 15 |
| Sulfate | 44600 | 44400 | 1 | 0.414 | | 15 |

## L1553923-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1553923-07 11/05/22 01:03 • (DUP) R3857983-6 11/05/22 01:17

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 67600 | 67600 | 1 | 0.0549 | | 15 |
| Nitrate | U | U | 1 | 0.000 | | 15 |
| Sulfate | 68600 | 68500 | 1 | 0.0276 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3857983-2 11/04/22 20:42

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 39200 | 98.0 | 80.0-120 | |
| Nitrate | 8000 | 7580 | 94.7 | 80.0-120 | |
| Sulfate | 40000 | 38300 | 95.8 | 80.0-120 | |

## L1553920-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553920-08 11/04/22 22:04 • (MS) R3857983-4 11/04/22 22:32 • (MSD) R3857983-5 11/04/22 23:13

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 16600 | 67100 | 65200 | 101 | 97.0 | 1 | 80.0-120 | | | 2.98 | 15 |
| Nitrate | 5000 | 665 | 5340 | 5180 | 93.5 | 90.2 | 1 | 80.0-120 | | | 3.16 | 15 |
| Sulfate | 50000 | 44600 | 92600 | 89200 | 96.0 | 89.2 | 1 | 80.0-120 | | | 3.73 | 15 |

## L1553923-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L1553923-07 11/05/22 01:03 • (MS) R3857983-7 11/05/22 01:58

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 67600 | 117000 | 99.4 | 1 | 80.0-120 | |
| Nitrate | 5000 | U | 4540 | 90.8 | 1 | 80.0-120 | |
| Sulfate | 50000 | 68600 | 115000 | 93.6 | 1 | 80.0-120 | |

## Method Blank (MB)

(MB) R3863238-2 11/20/22 06:48

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 751 | J | 102 | 1000 |

## L1553899-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1553899-04 11/20/22 09:22 • (DUP) R3863238-7 11/20/22 09:47

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 5320 | 5100 | 1 | 4.19 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3863238-1 11/20/22 06:32

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 74600 | 99.4 | 85.0-115 | |

## L1553899-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553899-02 11/20/22 08:02 • (MS) R3863238-5 11/20/22 08:28 • (MSD) R3863238-6 11/20/22 08:48

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 2720 | 50500 | 51700 | 95.6 | 97.9 | 1 | 80.0-120 | | | 2.27 | 20 |

## Method Blank (MB)

(MB) R3861544-1 11/16/22 00:40

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3861544-2 11/16/22 00:43

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Iron | 5000 | 4960 | 99.2 | 80.0-120 | |
| Manganese | 50.0 | 50.9 | 102 | 80.0-120 | |

## L1553859-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553859-04 11/16/22 00:47 • (MS) R3861544-4 11/16/22 00:53 • (MSD) R3861544-5 11/16/22 00:57

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Iron | 5000 | 2980 | 8080 | 8030 | 102 | 101 | 1 | 75.0-125 | | | 0.678 | 20 |
| Manganese | 50.0 | 1020 | 1090 | 1070 | 128 | 100 | 1 | 75.0-125 | V | | 1.27 | 20 |

## Method Blank (MB)

(MB) R3861160-2 11/15/22 12:32

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3861160-3 11/15/22 12:35

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Iron | 5000 | 4830 | 96.6 | 80.0-120 | |
| Manganese | 50.0 | 51.7 | 103 | 80.0-120 | |

## L1553987-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553987-02 11/15/22 12:38 • (MS) R3861160-5 11/15/22 12:45 • (MSD) R3861160-6 11/15/22 12:48

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Iron | 5000 | 9560 | 14400 | 14400 | 96.2 | 96.5 | 1 | 75.0-125 | | | 0.108 | 20 |
| Manganese | 50.0 | 1050 | 1100 | 1110 | 98.3 | 119 | 1 | 75.0-125 | | | 0.953 | 20 |

## Method Blank (MB)

(MB) R3858826-2 11/09/22 10:58

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1553923-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1553923-05 11/09/22 11:34 • (DUP) R3858826-3 11/09/22 11:38

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 1.56 | 2.39 | 1 | 42.0 | P1 | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1553923-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1553923-06 11/09/22 11:43 • (DUP) R3858826-4 11/09/22 12:27

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 523 | 527 | 1 | 0.762 | | 20 |
| Ethane | 6.06 | 4.30 | 1 | 34.0 | P1 | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3858826-1 11/09/22 10:50 • (LCSD) R3858826-5 11/09/22 12:31

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 71.7 | 70.0 | 106 | 103 | 85.0-115 | | | 2.40 | 20 |
| Ethane | 129 | 120 | 117 | 93.0 | 90.7 | 85.0-115 | | | 2.53 | 20 |
| Ethene | 127 | 121 | 118 | 95.3 | 92.9 | 85.0-115 | | | 2.51 | 20 |

## Method Blank (MB)

(MB) R3859035-2 11/09/22 13:47

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Methane | U | | 0.287 | 0.678 |

## L1553979-27 Original Sample (OS) • Duplicate (DUP)

(OS) L1553979-27 11/09/22 14:13 • (DUP) R3859035-3 11/09/22 14:43

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | 7210 | 7800 | 10 | 7.86 | | 20 |

## L1553987-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1553987-02 11/09/22 15:47 • (DUP) R3859035-4 11/09/22 15:54

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | 33.5 | 26.5 | 1 | 23.3 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859035-1 11/09/22 13:44 • (LCSD) R3859035-7 11/09/22 16:03

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 71.0 | 67.2 | 105 | 99.1 | 85.0-115 | | | 5.50 | 20 |

## L1553979-31 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553979-31 11/09/22 14:38 • (MS) R3859035-5 11/09/22 15:56 • (MSD) R3859035-6 11/09/22 15:59

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 678 | 10600 | 10400 | 11100 | 0.000 | 73.7 | 10 | 85.0-115 | V | V | 6.51 | 20 |

## Method Blank (MB)

(MB) R3859639-3 11/09/22 19:03

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3859639-3 11/09/22 19:03

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *99.7* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *95.4* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859639-1 11/09/22 17:33 • (LCSD) R3859639-2 11/09/22 18:05

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 26.7 | 27.4 | 107 | 110 | 10.0-160 | | | 2.59 | 31 |
| Acrylonitrile | 25.0 | 27.0 | 27.2 | 108 | 109 | 45.0-153 | | | 0.738 | 22 |
| Benzene | 5.00 | 5.25 | 5.31 | 105 | 106 | 70.0-123 | | | 1.14 | 20 |
| Bromobenzene | 5.00 | 5.15 | 5.27 | 103 | 105 | 73.0-121 | | | 2.30 | 20 |
| Bromodichloromethane | 5.00 | 5.54 | 5.40 | 111 | 108 | 73.0-121 | | | 2.56 | 20 |
| Bromoform | 5.00 | 5.04 | 4.84 | 101 | 96.8 | 64.0-132 | | | 4.05 | 20 |
| Bromomethane | 5.00 | 4.47 | 4.64 | 89.4 | 92.8 | 56.0-147 | | | 3.73 | 20 |
| n-Butylbenzene | 5.00 | 5.13 | 5.40 | 103 | 108 | 68.0-135 | | | 5.13 | 20 |
| sec-Butylbenzene | 5.00 | 5.60 | 5.74 | 112 | 115 | 74.0-130 | | | 2.47 | 20 |
| tert-Butylbenzene | 5.00 | 5.28 | 5.40 | 106 | 108 | 75.0-127 | | | 2.25 | 20 |
| Carbon tetrachloride | 5.00 | 5.28 | 5.18 | 106 | 104 | 66.0-128 | | | 1.91 | 20 |
| Chlorobenzene | 5.00 | 5.16 | 5.07 | 103 | 101 | 76.0-128 | | | 1.76 | 20 |
| Chlorodibromomethane | 5.00 | 5.53 | 5.32 | 111 | 106 | 74.0-127 | | | 3.87 | 20 |
| Chloroethane | 5.00 | 4.89 | 4.59 | 97.8 | 91.8 | 61.0-134 | | | 6.33 | 20 |
| Chloroform | 5.00 | 5.12 | 5.02 | 102 | 100 | 72.0-123 | | | 1.97 | 20 |
| Chloromethane | 5.00 | 5.00 | 4.56 | 100 | 91.2 | 51.0-138 | | | 9.21 | 20 |
| 2-Chlorotoluene | 5.00 | 5.40 | 5.50 | 108 | 110 | 75.0-124 | | | 1.83 | 20 |
| 4-Chlorotoluene | 5.00 | 5.54 | 5.95 | 111 | 119 | 75.0-124 | | | 7.14 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.49 | 4.55 | 89.8 | 91.0 | 59.0-130 | | | 1.33 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.23 | 5.31 | 105 | 106 | 74.0-128 | | | 1.52 | 20 |
| Dibromomethane | 5.00 | 5.43 | 5.81 | 109 | 116 | 75.0-122 | | | 6.76 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 4.80 | 5.00 | 96.0 | 100 | 76.0-124 | | | 4.08 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 5.16 | 5.20 | 103 | 104 | 76.0-125 | | | 0.772 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 5.00 | 5.12 | 100 | 102 | 77.0-121 | | | 2.37 | 20 |
| Dichlorodifluoromethane | 5.00 | 4.67 | 4.56 | 93.4 | 91.2 | 43.0-156 | | | 2.38 | 20 |
| 1,1-Dichloroethane | 5.00 | 5.29 | 5.16 | 106 | 103 | 70.0-127 | | | 2.49 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.73 | 4.84 | 94.6 | 96.8 | 65.0-131 | | | 2.30 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.29 | 5.00 | 106 | 100 | 65.0-131 | | | 5.64 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.35 | 5.18 | 107 | 104 | 73.0-125 | | | 3.23 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.44 | 5.26 | 109 | 105 | 71.0-125 | | | 3.36 | 20 |
| 1,2-Dichloropropane | 5.00 | 5.23 | 5.18 | 105 | 104 | 74.0-125 | | | 0.961 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.48 | 5.04 | 110 | 101 | 73.0-125 | | | 8.37 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.02 | 5.02 | 100 | 100 | 80.0-125 | | | 0.000 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 5.24 | 5.31 | 105 | 106 | 76.0-127 | | | 1.33 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 5.14 | 4.93 | 103 | 98.6 | 73.0-127 | | | 4.17 | 20 |
| 2,2-Dichloropropane | 5.00 | 5.54 | 5.28 | 111 | 106 | 59.0-135 | | | 4.81 | 20 |
| Di-isopropyl ether | 5.00 | 5.29 | 5.30 | 106 | 106 | 60.0-136 | | | 0.189 | 20 |
| Ethylbenzene | 5.00 | 5.14 | 5.15 | 103 | 103 | 74.0-126 | | | 0.194 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 4.43 | 4.21 | 88.6 | 84.2 | 57.0-150 | | | 5.09 | 20 |
| Isopropylbenzene | 5.00 | 5.62 | 5.52 | 112 | 110 | 72.0-127 | | | 1.80 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859639-1 11/09/22 17:33 • (LCSD) R3859639-2 11/09/22 18:05

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.40 | 5.70 | 108 | 114 | 72.0-133 | | | 5.41 | 20 |
| 2-Butanone (MEK) | 25.0 | 26.3 | 27.0 | 105 | 108 | 30.0-160 | | | 2.63 | 24 |
| Methylene Chloride | 5.00 | 5.12 | 5.30 | 102 | 106 | 68.0-123 | | | 3.45 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 29.7 | 30.7 | 119 | 123 | 56.0-143 | | | 3.31 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.17 | 5.43 | 103 | 109 | 66.0-132 | | | 4.91 | 20 |
| Naphthalene | 5.00 | 4.36 | 4.44 | 87.2 | 88.8 | 59.0-130 | | | 1.82 | 20 |
| n-Propylbenzene | 5.00 | 5.77 | 5.68 | 115 | 114 | 74.0-126 | | | 1.57 | 20 |
| Styrene | 5.00 | 5.21 | 5.21 | 104 | 104 | 72.0-127 | | | 0.000 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.34 | 5.19 | 107 | 104 | 74.0-129 | | | 2.85 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.99 | 5.24 | 99.8 | 105 | 68.0-128 | | | 4.89 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.38 | 5.32 | 108 | 106 | 61.0-139 | | | 1.12 | 20 |
| Tetrachloroethene | 5.00 | 5.49 | 5.35 | 110 | 107 | 70.0-136 | | | 2.58 | 20 |
| Toluene | 5.00 | 5.32 | 5.16 | 106 | 103 | 75.0-121 | | | 3.05 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.64 | 4.39 | 92.8 | 87.8 | 59.0-139 | | | 5.54 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.01 | 4.36 | 80.2 | 87.2 | 62.0-137 | | | 8.36 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.12 | 5.18 | 102 | 104 | 69.0-126 | | | 1.17 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.25 | 5.22 | 105 | 104 | 78.0-123 | | | 0.573 | 20 |
| Trichloroethene | 5.00 | 5.35 | 4.99 | 107 | 99.8 | 76.0-126 | | | 6.96 | 20 |
| Trichlorofluoromethane | 5.00 | 5.79 | 5.73 | 116 | 115 | 61.0-142 | | | 1.04 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 5.34 | 5.68 | 107 | 114 | 67.0-129 | | | 6.17 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.39 | 5.40 | 108 | 108 | 70.0-126 | | | 0.185 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.10 | 5.27 | 102 | 105 | 74.0-124 | | | 3.28 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.49 | 5.63 | 110 | 113 | 73.0-127 | | | 2.52 | 20 |
| Vinyl chloride | 5.00 | 5.28 | 4.75 | 106 | 95.0 | 63.0-134 | | | 10.6 | 20 |
| Xylenes, Total | 15.0 | 14.7 | 15.7 | 98.0 | 105 | 72.0-127 | | | 6.58 | 20 |
| Ethyl ether | 5.00 | 5.32 | 5.41 | 106 | 108 | 64.0-137 | | | 1.68 | 20 |
| Tetrahydrofuran | 5.00 | 4.44 | 4.87 | 88.8 | 97.4 | 37.0-146 | | | 9.24 | 24 |
| Iodomethane | 25.0 | 26.5 | 25.6 | 106 | 102 | 74.0-134 | | | 3.45 | 20 |
| Allyl chloride | 25.0 | 26.4 | 25.1 | 106 | 100 | 70.0-131 | | | 5.05 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 3.82 | 4.25 | 76.4 | 85.0 | 45.0-143 | | | 10.7 | 20 |
| *(S) Toluene-d8* | | | | *107* | *104* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *99.1* | *97.4* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *98.9* | *96.3* | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R3860811-2 11/11/22 12:10

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| *(S) Toluene-d8* | *115* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *106* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3860811-1 11/11/22 10:51 • (LCSD) R3860811-3 11/11/22 13:22

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| cis-1,2-Dichloroethene | 5.00 | 4.65 | 5.01 | 93.0 | 100 | 73.0-125 | | | 7.45 | 20 |
| Tetrachloroethene | 5.00 | 4.68 | 4.75 | 93.6 | 95.0 | 70.0-136 | | | 1.48 | 20 |
| Trichloroethene | 5.00 | 4.61 | 4.99 | 92.2 | 99.8 | 76.0-126 | | | 7.92 | 20 |
| Vinyl chloride | 5.00 | 4.62 | 4.15 | 92.4 | 83.0 | 63.0-134 | | | 10.7 | 20 |
| *(S) Toluene-d8* | | | | *108* | *106* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *105* | *106* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *106* | *110* | *70.0-130* | | | | |

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| B | The same analyte is found in the associated blank. |
| C3 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable. |
| C4 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result. |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| P1 | RPD value not applicable for sample concentrations less than 5 times the reporting limit. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LAO000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Billing Information:
Attn: Accounts Payable
2101 4th Avenue, Suite 1310
Seattle, WA 98121

Pres Chk

Report to:
Brian O'Neal/Bill Haldeman

Email To:
Shannon.McKernan@nv5.com;brian.oneal@nv5

Project Description:
American Linen

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: 206-529-3980

Client Project #
1413.001.10.701.02

Lab Project #
PESENVSWA-ALP

Collected by (print):
NEW

Site/Facility ID #

P.O. # 1413.001.10.701.02
~~443018-1413001.05.001~~

Collected by (signature):
NEW

Immediately Packed on Ice N ___ Y ✓

*Rush?* (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | | | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW123-110322 | Grab | GW | — | 11/3/22 | 0954 | 9 | X | X | X | X | | X | X | X | | | | 61 |
| MW-334-110322 | | GW | | | 0911 | | X | X | X | X | | X | X | X | | | | 02 |
| MW-324-110322 | | GW | | | 1026 | | X | X | X | X | | X | X | X | | | | 03 |
| MW-335-110322 | | GW | | | 1100 | | X | X | X | X | | X | X | X | | | | 04 |
| MW-336-110322 | | GW | | | 1128 | | X | X | X | X | | X | X | X | | | | 05 |
| MW115-110322 | | GW | | | 1206 | | X | X | X | X | | X | X | X | | | | 06 |
| MW113-110322 | ↓ | GW | ↓ | ↓ | 1239 | ↓ | X | X | X | X | | X | X | X | | | | 07 |
| | | GW | | | | | | | | NEW | | | | | | | | |
| | | GW | | | | | | | | 11/3/22 | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1553923

G076

Acctnum: PESENVSWA
Template: T218236
Prelogin: P957562
PM: 546 - Jared Starkey
PB: JH 10/17/22
Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

**Remarks:**

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 6094 5459 7192

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: ✓Y __N
Preservation Correct/Checked: ✓Y __N
RAD Screen <0.5 mR/hr: ✓Y __N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / (No) HCL / MeoH TBR | If preservation required by Login: Date/Time |
|---|---|---|---|---|---|
| Natalie Wilson | 11/3/22 | 1544 | | | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: .9 +0=.9 °C (FAC) Bottles Received: 63 | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: 11/4/22 Time: 0900 | Hold: Condition: NCF / OK |

# ANALYTICAL REPORT

November 23, 2022



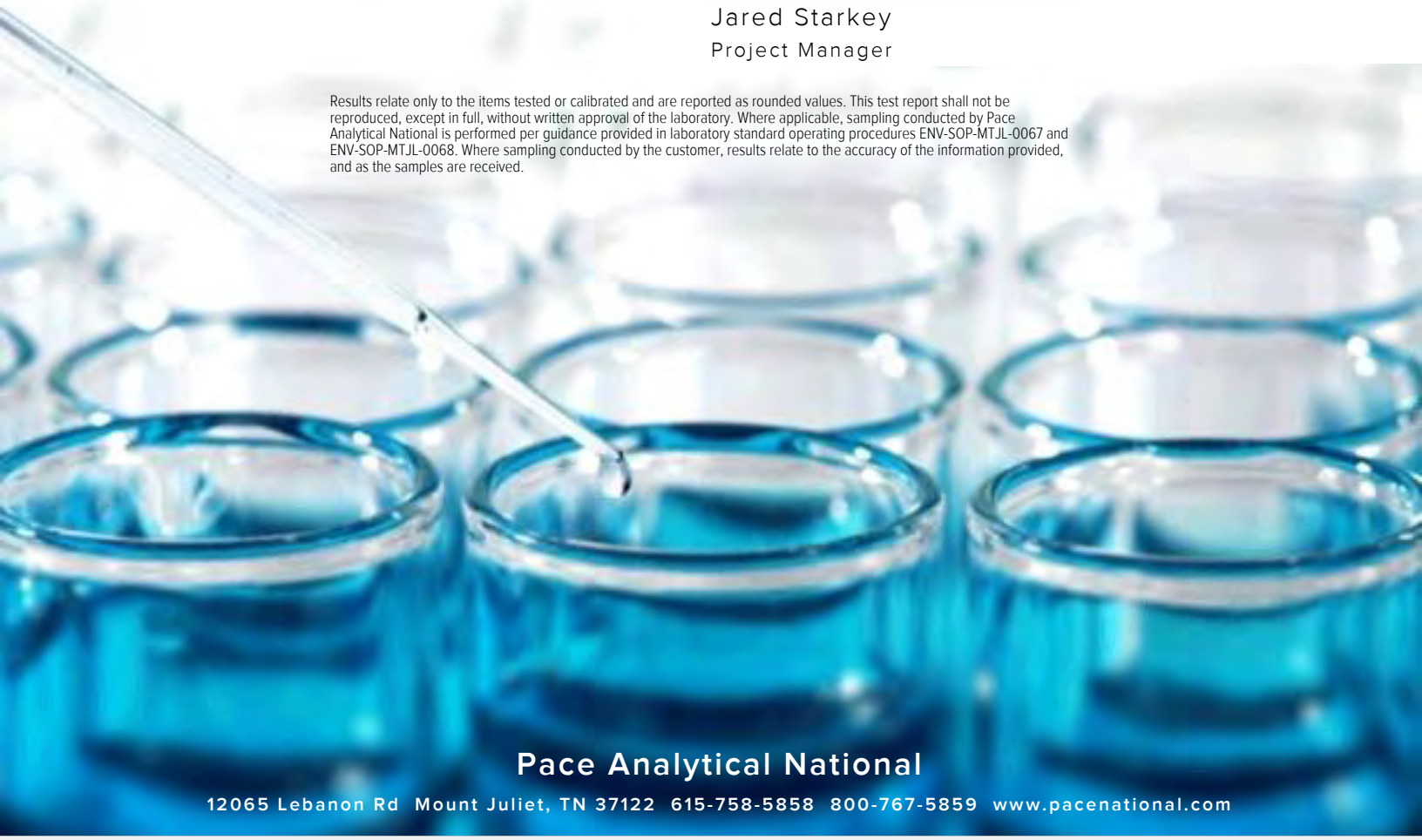
## PES Environmental, Inc.- WA

| | |
|---|---|
| Sample Delivery Group: | L1553987 |
| Samples Received: | 11/04/2022 |
| Project Number: | 1413.001.10.701.02 |
| Description: | American Linen |
| Report To: | Brian O'Neal/Bill Haldeman |
| | 2101 Fourth Ave., Suite 1310 |
| | Seattle, WA 98121 |

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## FMW-141-110322 L1553987-01 GW

Collected by: NEW | Collected date/time: 11/03/22 10:10 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958008 | 1 | 11/11/22 11:26 | 11/11/22 11:26 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954627 | 1 | 11/05/22 07:40 | 11/05/22 07:40 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962603 | 1 | 11/22/22 09:36 | 11/22/22 09:36 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959247 | 1 | 11/14/22 23:40 | 11/15/22 13:16 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956765 | 1 | 11/09/22 15:31 | 11/09/22 15:31 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956792 | 1 | 11/10/22 03:25 | 11/10/22 03:25 | JAH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1957713 | 5 | 11/11/22 19:15 | 11/11/22 19:15 | ACG | Mt. Juliet, TN |

## SCL-MW101-110322 L1553987-02 GW

Collected by: NEW | Collected date/time: 11/03/22 11:40 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958008 | 1 | 11/11/22 11:32 | 11/11/22 11:32 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954627 | 1 | 11/05/22 09:03 | 11/05/22 09:03 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962603 | 1 | 11/22/22 09:51 | 11/22/22 09:51 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959247 | 1 | 11/14/22 23:40 | 11/15/22 12:38 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956765 | 1 | 11/09/22 15:47 | 11/09/22 15:47 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956792 | 1 | 11/10/22 03:44 | 11/10/22 03:44 | JAH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1957713 | 1 | 11/11/22 16:38 | 11/11/22 16:38 | ACG | Mt. Juliet, TN |

## TB-110322 L1553987-03 GW

Collected by: NEW | Collected date/time: 11/03/22 00:00 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956793 | 1 | 11/10/22 20:00 | 11/10/22 20:00 | ACG | Mt. Juliet, TN |

## MW-153-110322 L1553987-04 GW

Collected by: NEW | Collected date/time: 11/03/22 12:37 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958008 | 1 | 11/11/22 11:37 | 11/11/22 11:37 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954627 | 1 | 11/05/22 09:30 | 11/05/22 09:30 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962603 | 1 | 11/22/22 10:04 | 11/22/22 10:04 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959244 | 1 | 11/15/22 09:59 | 11/16/22 02:09 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1956765 | 1 | 11/09/22 15:50 | 11/09/22 15:50 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956793 | 1 | 11/10/22 23:06 | 11/10/22 23:06 | ACG | Mt. Juliet, TN |

## MW-146-110322 L1553987-05 GW

Collected by: NEW | Collected date/time: 11/03/22 11:56 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958008 | 1 | 11/11/22 11:44 | 11/11/22 11:44 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954627 | 1 | 11/05/22 09:44 | 11/05/22 09:44 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962603 | 1 | 11/22/22 10:42 | 11/22/22 10:42 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959247 | 1 | 11/14/22 23:40 | 11/15/22 13:19 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1957006 | 1 | 11/10/22 09:04 | 11/10/22 09:04 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1957436 | 10 | 11/10/22 13:04 | 11/10/22 13:04 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956793 | 1 | 11/10/22 23:26 | 11/10/22 23:26 | ACG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1959831 | 10 | 11/16/22 07:35 | 11/16/22 07:35 | ACG | Mt. Juliet, TN |

## MW-147-110322 L1553987-06 GW

Collected by: NEW | Collected date/time: 11/03/22 11:19 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958008 | 1 | 11/11/22 11:49 | 11/11/22 11:49 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954627 | 1 | 11/05/22 09:57 | 11/05/22 09:57 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962603 | 1 | 11/22/22 11:31 | 11/22/22 11:31 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959247 | 1 | 11/14/22 23:40 | 11/15/22 13:23 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1957006 | 1 | 11/10/22 09:08 | 11/10/22 09:08 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1957436 | 10 | 11/10/22 13:08 | 11/10/22 13:08 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956793 | 1 | 11/10/22 23:45 | 11/10/22 23:45 | ACG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1959831 | 10 | 11/16/22 07:54 | 11/16/22 07:54 | ACG | Mt. Juliet, TN |

## MW-154-110322 L1553987-07 GW

Collected by: NEW | Collected date/time: 11/03/22 10:04 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958008 | 1 | 11/11/22 12:03 | 11/11/22 12:03 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954627 | 1 | 11/05/22 08:22 | 11/05/22 08:22 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962603 | 1 | 11/22/22 12:22 | 11/22/22 12:22 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959247 | 1 | 11/14/22 23:40 | 11/15/22 13:26 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1957006 | 1 | 11/10/22 09:11 | 11/10/22 09:11 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956793 | 1 | 11/11/22 00:04 | 11/11/22 00:04 | ACG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1959831 | 1 | 11/16/22 06:37 | 11/16/22 06:37 | ACG | Mt. Juliet, TN |

## MW-322-110322 L1553987-08 GW

Collected by: NEW | Collected date/time: 11/03/22 14:01 | Received date/time: 11/04/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958008 | 1 | 11/11/22 12:08 | 11/11/22 12:08 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954627 | 1 | 11/05/22 12:01 | 11/05/22 12:01 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962603 | 1 | 11/22/22 13:18 | 11/22/22 13:18 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959247 | 1 | 11/14/22 23:40 | 11/15/22 13:29 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1957006 | 1 | 11/10/22 09:14 | 11/10/22 09:14 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956793 | 1 | 11/11/22 00:23 | 11/11/22 00:23 | ACG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1959831 | 50 | 11/16/22 08:14 | 11/16/22 08:14 | ACG | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Sample Delivery Group (SDG) Narrative

**Analyzed from headspace vial.**

| Lab Sample ID | Project Sample ID | Method |
|---|---|---|
| L1553987-03 | TB-110322 | 8260D |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 97700 | | 8450 | 20000 | 1 | 11/11/2022 11:26 | WG1958008 |

Sample Narrative:
L1553987-01 WG1958008: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 9450 | | 379 | 1000 | 1 | 11/05/2022 07:40 | WG1954627 |
| Nitrate | 115 | | 48.0 | 100 | 1 | 11/05/2022 07:40 | WG1954627 |
| Sulfate | 4400 | J | 594 | 5000 | 1 | 11/05/2022 07:40 | WG1954627 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4170 | B | 102 | 1000 | 1 | 11/22/2022 09:36 | WG1962603 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 997 | | 28.1 | 100 | 1 | 11/15/2022 13:16 | WG1959247 |
| Manganese | 279 | | 0.704 | 5.00 | 1 | 11/15/2022 13:16 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 620 | | 0.287 | 0.678 | 1 | 11/09/2022 15:31 | WG1956765 |
| Ethane | 14.1 | | 0.296 | 1.29 | 1 | 11/09/2022 15:31 | WG1956765 |
| Ethene | 34.8 | | 0.422 | 1.27 | 1 | 11/09/2022 15:31 | WG1956765 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.63 | | 0.548 | 1.00 | 1 | 11/10/2022 03:25 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 03:25 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 03:25 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,1-Dichloroethene | 0.325 | | 0.0200 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| cis-1,2-Dichloroethene | 180 | | 0.138 | 0.500 | 5 | 11/11/2022 19:15 | WG1957713 |
| trans-1,2-Dichloroethene | 0.375 | | 0.0572 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 03:25 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 03:25 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 03:25 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 03:25 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 03:25 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 03:25 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| Tetrachloroethene | 0.316 | | 0.0280 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| Trichloroethene | 0.848 | | 0.0160 | 0.0400 | 1 | 11/10/2022 03:25 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| Vinyl chloride | 130 | | 0.137 | 0.500 | 5 | 11/11/2022 19:15 | WG1957713 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 03:25 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| Tetrahydrofuran | 0.142 | J | 0.0900 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 03:25 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/10/2022 03:25* | WG1956792 |
| *(S) Toluene-d8* | *113* | | | *75.0-131* | | *11/11/2022 19:15* | WG1957713 |
| *(S) 4-Bromofluorobenzene* | *99.4* | | | *67.0-138* | | *11/10/2022 03:25* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *96.3* | | | *67.0-138* | | *11/11/2022 19:15* | WG1957713 |
| *(S) 1,2-Dichloroethane-d4* | *96.9* | | | *70.0-130* | | *11/10/2022 03:25* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *111* | | | *70.0-130* | | *11/11/2022 19:15* | WG1957713 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 598000 | | 8450 | 20000 | 1 | 11/11/2022 11:32 | WG1958008 |

Sample Narrative:
L1553987-02 WG1958008: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 5740 | | 379 | 1000 | 1 | 11/05/2022 09:03 | WG1954627 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 09:03 | WG1954627 |
| Sulfate | 194000 | | 594 | 5000 | 1 | 11/05/2022 09:03 | WG1954627 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 7480 | | 102 | 1000 | 1 | 11/22/2022 09:51 | WG1962603 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 9560 | | 28.1 | 100 | 1 | 11/15/2022 12:38 | WG1959247 |
| Manganese | 1050 | | 0.704 | 5.00 | 1 | 11/15/2022 12:38 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 33.5 | | 0.287 | 0.678 | 1 | 11/09/2022 15:47 | WG1956765 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 15:47 | WG1956765 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 15:47 | WG1956765 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/10/2022 03:44 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| Benzene | 5.03 | | 0.0160 | 0.0400 | 1 | 11/10/2022 03:44 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 03:44 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| sec-Butylbenzene | 8.89 | | 0.101 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| tert-Butylbenzene | 0.220 | | 0.0620 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,2-Dichloroethane | 0.246 | | 0.0190 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/11/2022 16:38 | WG1957713 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 03:44 | WG1956792 |
| Ethylbenzene | 0.582 | | 0.0212 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 03:44 | WG1956792 |
| Isopropylbenzene | 9.09 | | 0.0345 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 03:44 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 03:44 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 03:44 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 03:44 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| n-Propylbenzene | 20.8 | | 0.0472 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| Toluene | 0.364 | | 0.0500 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 03:44 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,2,4-Trimethylbenzene | 0.375 | | 0.0464 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,3,5-Trimethylbenzene | 0.130 | J | 0.0432 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/11/2022 16:38 | WG1957713 |
| Xylenes, Total | 1.17 | | 0.191 | 0.260 | 1 | 11/10/2022 03:44 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 03:44 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/10/2022 03:44* | WG1956792 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/11/2022 16:38* | WG1957713 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/10/2022 03:44* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/11/2022 16:38* | WG1957713 |
| *(S) 1,2-Dichloroethane-d4* | *96.9* | | | *70.0-130* | | *11/10/2022 03:44* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *106* | | | *70.0-130* | | *11/11/2022 16:38* | WG1957713 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 2.73 | | 0.548 | 1.00 | 1 | 11/10/2022 20:00 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 20:00 | WG1956793 |
| Benzene | 0.0200 | J | 0.0160 | 0.0400 | 1 | 11/10/2022 20:00 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 20:00 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 20:00 | WG1956793 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/10/2022 20:00 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 20:00 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 20:00 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 20:00 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 20:00 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 20:00 | WG1956793 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 20:00 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 20:00 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 20:00 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 20:00 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 20:00 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 20:00 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 20:00 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| cis-1,2-Dichloroethene | 0.218 | B | 0.0276 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/10/2022 20:00 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 20:00 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 20:00 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 20:00 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 20:00 | WG1956793 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 20:00 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 20:00 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 20:00 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 20:00 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 20:00 | WG1956793 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 20:00 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 20:00 | WG1956793 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 20:00 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 20:00 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| Tetrachloroethene | 0.0930 | J | 0.0280 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| Toluene | 0.121 | J | 0.0500 | 0.200 | 1 | 11/10/2022 20:00 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/10/2022 20:00 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/10/2022 20:00 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| Trichloroethene | 0.0310 | J | 0.0160 | 0.0400 | 1 | 11/10/2022 20:00 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 20:00 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 20:00 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 20:00 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 20:00 | WG1956793 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 20:00 | WG1956793 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 20:00 | WG1956793 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/10/2022 20:00 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 20:00 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 20:00 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/10/2022 20:00 | WG1956793 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/10/2022 20:00* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/10/2022 20:00* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *99.7* | | | *70.0-130* | | *11/10/2022 20:00* | WG1956793 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 159000 | | 8450 | 20000 | 1 | 11/11/2022 11:37 | WG1958008 |

Sample Narrative:

L1553987-04 WG1958008: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 10400 | | 379 | 1000 | 1 | 11/05/2022 09:30 | WG1954627 |
| Nitrate | 63.5 | J | 48.0 | 100 | 1 | 11/05/2022 09:30 | WG1954627 |
| Sulfate | 8920 | | 594 | 5000 | 1 | 11/05/2022 09:30 | WG1954627 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1940 | B | 102 | 1000 | 1 | 11/22/2022 10:04 | WG1962603 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 503 | | 28.1 | 100 | 1 | 11/16/2022 02:09 | WG1959244 |
| Manganese | 332 | | 0.704 | 5.00 | 1 | 11/16/2022 02:09 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 278 | | 0.287 | 0.678 | 1 | 11/09/2022 15:50 | WG1956765 |
| Ethane | 3.66 | | 0.296 | 1.29 | 1 | 11/09/2022 15:50 | WG1956765 |
| Ethene | 9.27 | | 0.422 | 1.27 | 1 | 11/09/2022 15:50 | WG1956765 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 2.30 | | 0.548 | 1.00 | 1 | 11/10/2022 23:06 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| Benzene | 0.0310 | J | 0.0160 | 0.0400 | 1 | 11/10/2022 23:06 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 23:06 | WG1956793 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| cis-1,2-Dichloroethene | 0.292 | B | 0.0276 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 23:06 | WG1956793 |
| Ethylbenzene | 0.0650 | J | 0.0212 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 23:06 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 23:06 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 23:06 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 23:06 | WG1956793 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 23:06 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| n-Propylbenzene | 0.0490 | J | 0.0472 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| Toluene | 0.389 | | 0.0500 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 23:06 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,2,3-Trimethylbenzene | 0.101 | J | 0.0460 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| Vinyl chloride | 1.14 | | 0.0273 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| Xylenes, Total | 0.293 | | 0.191 | 0.260 | 1 | 11/10/2022 23:06 | WG1956793 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 23:06 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/10/2022 23:06* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *99.6* | | | *67.0-138* | | *11/10/2022 23:06* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *96.7* | | | *70.0-130* | | *11/10/2022 23:06* | WG1956793 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 470000 | | 8450 | 20000 | 1 | 11/11/2022 11:44 | WG1958008 |

Sample Narrative:

L1553987-05 WG1958008: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 38900 | | 379 | 1000 | 1 | 11/05/2022 09:44 | WG1954627 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 09:44 | WG1954627 |
| Sulfate | 7540 | | 594 | 5000 | 1 | 11/05/2022 09:44 | WG1954627 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4030 | B | 102 | 1000 | 1 | 11/22/2022 10:42 | WG1962603 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 4650 | | 28.1 | 100 | 1 | 11/15/2022 13:19 | WG1959247 |
| Manganese | 1570 | | 0.704 | 5.00 | 1 | 11/15/2022 13:19 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 14200 | | 2.87 | 6.78 | 10 | 11/10/2022 13:04 | WG1957436 |
| Ethane | 437 | | 0.296 | 1.29 | 1 | 11/10/2022 09:04 | WG1957006 |
| Ethene | 333 | | 0.422 | 1.27 | 1 | 11/10/2022 09:04 | WG1957006 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/10/2022 23:26 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 23:26 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 23:26 | WG1956793 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,1-Dichloroethene | 0.0900 | J | 0.0200 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| cis-1,2-Dichloroethene | 13.8 | | 0.0276 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| trans-1,2-Dichloroethene | 1.22 | | 0.0572 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 23:26 | WG1956793 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 23:26 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 23:26 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 23:26 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 23:26 | WG1956793 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 23:26 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| Toluene | 0.0920 | J | 0.0500 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| Trichloroethene | 0.101 | | 0.0160 | 0.0400 | 1 | 11/10/2022 23:26 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| Vinyl chloride | 173 | | 0.273 | 1.00 | 10 | 11/16/2022 07:35 | WG1959831 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 23:26 | WG1956793 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| Tetrahydrofuran | 4.71 | | 0.0900 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 23:26 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/10/2022 23:26* | WG1956793 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/16/2022 07:35* | WG1959831 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/10/2022 23:26* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *99.9* | | | *67.0-138* | | *11/16/2022 07:35* | WG1959831 |
| *(S) 1,2-Dichloroethane-d4* | *96.4* | | | *70.0-130* | | *11/10/2022 23:26* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *97.0* | | | *70.0-130* | | *11/16/2022 07:35* | WG1959831 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 656000 | | 8450 | 20000 | 1 | 11/11/2022 11:49 | WG1958008 |

Sample Narrative:

L1553987-06 WG1958008: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 44200 | | 379 | 1000 | 1 | 11/05/2022 09:57 | WG1954627 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 09:57 | WG1954627 |
| Sulfate | 1480 | J | 594 | 5000 | 1 | 11/05/2022 09:57 | WG1954627 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 6170 | B | 102 | 1000 | 1 | 11/22/2022 11:31 | WG1962603 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 6370 | | 28.1 | 100 | 1 | 11/15/2022 13:23 | WG1959247 |
| Manganese | 1700 | | 0.704 | 5.00 | 1 | 11/15/2022 13:23 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 18000 | | 2.87 | 6.78 | 10 | 11/10/2022 13:08 | WG1957436 |
| Ethane | 427 | | 0.296 | 1.29 | 1 | 11/10/2022 09:08 | WG1957006 |
| Ethene | 275 | | 0.422 | 1.27 | 1 | 11/10/2022 09:08 | WG1957006 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.52 | | 0.548 | 1.00 | 1 | 11/10/2022 23:45 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| Benzene | 0.0430 | | 0.0160 | 0.0400 | 1 | 11/10/2022 23:45 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 23:45 | WG1956793 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,1-Dichloroethene | 0.174 | | 0.0200 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| cis-1,2-Dichloroethene | 72.7 | | 0.0276 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| trans-1,2-Dichloroethene | 2.06 | | 0.0572 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 23:45 | WG1956793 |
| Ethylbenzene | 0.0320 | J | 0.0212 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 23:45 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 23:45 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 23:45 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 23:45 | WG1956793 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 23:45 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| Toluene | 0.127 | J | 0.0500 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| Trichloroethene | 0.116 | | 0.0160 | 0.0400 | 1 | 11/10/2022 23:45 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| Vinyl chloride | 146 | | 0.273 | 1.00 | 10 | 11/16/2022 07:54 | WG1959831 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 23:45 | WG1956793 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| Tetrahydrofuran | 7.92 | | 0.0900 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 23:45 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/10/2022 23:45* | WG1956793 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/16/2022 07:54* | WG1959831 |
| *(S) 4-Bromofluorobenzene* | *99.2* | | | *67.0-138* | | *11/10/2022 23:45* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/16/2022 07:54* | WG1959831 |
| *(S) 1,2-Dichloroethane-d4* | *98.4* | | | *70.0-130* | | *11/10/2022 23:45* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *94.7* | | | *70.0-130* | | *11/16/2022 07:54* | WG1959831 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 115000 | | 8450 | 20000 | 1 | 11/11/2022 12:03 | WG1958008 |

Sample Narrative:

L1553987-07 WG1958008: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 44300 | | 379 | 1000 | 1 | 11/05/2022 08:22 | WG1954627 |
| Nitrate | 6870 | | 48.0 | 100 | 1 | 11/05/2022 08:22 | WG1954627 |
| Sulfate | 59700 | | 594 | 5000 | 1 | 11/05/2022 08:22 | WG1954627 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1670 | B | 102 | 1000 | 1 | 11/22/2022 12:22 | WG1962603 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 189 | | 28.1 | 100 | 1 | 11/15/2022 13:26 | WG1959247 |
| Manganese | 30.1 | | 0.704 | 5.00 | 1 | 11/15/2022 13:26 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | U | | 0.287 | 0.678 | 1 | 11/10/2022 09:11 | WG1957006 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/10/2022 09:11 | WG1957006 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/10/2022 09:11 | WG1957006 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/11/2022 00:04 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 00:04 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 00:04 | WG1956793 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| Chloroform | 0.0930 | J | 0.0166 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| cis-1,2-Dichloroethene | 0.925 | | 0.0276 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/11/2022 00:04 | WG1956793 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 00:04 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 00:04 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 00:04 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 00:04 | WG1956793 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/11/2022 00:04 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| Tetrachloroethene | 88.8 | | 0.0280 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| Toluene | 0.0600 | J | 0.0500 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| Trichloroethene | 6.04 | | 0.0160 | 0.0400 | 1 | 11/11/2022 00:04 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/16/2022 06:37 | WG1959831 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 00:04 | WG1956793 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 00:04 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/11/2022 00:04* | WG1956793 |
| *(S) Toluene-d8* | *103* | | | *75.0-131* | | *11/16/2022 06:37* | WG1959831 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/11/2022 00:04* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/16/2022 06:37* | WG1959831 |
| *(S) 1,2-Dichloroethane-d4* | *96.5* | | | *70.0-130* | | *11/11/2022 00:04* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *96.6* | | | *70.0-130* | | *11/16/2022 06:37* | WG1959831 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 730000 | | 8450 | 20000 | 1 | 11/11/2022 12:08 | WG1958008 |

Sample Narrative:

L1553987-08 WG1958008: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 22700 | | 379 | 1000 | 1 | 11/05/2022 12:01 | WG1954627 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 12:01 | WG1954627 |
| Sulfate | 18000 | | 594 | 5000 | 1 | 11/05/2022 12:01 | WG1954627 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 13500 | | 102 | 1000 | 1 | 11/22/2022 13:18 | WG1962603 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 19200 | | 28.1 | 100 | 1 | 11/15/2022 13:29 | WG1959247 |
| Manganese | 3280 | | 0.704 | 5.00 | 1 | 11/15/2022 13:29 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 3540 | | 0.287 | 0.678 | 1 | 11/10/2022 09:14 | WG1957006 |
| Ethane | 71.5 | | 0.296 | 1.29 | 1 | 11/10/2022 09:14 | WG1957006 |
| Ethene | 53.9 | | 0.422 | 1.27 | 1 | 11/10/2022 09:14 | WG1957006 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 1.67 | | 0.548 | 1.00 | 1 | 11/11/2022 00:23 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| Benzene | 11.8 | | 0.0160 | 0.0400 | 1 | 11/11/2022 00:23 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 00:23 | WG1956793 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| Chloroform | 0.175 | | 0.0166 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,1-Dichloroethane | 0.0340 | J | 0.0230 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,1-Dichloroethene | 1.53 | | 0.0200 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| cis-1,2-Dichloroethene | 598 | | 1.38 | 5.00 | 50 | 11/16/2022 08:14 | WG1959831 |
| trans-1,2-Dichloroethene | 2.60 | | 0.0572 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| Di-isopropyl ether | 0.0980 | | 0.0140 | 0.0400 | 1 | 11/11/2022 00:23 | WG1956793 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 00:23 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 00:23 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 00:23 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 00:23 | WG1956793 |
| Methyl tert-butyl ether | 0.0180 | J | 0.0118 | 0.0400 | 1 | 11/11/2022 00:23 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| Tetrachloroethene | 0.315 | | 0.0280 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| Toluene | 0.313 | | 0.0500 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| Trichloroethene | 0.892 | | 0.0160 | 0.0400 | 1 | 11/11/2022 00:23 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| Vinyl chloride | 243 | | 1.36 | 5.00 | 50 | 11/16/2022 08:14 | WG1959831 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 00:23 | WG1956793 |
| Ethyl Ether | 0.355 | | 0.0170 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 00:23 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/11/2022 00:23* | WG1956793 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/16/2022 08:14* | WG1959831 |
| *(S) 4-Bromofluorobenzene* | *106* | | | *67.0-138* | | *11/11/2022 00:23* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *99.1* | | | *67.0-138* | | *11/16/2022 08:14* | WG1959831 |
| *(S) 1,2-Dichloroethane-d4* | *98.0* | | | *70.0-130* | | *11/11/2022 00:23* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *95.9* | | | *70.0-130* | | *11/16/2022 08:14* | WG1959831 |

## Method Blank (MB)

(MB) R3859970-2 11/11/22 10:06

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1553978-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1553978-01 11/11/22 10:51 • (DUP) R3859970-3 11/11/22 11:05

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Alkalinity | 225000 | 227000 | 1 | 0.715 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

## L1554093-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1554093-02 11/11/22 12:16 • (DUP) R3859970-4 11/11/22 12:21

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Alkalinity | 709000 | 718000 | 1 | 1.34 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3859970-1 11/11/22 10:00

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Alkalinity | 100000 | 100000 | 100 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3858018-1 11/05/22 05:37

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1553987-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1553987-07 11/05/22 08:22 • (DUP) R3858018-3 11/05/22 08:35

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 44300 | 44300 | 1 | 0.0162 | | 15 |
| Nitrate | 6870 | 6810 | 1 | 0.784 | | 15 |
| Sulfate | 59700 | 59400 | 1 | 0.441 | | 15 |

## L1553877-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1553877-09 11/05/22 12:28 • (DUP) R3858018-5 11/05/22 12:42

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | U | U | 1 | 0.000 | | 15 |
| Nitrate | U | U | 1 | 0.000 | | 15 |
| Sulfate | U | U | 1 | 0.000 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3858018-2 11/05/22 05:51

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 41500 | 104 | 80.0-120 | |
| Nitrate | 8000 | 8050 | 101 | 80.0-120 | |
| Sulfate | 40000 | 40800 | 102 | 80.0-120 | |

## L1553987-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L1553987-07 11/05/22 08:22 • (MS) R3858018-4 11/05/22 08:49

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 44300 | 94600 | 101 | 1 | 80.0-120 | |
| Nitrate | 5000 | 6870 | 11500 | 93.7 | 1 | 80.0-120 | |
| Sulfate | 50000 | 59700 | 107000 | 95.6 | 1 | 80.0-120 | |

## L1553877-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553877-09 11/05/22 12:28 • (MS) R3858018-6 11/05/22 12:56 • (MSD) R3858018-7 11/05/22 13:09

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | U | 52500 | 52100 | 105 | 104 | 1 | 80.0-120 | | | 0.820 | 15 |
| Nitrate | 5000 | U | 5350 | 5340 | 107 | 107 | 1 | 80.0-120 | | | 0.217 | 15 |
| Sulfate | 50000 | U | 50900 | 50400 | 102 | 101 | 1 | 80.0-120 | | | 0.977 | 15 |

## Method Blank (MB)

(MB) R3863703-2 11/21/22 07:51

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 710 | J | 102 | 1000 |

## Method Blank (MB)

(MB) R3863703-3 11/21/22 08:04

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 743 | J | 102 | 1000 |

## Method Blank (MB)

(MB) R3864237-2 11/22/22 06:57

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 358 | J | 102 | 1000 |

## L1553979-33 Original Sample (OS) • Duplicate (DUP)

(OS) L1553979-33 11/21/22 10:59 • (DUP) R3863703-4 11/21/22 11:14

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 12800 | 14300 | 2 | 10.7 | | 20 |

## L1553979-37 Original Sample (OS) • Duplicate (DUP)

(OS) L1553979-37 11/22/22 08:34 • (DUP) R3864237-3 11/22/22 08:50

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 34700 | 35000 | 1 | 0.717 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3863703-1 11/21/22 07:08

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 74100 | 98.8 | 85.0-115 | |

## Laboratory Control Sample (LCS)

(LCS) R3864237-1 11/22/22 06:25

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 72900 | 97.2 | 85.0-115 | |

## L1553987-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553987-06 11/22/22 11:31 • (MS) R3864237-4 11/22/22 11:50 • (MSD) R3864237-5 11/22/22 12:09

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 6170 | 62900 | 63300 | 113 | 114 | 1 | 80.0-120 | | | 0.634 | 20 |

## L1553987-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553987-07 11/22/22 12:22 • (MS) R3864237-6 11/22/22 12:41 • (MSD) R3864237-7 11/22/22 13:00

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 1670 | 59000 | 58800 | 115 | 114 | 1 | 80.0-120 | | | 0.306 | 20 |

## Method Blank (MB)

(MB) R3861544-1 11/16/22 00:40

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3861544-2 11/16/22 00:43

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Iron | 5000 | 4960 | 99.2 | 80.0-120 | |
| Manganese | 50.0 | 50.9 | 102 | 80.0-120 | |

## L1553859-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553859-04 11/16/22 00:47 • (MS) R3861544-4 11/16/22 00:53 • (MSD) R3861544-5 11/16/22 00:57

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Iron | 5000 | 2980 | 8080 | 8030 | 102 | 101 | 1 | 75.0-125 | | | 0.678 | 20 |
| Manganese | 50.0 | 1020 | 1090 | 1070 | 128 | 100 | 1 | 75.0-125 | V | | 1.27 | 20 |

## Method Blank (MB)

(MB) R3861160-2 11/15/22 12:32

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3861160-3 11/15/22 12:35

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Iron | 5000 | 4830 | 96.6 | 80.0-120 | |
| Manganese | 50.0 | 51.7 | 103 | 80.0-120 | |

## L1553987-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553987-02 11/15/22 12:38 • (MS) R3861160-5 11/15/22 12:45 • (MSD) R3861160-6 11/15/22 12:48

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iron | 5000 | 9560 | 14400 | 14400 | 96.2 | 96.5 | 1 | 75.0-125 | | | 0.108 | 20 |
| Manganese | 50.0 | 1050 | 1100 | 1110 | 98.3 | 119 | 1 | 75.0-125 | | | 0.953 | 20 |

## Method Blank (MB)

(MB) R3859035-2 11/09/22 13:47

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1553979-27 Original Sample (OS) • Duplicate (DUP)

(OS) L1553979-27 11/09/22 14:13 • (DUP) R3859035-3 11/09/22 14:43

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 7210 | 7800 | 10 | 7.86 | | 20 |
| Ethane | U | U | 10 | 0.000 | | 20 |
| Ethene | U | U | 10 | 0.000 | | 20 |

## L1553987-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1553987-02 11/09/22 15:47 • (DUP) R3859035-4 11/09/22 15:54

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 33.5 | 26.5 | 1 | 23.3 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859035-1 11/09/22 13:44 • (LCSD) R3859035-7 11/09/22 16:03

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 71.0 | 67.2 | 105 | 99.1 | 85.0-115 | | | 5.50 | 20 |
| Ethane | 129 | 116 | 118 | 89.9 | 91.5 | 85.0-115 | | | 1.71 | 20 |
| Ethene | 127 | 117 | 119 | 92.1 | 93.7 | 85.0-115 | | | 1.69 | 20 |

## L1553979-31 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553979-31 11/09/22 14:38 • (MS) R3859035-5 11/09/22 15:56 • (MSD) R3859035-6 11/09/22 15:59

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 678 | 10600 | 10400 | 11100 | 0.000 | 73.7 | 10 | 85.0-115 | V | V | 6.51 | 20 |
| Ethane | 1290 | U | 1180 | 1160 | 91.5 | 89.9 | 10 | 85.0-115 | | | 1.71 | 20 |
| Ethene | 1270 | U | 1210 | 1190 | 95.3 | 93.7 | 10 | 85.0-115 | | | 1.67 | 20 |

## Method Blank (MB)

(MB) R3859284-2 11/10/22 08:52

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1553987-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1553987-07 11/10/22 09:11 • (DUP) R3859284-3 11/10/22 09:36

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1554262-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1554262-01 11/10/22 09:44 • (DUP) R3859284-4 11/10/22 10:08

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859284-1 11/10/22 08:50 • (LCSD) R3859284-9 11/10/22 10:23

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 69.6 | 74.9 | 103 | 110 | 85.0-115 | | | 7.34 | 20 |
| Ethane | 129 | 116 | 121 | 89.9 | 93.8 | 85.0-115 | | | 4.22 | 20 |
| Ethene | 127 | 117 | 123 | 92.1 | 96.9 | 85.0-115 | | | 5.00 | 20 |

## L1554116-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1554116-01 11/10/22 09:17 • (MS) R3859284-5 11/10/22 10:11 • (MSD) R3859284-6 11/10/22 10:13

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 1030 | 1110 | 1250 | 118 | 324 | 1 | 85.0-115 | V | V | 11.9 | 20 |
| Ethane | 129 | 80.6 | 195 | 220 | 88.7 | 108 | 1 | 85.0-115 | | | 12.0 | 20 |
| Ethene | 127 | U | 121 | 135 | 95.3 | 106 | 1 | 85.0-115 | | | 10.9 | 20 |

## L1554262-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1554262-05 11/10/22 09:54 • (MS) R3859284-7 11/10/22 10:18 • (MSD) R3859284-8 11/10/22 10:20

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | U | 86.4 | 78.8 | 127 | 116 | 1 | 85.0-115 | J5 | J5 | 9.20 | 20 |
| Ethane | 129 | U | 138 | 129 | 107 | 100 | 1 | 85.0-115 | | | 6.74 | 20 |
| Ethene | 127 | U | 137 | 130 | 108 | 102 | 1 | 85.0-115 | | | 5.24 | 20 |

## Method Blank (MB)

(MB) R3859579-2 11/10/22 13:00

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |

## L1554424-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1554424-03 11/10/22 13:11 • (DUP) R3859579-3 11/10/22 14:32

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 1130 | 1260 | 1 | 10.9 | | 20 |

## L1554482-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1554482-01 11/10/22 14:50 • (DUP) R3859579-4 11/10/22 15:27

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859579-1 11/10/22 12:58 • (LCSD) R3859579-5 11/10/22 15:29

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 67.1 | 68.3 | 99.0 | 101 | 85.0-115 | | | 1.77 | 20 |

## Method Blank (MB)

(MB) R3859639-3 11/09/22 19:03

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |

## Method Blank (MB)

(MB) R3859639-3 11/09/22 19:03

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *99.7* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *95.4* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859639-1 11/09/22 17:33 • (LCSD) R3859639-2 11/09/22 18:05

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 26.7 | 27.4 | 107 | 110 | 10.0-160 | | | 2.59 | 31 |
| Acrylonitrile | 25.0 | 27.0 | 27.2 | 108 | 109 | 45.0-153 | | | 0.738 | 22 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859639-1 11/09/22 17:33 • (LCSD) R3859639-2 11/09/22 18:05

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 5.00 | 5.25 | 5.31 | 105 | 106 | 70.0-123 | | | 1.14 | 20 |
| Bromobenzene | 5.00 | 5.15 | 5.27 | 103 | 105 | 73.0-121 | | | 2.30 | 20 |
| Bromodichloromethane | 5.00 | 5.54 | 5.40 | 111 | 108 | 73.0-121 | | | 2.56 | 20 |
| Bromoform | 5.00 | 5.04 | 4.84 | 101 | 96.8 | 64.0-132 | | | 4.05 | 20 |
| Bromomethane | 5.00 | 4.47 | 4.64 | 89.4 | 92.8 | 56.0-147 | | | 3.73 | 20 |
| n-Butylbenzene | 5.00 | 5.13 | 5.40 | 103 | 108 | 68.0-135 | | | 5.13 | 20 |
| sec-Butylbenzene | 5.00 | 5.60 | 5.74 | 112 | 115 | 74.0-130 | | | 2.47 | 20 |
| tert-Butylbenzene | 5.00 | 5.28 | 5.40 | 106 | 108 | 75.0-127 | | | 2.25 | 20 |
| Carbon tetrachloride | 5.00 | 5.28 | 5.18 | 106 | 104 | 66.0-128 | | | 1.91 | 20 |
| Chlorobenzene | 5.00 | 5.16 | 5.07 | 103 | 101 | 76.0-128 | | | 1.76 | 20 |
| Chlorodibromomethane | 5.00 | 5.53 | 5.32 | 111 | 106 | 74.0-127 | | | 3.87 | 20 |
| Chloroethane | 5.00 | 4.89 | 4.59 | 97.8 | 91.8 | 61.0-134 | | | 6.33 | 20 |
| Chloroform | 5.00 | 5.12 | 5.02 | 102 | 100 | 72.0-123 | | | 1.97 | 20 |
| Chloromethane | 5.00 | 5.00 | 4.56 | 100 | 91.2 | 51.0-138 | | | 9.21 | 20 |
| 2-Chlorotoluene | 5.00 | 5.40 | 5.50 | 108 | 110 | 75.0-124 | | | 1.83 | 20 |
| 4-Chlorotoluene | 5.00 | 5.54 | 5.95 | 111 | 119 | 75.0-124 | | | 7.14 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.49 | 4.55 | 89.8 | 91.0 | 59.0-130 | | | 1.33 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.23 | 5.31 | 105 | 106 | 74.0-128 | | | 1.52 | 20 |
| Dibromomethane | 5.00 | 5.43 | 5.81 | 109 | 116 | 75.0-122 | | | 6.76 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 4.80 | 5.00 | 96.0 | 100 | 76.0-124 | | | 4.08 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 5.16 | 5.20 | 103 | 104 | 76.0-125 | | | 0.772 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 5.00 | 5.12 | 100 | 102 | 77.0-121 | | | 2.37 | 20 |
| Dichlorodifluoromethane | 5.00 | 4.67 | 4.56 | 93.4 | 91.2 | 43.0-156 | | | 2.38 | 20 |
| 1,1-Dichloroethane | 5.00 | 5.29 | 5.16 | 106 | 103 | 70.0-127 | | | 2.49 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.73 | 4.84 | 94.6 | 96.8 | 65.0-131 | | | 2.30 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.29 | 5.00 | 106 | 100 | 65.0-131 | | | 5.64 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.44 | 5.26 | 109 | 105 | 71.0-125 | | | 3.36 | 20 |
| 1,2-Dichloropropane | 5.00 | 5.23 | 5.18 | 105 | 104 | 74.0-125 | | | 0.961 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.48 | 5.04 | 110 | 101 | 73.0-125 | | | 8.37 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.02 | 5.02 | 100 | 100 | 80.0-125 | | | 0.000 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 5.24 | 5.31 | 105 | 106 | 76.0-127 | | | 1.33 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 5.14 | 4.93 | 103 | 98.6 | 73.0-127 | | | 4.17 | 20 |
| 2,2-Dichloropropane | 5.00 | 5.54 | 5.28 | 111 | 106 | 59.0-135 | | | 4.81 | 20 |
| Di-isopropyl ether | 5.00 | 5.29 | 5.30 | 106 | 106 | 60.0-136 | | | 0.189 | 20 |
| Ethylbenzene | 5.00 | 5.14 | 5.15 | 103 | 103 | 74.0-126 | | | 0.194 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 4.43 | 4.21 | 88.6 | 84.2 | 57.0-150 | | | 5.09 | 20 |
| Isopropylbenzene | 5.00 | 5.62 | 5.52 | 112 | 110 | 72.0-127 | | | 1.80 | 20 |
| p-Isopropyltoluene | 5.00 | 5.40 | 5.70 | 108 | 114 | 72.0-133 | | | 5.41 | 20 |
| 2-Butanone (MEK) | 25.0 | 26.3 | 27.0 | 105 | 108 | 30.0-160 | | | 2.63 | 24 |
| Methylene Chloride | 5.00 | 5.12 | 5.30 | 102 | 106 | 68.0-123 | | | 3.45 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859639-1 11/09/22 17:33 • (LCSD) R3859639-2 11/09/22 18:05

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 29.7 | 30.7 | 119 | 123 | 56.0-143 | | | 3.31 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.17 | 5.43 | 103 | 109 | 66.0-132 | | | 4.91 | 20 |
| Naphthalene | 5.00 | 4.36 | 4.44 | 87.2 | 88.8 | 59.0-130 | | | 1.82 | 20 |
| n-Propylbenzene | 5.00 | 5.77 | 5.68 | 115 | 114 | 74.0-126 | | | 1.57 | 20 |
| Styrene | 5.00 | 5.21 | 5.21 | 104 | 104 | 72.0-127 | | | 0.000 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.34 | 5.19 | 107 | 104 | 74.0-129 | | | 2.85 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.99 | 5.24 | 99.8 | 105 | 68.0-128 | | | 4.89 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.38 | 5.32 | 108 | 106 | 61.0-139 | | | 1.12 | 20 |
| Tetrachloroethene | 5.00 | 5.49 | 5.35 | 110 | 107 | 70.0-136 | | | 2.58 | 20 |
| Toluene | 5.00 | 5.32 | 5.16 | 106 | 103 | 75.0-121 | | | 3.05 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.64 | 4.39 | 92.8 | 87.8 | 59.0-139 | | | 5.54 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.01 | 4.36 | 80.2 | 87.2 | 62.0-137 | | | 8.36 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.12 | 5.18 | 102 | 104 | 69.0-126 | | | 1.17 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.25 | 5.22 | 105 | 104 | 78.0-123 | | | 0.573 | 20 |
| Trichloroethene | 5.00 | 5.35 | 4.99 | 107 | 99.8 | 76.0-126 | | | 6.96 | 20 |
| Trichlorofluoromethane | 5.00 | 5.79 | 5.73 | 116 | 115 | 61.0-142 | | | 1.04 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 5.34 | 5.68 | 107 | 114 | 67.0-129 | | | 6.17 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.39 | 5.40 | 108 | 108 | 70.0-126 | | | 0.185 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.10 | 5.27 | 102 | 105 | 74.0-124 | | | 3.28 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.49 | 5.63 | 110 | 113 | 73.0-127 | | | 2.52 | 20 |
| Xylenes, Total | 15.0 | 14.7 | 15.7 | 98.0 | 105 | 72.0-127 | | | 6.58 | 20 |
| Ethyl ether | 5.00 | 5.32 | 5.41 | 106 | 108 | 64.0-137 | | | 1.68 | 20 |
| Tetrahydrofuran | 5.00 | 4.44 | 4.87 | 88.8 | 97.4 | 37.0-146 | | | 9.24 | 24 |
| Iodomethane | 25.0 | 26.5 | 25.6 | 106 | 102 | 74.0-134 | | | 3.45 | 20 |
| Allyl chloride | 25.0 | 26.4 | 25.1 | 106 | 100 | 70.0-131 | | | 5.05 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 3.82 | 4.25 | 76.4 | 85.0 | 45.0-143 | | | 10.7 | 20 |
| *(S) Toluene-d8* | | | | *107* | *104* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *99.1* | *97.4* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *98.9* | *96.3* | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R3861034-3 11/10/22 19:14

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | 0.0350 | J | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3861034-3 11/10/22 19:14

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *110* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *96.6* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3861034-1 11/10/22 17:10 • (LCSD) R3861034-2 11/10/22 17:54

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 27.2 | 28.4 | 109 | 114 | 10.0-160 | | | 4.32 | 31 |
| Acrylonitrile | 25.0 | 29.1 | 28.6 | 116 | 114 | 45.0-153 | | | 1.73 | 22 |
| Benzene | 5.00 | 5.58 | 5.43 | 112 | 109 | 70.0-123 | | | 2.72 | 20 |
| Bromobenzene | 5.00 | 5.42 | 5.38 | 108 | 108 | 73.0-121 | | | 0.741 | 20 |
| Bromodichloromethane | 5.00 | 5.54 | 5.58 | 111 | 112 | 73.0-121 | | | 0.719 | 20 |
| Bromoform | 5.00 | 4.77 | 4.86 | 95.4 | 97.2 | 64.0-132 | | | 1.87 | 20 |
| Bromomethane | 5.00 | 6.83 | 5.32 | 137 | 106 | 56.0-147 | | J3 | 24.9 | 20 |
| n-Butylbenzene | 5.00 | 5.74 | 5.88 | 115 | 118 | 68.0-135 | | | 2.41 | 20 |
| sec-Butylbenzene | 5.00 | 5.86 | 5.93 | 117 | 119 | 74.0-130 | | | 1.19 | 20 |
| tert-Butylbenzene | 5.00 | 5.58 | 5.56 | 112 | 111 | 75.0-127 | | | 0.359 | 20 |
| Carbon tetrachloride | 5.00 | 5.54 | 5.45 | 111 | 109 | 66.0-128 | | | 1.64 | 20 |
| Chlorobenzene | 5.00 | 5.37 | 5.31 | 107 | 106 | 76.0-128 | | | 1.12 | 20 |
| Chlorodibromomethane | 5.00 | 5.38 | 5.43 | 108 | 109 | 74.0-127 | | | 0.925 | 20 |
| Chloroethane | 5.00 | 6.63 | 5.62 | 133 | 112 | 61.0-134 | | | 16.5 | 20 |
| Chloroform | 5.00 | 5.32 | 5.37 | 106 | 107 | 72.0-123 | | | 0.935 | 20 |
| Chloromethane | 5.00 | 5.24 | 5.27 | 105 | 105 | 51.0-138 | | | 0.571 | 20 |
| 2-Chlorotoluene | 5.00 | 5.96 | 5.10 | 119 | 102 | 75.0-124 | | | 15.6 | 20 |
| 4-Chlorotoluene | 5.00 | 5.85 | 5.93 | 117 | 119 | 75.0-124 | | | 1.36 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.16 | 4.51 | 83.2 | 90.2 | 59.0-130 | | | 8.07 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.56 | 5.34 | 111 | 107 | 74.0-128 | | | 4.04 | 20 |
| Dibromomethane | 5.00 | 5.50 | 5.65 | 110 | 113 | 75.0-122 | | | 2.69 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 5.00 | 5.17 | 100 | 103 | 76.0-124 | | | 3.34 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 5.30 | 5.34 | 106 | 107 | 76.0-125 | | | 0.752 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 5.19 | 5.29 | 104 | 106 | 77.0-121 | | | 1.91 | 20 |
| Dichlorodifluoromethane | 5.00 | 4.95 | 4.61 | 99.0 | 92.2 | 43.0-156 | | | 7.11 | 20 |
| 1,1-Dichloroethane | 5.00 | 5.58 | 5.43 | 112 | 109 | 70.0-127 | | | 2.72 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.89 | 4.98 | 97.8 | 99.6 | 65.0-131 | | | 1.82 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.62 | 5.45 | 112 | 109 | 65.0-131 | | | 3.07 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.60 | 5.35 | 112 | 107 | 73.0-125 | | | 4.57 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.78 | 5.53 | 116 | 111 | 71.0-125 | | | 4.42 | 20 |
| 1,2-Dichloropropane | 5.00 | 5.47 | 5.29 | 109 | 106 | 74.0-125 | | | 3.35 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.79 | 5.62 | 116 | 112 | 73.0-125 | | | 2.98 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.21 | 5.23 | 104 | 105 | 80.0-125 | | | 0.383 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 5.43 | 5.42 | 109 | 108 | 76.0-127 | | | 0.184 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 5.28 | 5.26 | 106 | 105 | 73.0-127 | | | 0.380 | 20 |
| 2,2-Dichloropropane | 5.00 | 6.16 | 5.79 | 123 | 116 | 59.0-135 | | | 6.19 | 20 |
| Di-isopropyl ether | 5.00 | 5.61 | 5.51 | 112 | 110 | 60.0-136 | | | 1.80 | 20 |
| Ethylbenzene | 5.00 | 5.41 | 5.38 | 108 | 108 | 74.0-126 | | | 0.556 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 5.15 | 5.26 | 103 | 105 | 57.0-150 | | | 2.11 | 20 |
| Isopropylbenzene | 5.00 | 5.96 | 5.84 | 119 | 117 | 72.0-127 | | | 2.03 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3861034-1 11/10/22 17:10 • (LCSD) R3861034-2 11/10/22 17:54

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.84 | 5.90 | 117 | 118 | 72.0-133 | | | 1.02 | 20 |
| 2-Butanone (MEK) | 25.0 | 27.8 | 28.0 | 111 | 112 | 30.0-160 | | | 0.717 | 24 |
| Methylene Chloride | 5.00 | 5.35 | 5.26 | 107 | 105 | 68.0-123 | | | 1.70 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 31.9 | 32.2 | 128 | 129 | 56.0-143 | | | 0.936 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.29 | 5.20 | 106 | 104 | 66.0-132 | | | 1.72 | 20 |
| Naphthalene | 5.00 | 4.27 | 4.92 | 85.4 | 98.4 | 59.0-130 | | | 14.1 | 20 |
| n-Propylbenzene | 5.00 | 6.15 | 6.11 | 123 | 122 | 74.0-126 | | | 0.653 | 20 |
| Styrene | 5.00 | 5.44 | 5.68 | 109 | 114 | 72.0-127 | | | 4.32 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.48 | 5.29 | 110 | 106 | 74.0-129 | | | 3.53 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 5.16 | 5.21 | 103 | 104 | 68.0-128 | | | 0.964 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.64 | 5.32 | 113 | 106 | 61.0-139 | | | 5.84 | 20 |
| Tetrachloroethene | 5.00 | 5.91 | 5.76 | 118 | 115 | 70.0-136 | | | 2.57 | 20 |
| Toluene | 5.00 | 5.61 | 5.53 | 112 | 111 | 75.0-121 | | | 1.44 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.73 | 5.14 | 94.6 | 103 | 59.0-139 | | | 8.31 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.55 | 4.89 | 91.0 | 97.8 | 62.0-137 | | | 7.20 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.40 | 5.39 | 108 | 108 | 69.0-126 | | | 0.185 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.43 | 5.41 | 109 | 108 | 78.0-123 | | | 0.369 | 20 |
| Trichloroethene | 5.00 | 5.27 | 5.23 | 105 | 105 | 76.0-126 | | | 0.762 | 20 |
| Trichlorofluoromethane | 5.00 | 6.54 | 6.16 | 131 | 123 | 61.0-142 | | | 5.98 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 5.07 | 5.25 | 101 | 105 | 67.0-129 | | | 3.49 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.55 | 5.46 | 111 | 109 | 70.0-126 | | | 1.63 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.36 | 5.45 | 107 | 109 | 74.0-124 | | | 1.67 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.96 | 5.83 | 119 | 117 | 73.0-127 | | | 2.21 | 20 |
| Vinyl chloride | 5.00 | 5.16 | 5.22 | 103 | 104 | 63.0-134 | | | 1.16 | 20 |
| Xylenes, Total | 15.0 | 16.8 | 16.4 | 112 | 109 | 72.0-127 | | | 2.41 | 20 |
| Ethyl ether | 5.00 | 5.43 | 5.26 | 109 | 105 | 64.0-137 | | | 3.18 | 20 |
| Tetrahydrofuran | 5.00 | 4.76 | 5.08 | 95.2 | 102 | 37.0-146 | | | 6.50 | 24 |
| Iodomethane | 25.0 | 27.6 | 26.7 | 110 | 107 | 74.0-134 | | | 3.31 | 20 |
| Allyl chloride | 25.0 | 28.9 | 27.9 | 116 | 112 | 70.0-131 | | | 3.52 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 4.85 | 4.67 | 97.0 | 93.4 | 45.0-143 | | | 3.78 | 20 |
| *(S) Toluene-d8* | | | | *106* | *105* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *99.3* | *99.9* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *99.9* | *96.9* | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R3860811-2 11/11/22 12:10

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| *(S) Toluene-d8* | *115* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *106* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3860811-1 11/11/22 10:51 • (LCSD) R3860811-3 11/11/22 13:22

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| cis-1,2-Dichloroethene | 5.00 | 4.65 | 5.01 | 93.0 | 100 | 73.0-125 | | | 7.45 | 20 |
| Vinyl chloride | 5.00 | 4.62 | 4.15 | 92.4 | 83.0 | 63.0-134 | | | 10.7 | 20 |
| *(S) Toluene-d8* | | | | *108* | *106* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *105* | *106* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *106* | *110* | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R3861826-3 11/15/22 22:03

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *99.4* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *94.5* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3861826-1 11/15/22 20:46 • (LCSD) R3861826-2 11/15/22 21:05

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| cis-1,2-Dichloroethene | 5.00 | 5.14 | 5.16 | 103 | 103 | 73.0-125 | | | 0.388 | 20 |
| Vinyl chloride | 5.00 | 4.72 | 4.60 | 94.4 | 92.0 | 63.0-134 | | | 2.58 | 20 |
| *(S) Toluene-d8* | | | | *103* | *103* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *106* | *103* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *98.4* | *101* | *70.0-130* | | | | |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| B | The same analyte is found in the associated blank. |
| C3 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable. |
| C4 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result. |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J3 | The associated batch QC was outside the established quality control range for precision. |
| J5 | The sample matrix interfered with the ability to make any accurate determination; spike value is high. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Billing Information:
Attn: Accounts Payable
2101 4th Avenue, Suite 1310
Seattle, WA 98121

Pres Chk

Report to:
Brian O'Neal/Bill Haldeman

Email To:
Shannon.McKernan@nv5.com;brian.oneal@nv5

Project Description:
American Linen

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: 206-529-3980

Client Project #
1413.001.10.701.02

Lab Project #
PESENVSWA-ALP

Collected by (print):
NEW

Site/Facility ID #

P.O. # 1413001.10.701.02
~~443018-1413001.05.601~~

Collected by (signature):
NEW

Immediately Packed on Ice N ___ Y X

*Rush?* (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | | | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 12 | | | | 12 | | | | | |
| FMW-141-110322 | Grab | GW | — | 11-03-22 | 1010 | 9 | X | X | X | X | | X | X | X | | | | 01 |
| SCL-MW101-110322 | Grab | GW | — | | 1140 | | X | X | X | X | | X | X | X | | | | 02 |
| TB-110322 | — | GW | — | | — | 1 | ~~X~~ | | | | | | | X | | | NO ALK NEW | 03 |
| MW-153-110322 | | GW | | | 1237 | 9 | X | X | X | X | | X | X | X | | | | 04 |
| MW-146-110322 | | GW | | | 1156 | | X | X | X | X | | X | X | X | | | | 05 |
| MW-147-110322 | | GW | | | 1119 | | X | X | X | X | | X | X | X | | | | 06 |
| MW-154-110322 | | GW | | | 1004 | | X | X | X | X | | X | X | X | | | | 07 |
| MW-322-110322 | | GW | | | 1401 | | X | X | X | X | | X | X | X | | | | 08 |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L553987
G070

Acctnum: PESENVSWA
Template: T218236
Prelogin: P957562
PM: 546 - Jared Starkey
PB:

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 6094 5459 7207

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / No HCL / MeoH TBR | If preservation required by Login: Date/Time |
|---|---|---|---|---|---|
| Natalie Worden | 11/3/22 | 1544 | | | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: 6.8/7 °C .2+0=.2 Bottles Received: 63 | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: 11/4/22 Time: 0900 | Hold: Condition: NCF / OK |

# ANALYTICAL REPORT

November 22, 2022



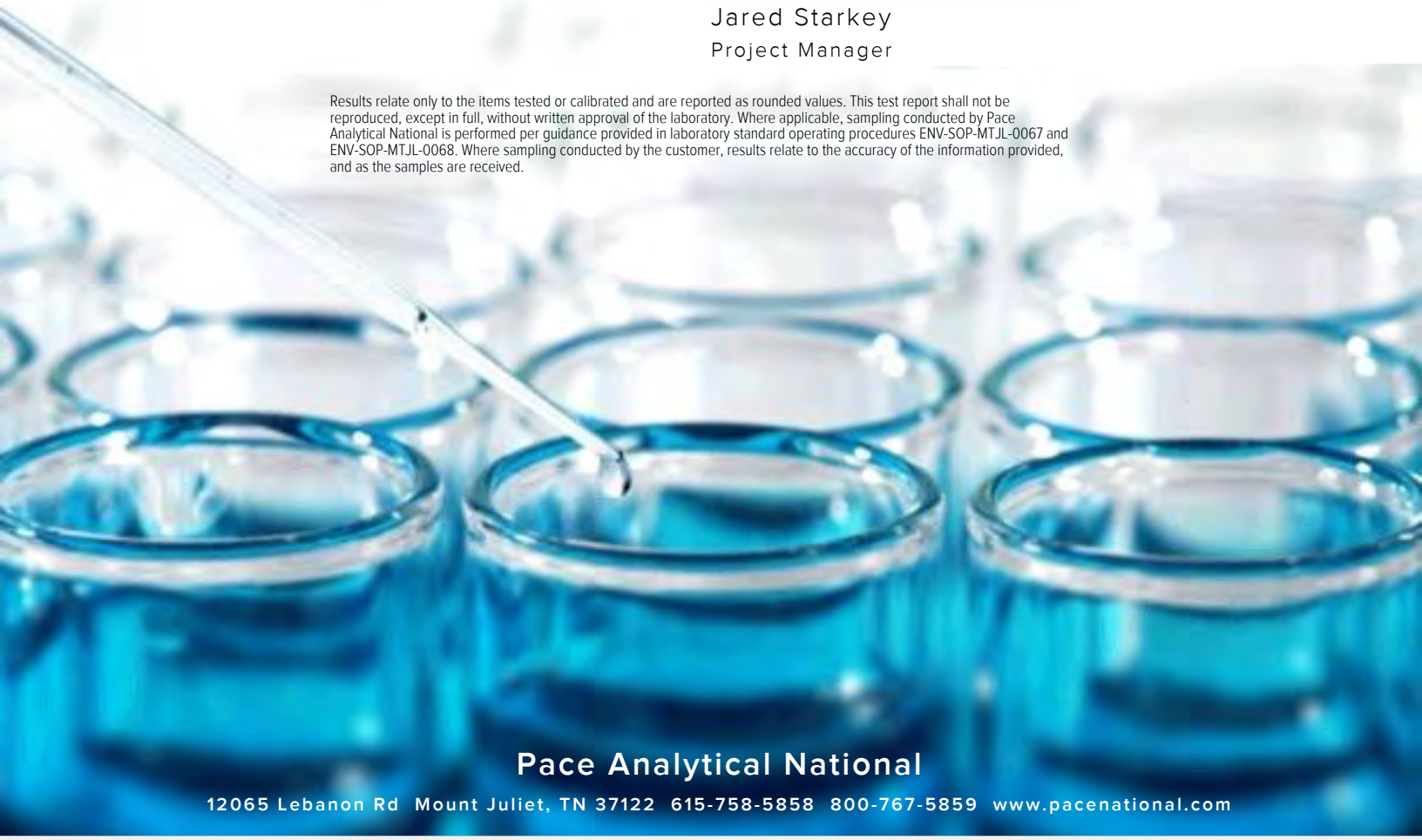
## PES Environmental, Inc.- WA

| | |
|---|---|
| Sample Delivery Group: | L1554304 |
| Samples Received: | 11/05/2022 |
| Project Number: | 1413.001.10.701.02 |
| Description: | American Linen |
| Report To: | Brian O'Neal/Bill Haldeman |
| | 2101 Fourth Ave., Suite 1310 |
| | Seattle, WA 98121 |

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## GEI-MW-1-110422 L1554304-01 GW

Collected by: ARS | Collected date/time: 11/04/22 11:55 | Received date/time: 11/05/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958822 | 1 | 11/13/22 12:07 | 11/13/22 12:07 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954869 | 1 | 11/05/22 15:53 | 11/05/22 15:53 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962903 | 1 | 11/21/22 12:48 | 11/21/22 12:48 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959247 | 1 | 11/14/22 23:40 | 11/15/22 13:32 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1957027 | 1 | 11/10/22 11:05 | 11/10/22 11:05 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956793 | 1 | 11/11/22 02:38 | 11/11/22 02:38 | ACG | Mt. Juliet, TN |

## MW-332-110422 L1554304-02 GW

Collected by: ARS | Collected date/time: 11/04/22 10:30 | Received date/time: 11/05/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958822 | 1 | 11/13/22 12:11 | 11/13/22 12:11 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954869 | 1 | 11/05/22 16:06 | 11/05/22 16:06 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954869 | 5 | 11/05/22 16:19 | 11/05/22 16:19 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962903 | 1 | 11/21/22 13:00 | 11/21/22 13:00 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959247 | 1 | 11/14/22 23:40 | 11/15/22 13:36 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1957027 | 1 | 11/10/22 11:08 | 11/10/22 11:08 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956793 | 1 | 11/11/22 02:57 | 11/11/22 02:57 | ACG | Mt. Juliet, TN |

## FMW-142-110422 L1554304-03 GW

Collected by: ARS | Collected date/time: 11/04/22 13:03 | Received date/time: 11/05/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958822 | 1 | 11/13/22 12:16 | 11/13/22 12:16 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954869 | 1 | 11/05/22 16:31 | 11/05/22 16:31 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962903 | 1 | 11/21/22 13:17 | 11/21/22 13:17 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959247 | 1 | 11/14/22 23:40 | 11/15/22 13:39 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1957027 | 1 | 11/10/22 11:11 | 11/10/22 11:11 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956793 | 1 | 11/11/22 03:16 | 11/11/22 03:16 | ACG | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 308000 | | 8450 | 20000 | 1 | 11/13/2022 12:07 | WG1958822 |

Sample Narrative:

L1554304-01 WG1958822: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 24900 | | 379 | 1000 | 1 | 11/05/2022 15:53 | WG1954869 |
| Nitrate | 127 | | 48.0 | 100 | 1 | 11/05/2022 15:53 | WG1954869 |
| Sulfate | 57900 | | 594 | 5000 | 1 | 11/05/2022 15:53 | WG1954869 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4380 | | 102 | 1000 | 1 | 11/21/2022 12:48 | WG1962903 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 4410 | | 28.1 | 100 | 1 | 11/15/2022 13:32 | WG1959247 |
| Manganese | 2530 | | 0.704 | 5.00 | 1 | 11/15/2022 13:32 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 428 | | 0.287 | 0.678 | 1 | 11/10/2022 11:05 | WG1957027 |
| Ethane | 2.41 | | 0.296 | 1.29 | 1 | 11/10/2022 11:05 | WG1957027 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/10/2022 11:05 | WG1957027 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.60 | | 0.548 | 1.00 | 1 | 11/11/2022 02:38 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 02:38 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 02:38 | WG1956793 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,1-Dichloroethane | 0.0280 | J | 0.0230 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| cis-1,2-Dichloroethene | 0.119 | B | 0.0276 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| Di-isopropyl ether | 0.0630 | | 0.0140 | 0.0400 | 1 | 11/11/2022 02:38 | WG1956793 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 02:38 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 02:38 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 02:38 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 02:38 | WG1956793 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/11/2022 02:38 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| Tetrachloroethene | 0.147 | | 0.0280 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 02:38 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 02:38 | WG1956793 |
| Ethyl Ether | 0.326 | | 0.0170 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 02:38 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/11/2022 02:38* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/11/2022 02:38* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *96.9* | | | *70.0-130* | | *11/11/2022 02:38* | WG1956793 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 197000 | | 8450 | 20000 | 1 | 11/13/2022 12:11 | WG1958822 |

Sample Narrative:

L1554304-02 WG1958822: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 301000 | | 1900 | 5000 | 5 | 11/05/2022 16:19 | WG1954869 |
| Nitrate | 129 | | 48.0 | 100 | 1 | 11/05/2022 16:06 | WG1954869 |
| Sulfate | 38900 | | 594 | 5000 | 1 | 11/05/2022 16:06 | WG1954869 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1220 | B | 102 | 1000 | 1 | 11/21/2022 13:00 | WG1962903 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1080 | | 28.1 | 100 | 1 | 11/15/2022 13:36 | WG1959247 |
| Manganese | 866 | | 0.704 | 5.00 | 1 | 11/15/2022 13:36 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 40.1 | | 0.287 | 0.678 | 1 | 11/10/2022 11:08 | WG1957027 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/10/2022 11:08 | WG1957027 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/10/2022 11:08 | WG1957027 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/11/2022 02:57 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 02:57 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 02:57 | WG1956793 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| cis-1,2-Dichloroethene | 0.104 | B | 0.0276 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/11/2022 02:57 | WG1956793 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 02:57 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 02:57 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 02:57 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 02:57 | WG1956793 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/11/2022 02:57 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 02:57 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 02:57 | WG1956793 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 02:57 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/11/2022 02:57* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/11/2022 02:57* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *97.2* | | | *70.0-130* | | *11/11/2022 02:57* | WG1956793 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 261000 | | 8450 | 20000 | 1 | 11/13/2022 12:16 | WG1958822 |

Sample Narrative:

L1554304-03 WG1958822: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 83500 | | 379 | 1000 | 1 | 11/05/2022 16:31 | WG1954869 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 16:31 | WG1954869 |
| Sulfate | 9820 | | 594 | 5000 | 1 | 11/05/2022 16:31 | WG1954869 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 4210 | | 102 | 1000 | 1 | 11/21/2022 13:17 | WG1962903 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 3480 | | 28.1 | 100 | 1 | 11/15/2022 13:39 | WG1959247 |
| Manganese | 907 | | 0.704 | 5.00 | 1 | 11/15/2022 13:39 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 3270 | | 0.287 | 0.678 | 1 | 11/10/2022 11:11 | WG1957027 |
| Ethane | 1.31 | | 0.296 | 1.29 | 1 | 11/10/2022 11:11 | WG1957027 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/10/2022 11:11 | WG1957027 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 1.67 | | 0.548 | 1.00 | 1 | 11/11/2022 03:16 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| Benzene | 0.0220 | J | 0.0160 | 0.0400 | 1 | 11/11/2022 03:16 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 03:16 | WG1956793 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| cis-1,2-Dichloroethene | 0.0590 | B J | 0.0276 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/11/2022 03:16 | WG1956793 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 03:16 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 03:16 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 03:16 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 03:16 | WG1956793 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/11/2022 03:16 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| Tetrachloroethene | 0.271 | | 0.0280 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| Toluene | 0.0790 | J | 0.0500 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 03:16 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 03:16 | WG1956793 |
| Ethyl Ether | 0.0470 | J | 0.0170 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| Tetrahydrofuran | 0.620 | | 0.0900 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 03:16 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *11/11/2022 03:16* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/11/2022 03:16* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *100* | | | *70.0-130* | | *11/11/2022 03:16* | WG1956793 |

## Method Blank (MB)

(MB) R3860434-2 11/13/22 11:17

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1552964-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552964-01 11/13/22 11:23 • (DUP) R3860434-3 11/13/22 11:28

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 133000 | 134000 | 1 | 0.912 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

## L1554880-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1554880-01 11/13/22 13:07 • (DUP) R3860434-4 11/13/22 13:12

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 150000 | 149000 | 1 | 0.325 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3860434-1 11/13/22 11:12

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 101000 | 101 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

# QUALITY CONTROL SUMMARY

L1554304-01,02,03

## Method Blank (MB)

(MB) R3858047-1 11/05/22 10:31

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1554284-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1554284-03 11/05/22 13:55 • (DUP) R3858047-3 11/05/22 14:34

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Chloride | 297000 | 286000 | 1 | 3.95 | E | 15 |
| Nitrate | 3900 | 3720 | 1 | 4.78 | | 15 |
| Sulfate | 854000 | 820000 | 1 | 4.08 | E | 15 |

## L1554324-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1554324-06 11/05/22 18:26 • (DUP) R3858047-6 11/05/22 18:39

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Chloride | 14900 | 14800 | 1 | 0.509 | | 15 |
| Nitrate | 2730 | 2690 | 1 | 1.42 | | 15 |
| Sulfate | 138000 | 138000 | 1 | 0.239 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3858047-2 11/05/22 10:44

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Chloride | 40000 | 39000 | 97.5 | 80.0-120 | |
| Nitrate | 8000 | 7530 | 94.1 | 80.0-120 | |
| Sulfate | 40000 | 39300 | 98.2 | 80.0-120 | |

## L1554284-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1554284-03 11/05/22 13:55 • (MS) R3858047-4 11/05/22 14:46 • (MSD) R3858047-5 11/05/22 14:59

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 297000 | 311000 | 316000 | 27.5 | 37.7 | 1 | 80.0-120 | E V | E V | 1.63 | 15 |
| Nitrate | 5000 | 3900 | 6960 | 7080 | 61.1 | 63.6 | 1 | 80.0-120 | J6 | J6 | 1.77 | 15 |
| Sulfate | 50000 | 854000 | 839000 | 856000 | 0.000 | 4.28 | 1 | 80.0-120 | E V | E V | 2.07 | 15 |

## L1554324-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1554324-06 11/05/22 18:26 • (MS) R3858047-7 11/05/22 18:51

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 14900 | 64200 | 98.6 | 1 | 80.0-120 | |
| Nitrate | 5000 | 2730 | 7370 | 92.8 | 1 | 80.0-120 | |
| Sulfate | 50000 | 138000 | 181000 | 86.9 | 1 | 80.0-120 | |

## Method Blank (MB)

(MB) R3863704-2 11/21/22 07:00

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 396 | J | 102 | 1000 |

## L1548239-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1548239-04 11/21/22 11:22 • (DUP) R3863704-3 11/21/22 11:40

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 160000 | 158000 | 2 | 1.01 | | 20 |

## L1554554-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1554554-04 11/21/22 19:05 • (DUP) R3863704-8 11/21/22 19:17

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 735 | 611 | 1 | 18.5 | J | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3863704-1 11/21/22 06:29

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 72900 | 97.2 | 85.0-115 | |

## L1554304-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1554304-03 11/21/22 13:17 • (MS) R3863704-4 11/21/22 13:36 • (MSD) R3863704-5 11/21/22 14:25

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 4210 | 60400 | 61000 | 112 | 114 | 1 | 80.0-120 | | | 0.873 | 20 |

## L1554324-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1554324-01 11/21/22 14:40 • (MS) R3863704-6 11/21/22 15:00 • (MSD) R3863704-7 11/21/22 15:19

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 5210 | 61500 | 61700 | 113 | 113 | 1 | 80.0-120 | | | 0.406 | 20 |

## Method Blank (MB)

(MB) R3861160-2 11/15/22 12:32

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3861160-3 11/15/22 12:35

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Iron | 5000 | 4830 | 96.6 | 80.0-120 | |
| Manganese | 50.0 | 51.7 | 103 | 80.0-120 | |

## L1553987-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553987-02 11/15/22 12:38 • (MS) R3861160-5 11/15/22 12:45 • (MSD) R3861160-6 11/15/22 12:48

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iron | 5000 | 9560 | 14400 | 14400 | 96.2 | 96.5 | 1 | 75.0-125 | | | 0.108 | 20 |
| Manganese | 50.0 | 1050 | 1100 | 1110 | 98.3 | 119 | 1 | 75.0-125 | | | 0.953 | 20 |

## Method Blank (MB)

(MB) R3859414-2 11/10/22 10:50

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1554262-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1554262-10 11/10/22 10:58 • (DUP) R3859414-3 11/10/22 11:33

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1555604-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1555604-02 11/10/22 12:21 • (DUP) R3859414-4 11/10/22 12:25

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859414-1 11/10/22 10:47 • (LCSD) R3859414-7 11/10/22 12:32

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 74.6 | 67.0 | 110 | 98.8 | 85.0-115 | | | 10.7 | 20 |
| Ethane | 129 | 120 | 118 | 93.0 | 91.5 | 85.0-115 | | | 1.68 | 20 |
| Ethene | 127 | 123 | 119 | 96.9 | 93.7 | 85.0-115 | | | 3.31 | 20 |

## L1555604-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1555604-03 11/10/22 12:23 • (MS) R3859414-5 11/10/22 12:28 • (MSD) R3859414-6 11/10/22 12:30

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 424 | 513 | 522 | 131 | 145 | 1 | 85.0-115 | V | V | 1.74 | 20 |
| Ethane | 129 | U | 137 | 141 | 106 | 109 | 1 | 85.0-115 | | | 2.88 | 20 |
| Ethene | 127 | U | 138 | 141 | 109 | 111 | 1 | 85.0-115 | | | 2.15 | 20 |

## Method Blank (MB)

(MB) R3861034-3 11/10/22 19:14

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | 0.0350 | J | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3861034-3 11/10/22 19:14

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *110* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *96.6* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3861034-1 11/10/22 17:10 • (LCSD) R3861034-2 11/10/22 17:54

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 27.2 | 28.4 | 109 | 114 | 10.0-160 | | | 4.32 | 31 |
| Acrylonitrile | 25.0 | 29.1 | 28.6 | 116 | 114 | 45.0-153 | | | 1.73 | 22 |
| Benzene | 5.00 | 5.58 | 5.43 | 112 | 109 | 70.0-123 | | | 2.72 | 20 |
| Bromobenzene | 5.00 | 5.42 | 5.38 | 108 | 108 | 73.0-121 | | | 0.741 | 20 |
| Bromodichloromethane | 5.00 | 5.54 | 5.58 | 111 | 112 | 73.0-121 | | | 0.719 | 20 |
| Bromoform | 5.00 | 4.77 | 4.86 | 95.4 | 97.2 | 64.0-132 | | | 1.87 | 20 |
| Bromomethane | 5.00 | 6.83 | 5.32 | 137 | 106 | 56.0-147 | | J3 | 24.9 | 20 |
| n-Butylbenzene | 5.00 | 5.74 | 5.88 | 115 | 118 | 68.0-135 | | | 2.41 | 20 |
| sec-Butylbenzene | 5.00 | 5.86 | 5.93 | 117 | 119 | 74.0-130 | | | 1.19 | 20 |
| tert-Butylbenzene | 5.00 | 5.58 | 5.56 | 112 | 111 | 75.0-127 | | | 0.359 | 20 |
| Carbon tetrachloride | 5.00 | 5.54 | 5.45 | 111 | 109 | 66.0-128 | | | 1.64 | 20 |
| Chlorobenzene | 5.00 | 5.37 | 5.31 | 107 | 106 | 76.0-128 | | | 1.12 | 20 |
| Chlorodibromomethane | 5.00 | 5.38 | 5.43 | 108 | 109 | 74.0-127 | | | 0.925 | 20 |
| Chloroethane | 5.00 | 6.63 | 5.62 | 133 | 112 | 61.0-134 | | | 16.5 | 20 |
| Chloroform | 5.00 | 5.32 | 5.37 | 106 | 107 | 72.0-123 | | | 0.935 | 20 |
| Chloromethane | 5.00 | 5.24 | 5.27 | 105 | 105 | 51.0-138 | | | 0.571 | 20 |
| 2-Chlorotoluene | 5.00 | 5.96 | 5.10 | 119 | 102 | 75.0-124 | | | 15.6 | 20 |
| 4-Chlorotoluene | 5.00 | 5.85 | 5.93 | 117 | 119 | 75.0-124 | | | 1.36 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.16 | 4.51 | 83.2 | 90.2 | 59.0-130 | | | 8.07 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.56 | 5.34 | 111 | 107 | 74.0-128 | | | 4.04 | 20 |
| Dibromomethane | 5.00 | 5.50 | 5.65 | 110 | 113 | 75.0-122 | | | 2.69 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 5.00 | 5.17 | 100 | 103 | 76.0-124 | | | 3.34 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 5.30 | 5.34 | 106 | 107 | 76.0-125 | | | 0.752 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 5.19 | 5.29 | 104 | 106 | 77.0-121 | | | 1.91 | 20 |
| Dichlorodifluoromethane | 5.00 | 4.95 | 4.61 | 99.0 | 92.2 | 43.0-156 | | | 7.11 | 20 |
| 1,1-Dichloroethane | 5.00 | 5.58 | 5.43 | 112 | 109 | 70.0-127 | | | 2.72 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.89 | 4.98 | 97.8 | 99.6 | 65.0-131 | | | 1.82 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.62 | 5.45 | 112 | 109 | 65.0-131 | | | 3.07 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.60 | 5.35 | 112 | 107 | 73.0-125 | | | 4.57 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.78 | 5.53 | 116 | 111 | 71.0-125 | | | 4.42 | 20 |
| 1,2-Dichloropropane | 5.00 | 5.47 | 5.29 | 109 | 106 | 74.0-125 | | | 3.35 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.79 | 5.62 | 116 | 112 | 73.0-125 | | | 2.98 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.21 | 5.23 | 104 | 105 | 80.0-125 | | | 0.383 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 5.43 | 5.42 | 109 | 108 | 76.0-127 | | | 0.184 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 5.28 | 5.26 | 106 | 105 | 73.0-127 | | | 0.380 | 20 |
| 2,2-Dichloropropane | 5.00 | 6.16 | 5.79 | 123 | 116 | 59.0-135 | | | 6.19 | 20 |
| Di-isopropyl ether | 5.00 | 5.61 | 5.51 | 112 | 110 | 60.0-136 | | | 1.80 | 20 |
| Ethylbenzene | 5.00 | 5.41 | 5.38 | 108 | 108 | 74.0-126 | | | 0.556 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 5.15 | 5.26 | 103 | 105 | 57.0-150 | | | 2.11 | 20 |
| Isopropylbenzene | 5.00 | 5.96 | 5.84 | 119 | 117 | 72.0-127 | | | 2.03 | 20 |

# QUALITY CONTROL SUMMARY

L1554304-01,02,03

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3861034-1 11/10/22 17:10 • (LCSD) R3861034-2 11/10/22 17:54

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.84 | 5.90 | 117 | 118 | 72.0-133 | | | 1.02 | 20 |
| 2-Butanone (MEK) | 25.0 | 27.8 | 28.0 | 111 | 112 | 30.0-160 | | | 0.717 | 24 |
| Methylene Chloride | 5.00 | 5.35 | 5.26 | 107 | 105 | 68.0-123 | | | 1.70 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 31.9 | 32.2 | 128 | 129 | 56.0-143 | | | 0.936 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.29 | 5.20 | 106 | 104 | 66.0-132 | | | 1.72 | 20 |
| Naphthalene | 5.00 | 4.27 | 4.92 | 85.4 | 98.4 | 59.0-130 | | | 14.1 | 20 |
| n-Propylbenzene | 5.00 | 6.15 | 6.11 | 123 | 122 | 74.0-126 | | | 0.653 | 20 |
| Styrene | 5.00 | 5.44 | 5.68 | 109 | 114 | 72.0-127 | | | 4.32 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.48 | 5.29 | 110 | 106 | 74.0-129 | | | 3.53 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 5.16 | 5.21 | 103 | 104 | 68.0-128 | | | 0.964 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.64 | 5.32 | 113 | 106 | 61.0-139 | | | 5.84 | 20 |
| Tetrachloroethene | 5.00 | 5.91 | 5.76 | 118 | 115 | 70.0-136 | | | 2.57 | 20 |
| Toluene | 5.00 | 5.61 | 5.53 | 112 | 111 | 75.0-121 | | | 1.44 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.73 | 5.14 | 94.6 | 103 | 59.0-139 | | | 8.31 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.55 | 4.89 | 91.0 | 97.8 | 62.0-137 | | | 7.20 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.40 | 5.39 | 108 | 108 | 69.0-126 | | | 0.185 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.43 | 5.41 | 109 | 108 | 78.0-123 | | | 0.369 | 20 |
| Trichloroethene | 5.00 | 5.27 | 5.23 | 105 | 105 | 76.0-126 | | | 0.762 | 20 |
| Trichlorofluoromethane | 5.00 | 6.54 | 6.16 | 131 | 123 | 61.0-142 | | | 5.98 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 5.07 | 5.25 | 101 | 105 | 67.0-129 | | | 3.49 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.55 | 5.46 | 111 | 109 | 70.0-126 | | | 1.63 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.36 | 5.45 | 107 | 109 | 74.0-124 | | | 1.67 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.96 | 5.83 | 119 | 117 | 73.0-127 | | | 2.21 | 20 |
| Vinyl chloride | 5.00 | 5.16 | 5.22 | 103 | 104 | 63.0-134 | | | 1.16 | 20 |
| Xylenes, Total | 15.0 | 16.8 | 16.4 | 112 | 109 | 72.0-127 | | | 2.41 | 20 |
| Ethyl ether | 5.00 | 5.43 | 5.26 | 109 | 105 | 64.0-137 | | | 3.18 | 20 |
| Tetrahydrofuran | 5.00 | 4.76 | 5.08 | 95.2 | 102 | 37.0-146 | | | 6.50 | 24 |
| Iodomethane | 25.0 | 27.6 | 26.7 | 110 | 107 | 74.0-134 | | | 3.31 | 20 |
| Allyl chloride | 25.0 | 28.9 | 27.9 | 116 | 112 | 70.0-131 | | | 3.52 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 4.85 | 4.67 | 97.0 | 93.4 | 45.0-143 | | | 3.78 | 20 |
| *(S) Toluene-d8* | | | | *106* | *105* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *99.3* | *99.9* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *99.9* | *96.9* | *70.0-130* | | | | |

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| B | The same analyte is found in the associated blank. |
| C4 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result. |
| E | The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL). |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J3 | The associated batch QC was outside the established quality control range for precision. |
| J6 | The sample matrix interfered with the ability to make any accurate determination; spike value is low. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Billing Information:
Attn: Accounts Payable
2101 4th Avenue, Suite 1310
Seattle, WA 98121

Pres Chk

Report to: Brian O'Neal/Bill Haldeman

Email To: Shannon.McKernan@nv5.com;brian.oneal@nv5

Project Description: American Linen

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: 206-529-3980

Client Project # 1413.001.10.701.02

Lab Project # PESENVSWA-ALP

Collected by (print): IRS

Site/Facility ID #

P.O. # 1413.001.10.701.02 ~~443018-1413001.05.601~~

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 <2 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl <2 | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | | | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GEI-MW-1-110422 | Grab | GW | — | 11-04-22 | 11:55 | 9 | X | X | X | X | | X | X | X | | | | -01 |
| MW-332-110422 | " | GW | — | " | 10:30 | 11 | X | X | X | X | | X | X | X | | | | -02 |
| FMW-142-110422 | " | GW | — | " | 13:03 | 11 | X | X | X | X | | X | X | X | | | | -03 |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1554304
H190

Acctnum: PESENVSWA
Template: T218236
Prelogin: P957562
PM: 546 - Jared Starkey
PB:

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS ↘ FedEx __ Courier _____

Tracking # 531899579596

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / No HCL / MeoH TBR | |
|---|---|---|---|---|---|
| | 11-04-22 | 14:35 | | | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: 6BA °C Bottles Received: 4.5+0=4.5 27 | If preservation required by Login: Date/Time |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: 11/5/22 Time: 09:00 | Hold: / Condition: NCF / OK |

# ANALYTICAL REPORT

November 22, 2022



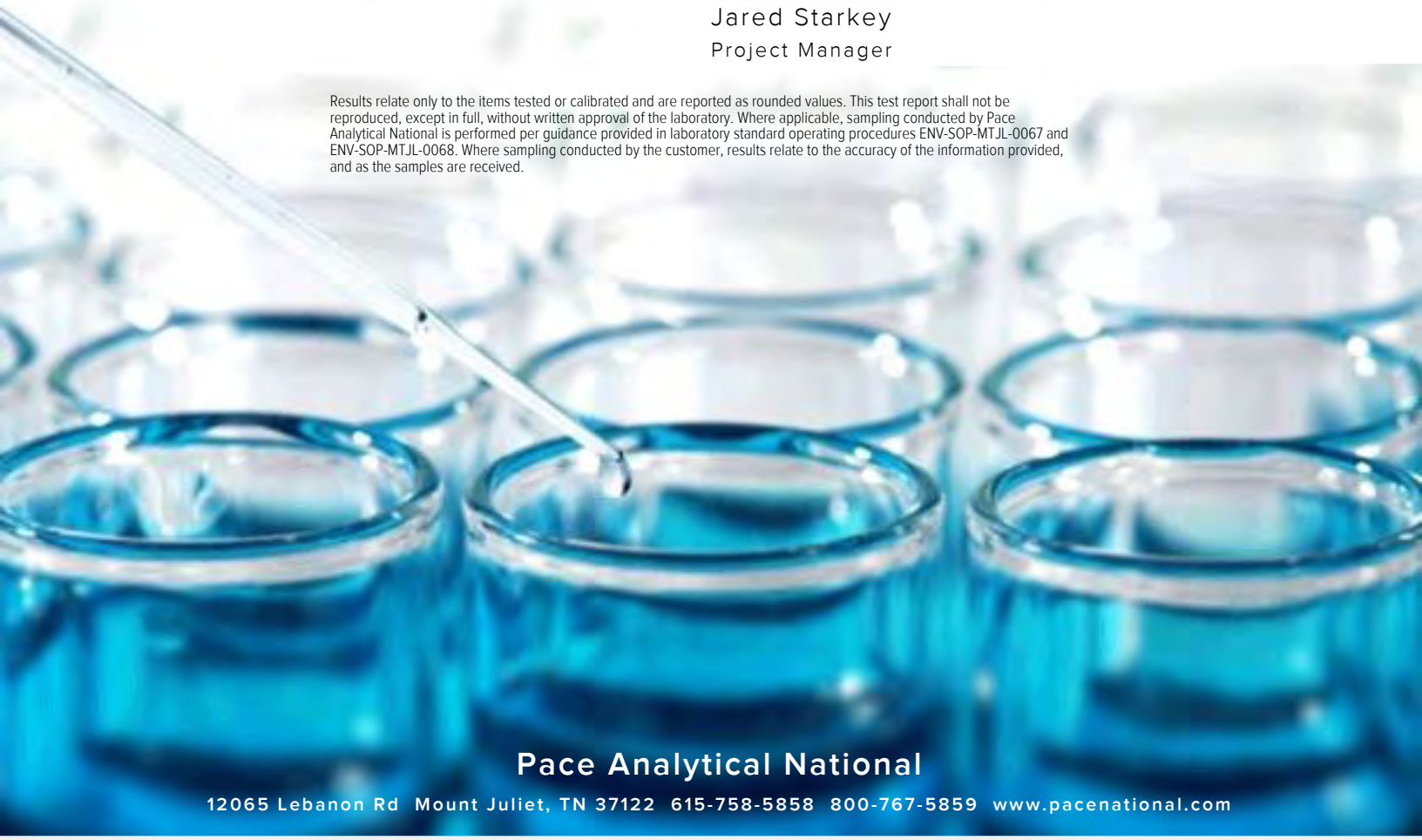
## PES Environmental, Inc.- WA

| | |
|---|---|
| Sample Delivery Group: | L1554324 |
| Samples Received: | 11/05/2022 |
| Project Number: | 1413/001.10.701.02 |
| Description: | American Linen |
| Report To: | Brian O'Neal/Bill Haldeman |
| | 2101 Fourth Ave., Suite 1310 |
| | Seattle, WA 98121 |

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## MW116-110422 L1554324-01 GW

Collected by: ARS | Collected date/time: 11/04/22 09:37 | Received date/time: 11/05/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958822 | 1 | 11/13/22 12:20 | 11/13/22 12:20 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954869 | 1 | 11/05/22 16:44 | 11/05/22 16:44 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962903 | 1 | 11/21/22 14:40 | 11/21/22 14:40 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959247 | 1 | 11/14/22 23:40 | 11/15/22 13:42 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1957027 | 1 | 11/10/22 11:30 | 11/10/22 11:30 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956793 | 1 | 11/11/22 03:35 | 11/11/22 03:35 | ACG | Mt. Juliet, TN |

## MW-320-110422 L1554324-02 GW

Collected by: ARS | Collected date/time: 11/04/22 10:12 | Received date/time: 11/05/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958822 | 1 | 11/13/22 12:24 | 11/13/22 12:24 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954869 | 1 | 11/05/22 17:22 | 11/05/22 17:22 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1956823 | 5 | 11/11/22 01:57 | 11/11/22 01:57 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962903 | 1 | 11/21/22 15:33 | 11/21/22 15:33 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959247 | 1 | 11/14/22 23:40 | 11/15/22 13:52 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1957027 | 1 | 11/10/22 11:37 | 11/10/22 11:37 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956793 | 1 | 11/11/22 03:54 | 11/11/22 03:54 | ACG | Mt. Juliet, TN |

## MW-323-110422 L1554324-03 GW

Collected by: ARS | Collected date/time: 11/04/22 10:47 | Received date/time: 11/05/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958822 | 1 | 11/13/22 12:28 | 11/13/22 12:28 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954869 | 1 | 11/05/22 17:35 | 11/05/22 17:35 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962903 | 1 | 11/21/22 15:46 | 11/21/22 15:46 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959247 | 1 | 11/14/22 23:40 | 11/15/22 13:56 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1957027 | 1 | 11/10/22 11:40 | 11/10/22 11:40 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956793 | 1 | 11/11/22 04:13 | 11/11/22 04:13 | ACG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1959831 | 20 | 11/16/22 10:04 | 11/16/22 10:04 | ACG | Mt. Juliet, TN |

## R-MW6-110422 L1554324-04 GW

Collected by: ARS | Collected date/time: 11/04/22 11:31 | Received date/time: 11/05/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958822 | 1 | 11/13/22 12:33 | 11/13/22 12:33 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954869 | 1 | 11/05/22 17:48 | 11/05/22 17:48 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962903 | 1 | 11/21/22 16:04 | 11/21/22 16:04 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959247 | 1 | 11/14/22 23:40 | 11/15/22 13:59 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1957027 | 1 | 11/10/22 11:43 | 11/10/22 11:43 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1957927 | 10 | 11/11/22 08:14 | 11/11/22 08:14 | CMS | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1956793 | 5 | 11/11/22 04:33 | 11/11/22 04:33 | ACG | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1960564 | 5 | 11/18/22 12:41 | 11/18/22 12:41 | JAH | Mt. Juliet, TN |

## MW-306-110422 L1554324-05 GW

Collected by: ARS | Collected date/time: 11/04/22 11:32 | Received date/time: 11/05/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958822 | 1 | 11/13/22 12:37 | 11/13/22 12:37 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954869 | 1 | 11/05/22 18:13 | 11/05/22 18:13 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962903 | 1 | 11/21/22 16:16 | 11/21/22 16:16 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959247 | 1 | 11/14/22 23:40 | 11/15/22 14:02 | JPD | Mt. Juliet, TN |

## MW-306-110422 L1554324-05 GW

Collected by: ARS | Collected date/time: 11/04/22 11:32 | Received date/time: 11/05/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (GC) by Method RSK175 | WG1957027 | 1 | 11/10/22 11:47 | 11/10/22 11:47 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1958484 | 1 | 11/11/22 18:20 | 11/11/22 18:20 | ACG | Mt. Juliet, TN |

## MW-155-110422 L1554324-06 GW

Collected by: ARS | Collected date/time: 11/04/22 10:21 | Received date/time: 11/05/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958822 | 1 | 11/13/22 12:41 | 11/13/22 12:41 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954869 | 1 | 11/05/22 18:26 | 11/05/22 18:26 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962903 | 1 | 11/21/22 16:30 | 11/21/22 16:30 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959247 | 1 | 11/14/22 23:40 | 11/15/22 14:05 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1957027 | 1 | 11/10/22 12:04 | 11/10/22 12:04 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1958484 | 1 | 11/11/22 18:39 | 11/11/22 18:39 | ACG | Mt. Juliet, TN |

## MW-307-110422 L1554324-07 GW

Collected by: ARS | Collected date/time: 11/04/22 10:59 | Received date/time: 11/05/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958822 | 1 | 11/13/22 12:52 | 11/13/22 12:52 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954904 | 1 | 11/05/22 17:02 | 11/05/22 17:02 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962903 | 2 | 11/21/22 17:23 | 11/21/22 17:23 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959249 | 1 | 11/15/22 14:43 | 11/17/22 12:59 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1957027 | 1 | 11/10/22 12:07 | 11/10/22 12:07 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1958484 | 1 | 11/11/22 18:59 | 11/11/22 18:59 | ACG | Mt. Juliet, TN |

## MW-148-110422 L1554324-08 GW

Collected by: ARS | Collected date/time: 11/04/22 09:41 | Received date/time: 11/05/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958823 | 1 | 11/15/22 07:49 | 11/15/22 07:49 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1954904 | 1 | 11/05/22 17:47 | 11/05/22 17:47 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1962903 | 1 | 11/21/22 17:36 | 11/21/22 17:36 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959249 | 1 | 11/15/22 14:43 | 11/17/22 13:02 | JPD | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959249 | 5 | 11/15/22 14:43 | 11/17/22 13:44 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1957027 | 1 | 11/10/22 12:10 | 11/10/22 12:10 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1958484 | 1 | 11/11/22 19:18 | 11/11/22 19:18 | ACG | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 311000 | | 8450 | 20000 | 1 | 11/13/2022 12:20 | WG1958822 |

Sample Narrative:

L1554324-01 WG1958822: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 32100 | | 379 | 1000 | 1 | 11/05/2022 16:44 | WG1954869 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 16:44 | WG1954869 |
| Sulfate | 8710 | | 594 | 5000 | 1 | 11/05/2022 16:44 | WG1954869 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 5210 | | 102 | 1000 | 1 | 11/21/2022 14:40 | WG1962903 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 3110 | | 28.1 | 100 | 1 | 11/15/2022 13:42 | WG1959247 |
| Manganese | 777 | | 0.704 | 5.00 | 1 | 11/15/2022 13:42 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 3210 | | 0.287 | 0.678 | 1 | 11/10/2022 11:30 | WG1957027 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/10/2022 11:30 | WG1957027 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/10/2022 11:30 | WG1957027 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/11/2022 03:35 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 03:35 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 03:35 | WG1956793 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| cis-1,2-Dichloroethene | 0.0330 | B J | 0.0276 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| Di-isopropyl ether | 0.0210 | J | 0.0140 | 0.0400 | 1 | 11/11/2022 03:35 | WG1956793 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 03:35 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 03:35 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 03:35 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 03:35 | WG1956793 |
| Methyl tert-butyl ether | 0.0490 | | 0.0118 | 0.0400 | 1 | 11/11/2022 03:35 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 03:35 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 03:35 | WG1956793 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 03:35 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/11/2022 03:35* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/11/2022 03:35* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *97.4* | | | *70.0-130* | | *11/11/2022 03:35* | WG1956793 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 277000 | | 8450 | 20000 | 1 | 11/13/2022 12:24 | WG1958822 |

Sample Narrative:

L1554324-02 WG1958822: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 32100 | | 379 | 1000 | 1 | 11/05/2022 17:22 | WG1954869 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 17:22 | WG1954869 |
| Sulfate | 369000 | | 2970 | 25000 | 5 | 11/11/2022 01:57 | WG1956823 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4580 | | 102 | 1000 | 1 | 11/21/2022 15:33 | WG1962903 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 177 | | 28.1 | 100 | 1 | 11/15/2022 13:52 | WG1959247 |
| Manganese | 568 | | 0.704 | 5.00 | 1 | 11/15/2022 13:52 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 29.4 | | 0.287 | 0.678 | 1 | 11/10/2022 11:37 | WG1957027 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/10/2022 11:37 | WG1957027 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/10/2022 11:37 | WG1957027 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/11/2022 03:54 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 03:54 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 03:54 | WG1956793 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| cis-1,2-Dichloroethene | 0.0560 | B J | 0.0276 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/11/2022 03:54 | WG1956793 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 03:54 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 03:54 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 03:54 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 03:54 | WG1956793 |
| Methyl tert-butyl ether | 0.0170 | J | 0.0118 | 0.0400 | 1 | 11/11/2022 03:54 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| Tetrachloroethene | 0.285 | | 0.0280 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 03:54 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 03:54 | WG1956793 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 03:54 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/11/2022 03:54* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/11/2022 03:54* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *98.4* | | | *70.0-130* | | *11/11/2022 03:54* | WG1956793 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 326000 | | 8450 | 20000 | 1 | 11/13/2022 12:28 | WG1958822 |

Sample Narrative:

L1554324-03 WG1958822: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 31400 | | 379 | 1000 | 1 | 11/05/2022 17:35 | WG1954869 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 17:35 | WG1954869 |
| Sulfate | 29300 | | 594 | 5000 | 1 | 11/05/2022 17:35 | WG1954869 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 2090 | B | 102 | 1000 | 1 | 11/21/2022 15:46 | WG1962903 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 2660 | | 28.1 | 100 | 1 | 11/15/2022 13:56 | WG1959247 |
| Manganese | 951 | | 0.704 | 5.00 | 1 | 11/15/2022 13:56 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 189 | | 0.287 | 0.678 | 1 | 11/10/2022 11:40 | WG1957027 |
| Ethane | 39.8 | | 0.296 | 1.29 | 1 | 11/10/2022 11:40 | WG1957027 |
| Ethene | 9.80 | | 0.422 | 1.27 | 1 | 11/10/2022 11:40 | WG1957027 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/11/2022 04:13 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| Benzene | 0.0490 | | 0.0160 | 0.0400 | 1 | 11/11/2022 04:13 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 04:13 | WG1956793 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,1-Dichloroethane | 0.105 | | 0.0230 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,1-Dichloroethene | 2.23 | | 0.0200 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| cis-1,2-Dichloroethene | 374 | | 0.552 | 2.00 | 20 | 11/16/2022 10:04 | WG1959831 |
| trans-1,2-Dichloroethene | 0.539 | | 0.0572 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/11/2022 04:13 | WG1956793 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 04:13 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 04:13 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 04:13 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 04:13 | WG1956793 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/11/2022 04:13 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| Trichloroethene | 0.0990 | | 0.0160 | 0.0400 | 1 | 11/11/2022 04:13 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| Vinyl chloride | 77.2 | | 0.0273 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 04:13 | WG1956793 |
| Ethyl Ether | 0.0930 | J | 0.0170 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 04:13 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/11/2022 04:13* | WG1956793 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/16/2022 10:04* | WG1959831 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/11/2022 04:13* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/16/2022 10:04* | WG1959831 |
| *(S) 1,2-Dichloroethane-d4* | *97.2* | | | *70.0-130* | | *11/11/2022 04:13* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *94.4* | | | *70.0-130* | | *11/16/2022 10:04* | WG1959831 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 751000 | | 8450 | 20000 | 1 | 11/13/2022 12:33 | WG1958822 |

Sample Narrative:

L1554324-04 WG1958822: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 48700 | | 379 | 1000 | 1 | 11/05/2022 17:48 | WG1954869 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 17:48 | WG1954869 |
| Sulfate | 194000 | | 594 | 5000 | 1 | 11/05/2022 17:48 | WG1954869 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 10900 | | 102 | 1000 | 1 | 11/21/2022 16:04 | WG1962903 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 22600 | | 28.1 | 100 | 1 | 11/15/2022 13:59 | WG1959247 |
| Manganese | 8090 | | 0.704 | 5.00 | 1 | 11/15/2022 13:59 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 7870 | | 2.87 | 6.78 | 10 | 11/11/2022 08:14 | WG1957927 |
| Ethane | 8.85 | | 0.296 | 1.29 | 1 | 11/10/2022 11:43 | WG1957027 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/10/2022 11:43 | WG1957027 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 2.74 | 5.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Acrylonitrile | U | | 0.380 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| Benzene | U | | 0.0800 | 0.200 | 5 | 11/11/2022 04:33 | WG1956793 |
| Bromobenzene | U | | 0.210 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| Bromodichloromethane | U | | 0.158 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| Bromoform | U | | 1.20 | 5.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Bromomethane | U | J3 | 0.740 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| n-Butylbenzene | U | | 0.765 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| sec-Butylbenzene | U | | 0.505 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| tert-Butylbenzene | U | | 0.310 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Carbon tetrachloride | U | | 0.216 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Chlorobenzene | U | | 0.115 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| Chlorodibromomethane | U | | 0.0900 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| Chloroethane | U | | 0.216 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Chloroform | U | | 0.0830 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| Chloromethane | U | | 0.278 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| 2-Chlorotoluene | U | | 0.184 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| 4-Chlorotoluene | U | | 0.226 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 1.02 | 5.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.105 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.200 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.290 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.340 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.394 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.164 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,1-Dichloroethane | U | | 0.115 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0950 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,1-Dichloroethene | U | | 0.100 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| cis-1,2-Dichloroethene | 5.08 | | 0.138 | 0.500 | 5 | 11/18/2022 12:41 | WG1960564 |
| trans-1,2-Dichloroethene | U | | 0.286 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.254 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.140 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.350 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.136 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.306 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.159 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| Di-isopropyl ether | U | | 0.0700 | 0.200 | 5 | 11/11/2022 04:33 | WG1956793 |
| Ethylbenzene | U | | 0.106 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 2.54 | 5.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Isopropylbenzene | U | | 0.173 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| p-Isopropyltoluene | U | | 0.466 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 2-Butanone (MEK) | U | | 2.50 | 5.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Methylene Chloride | U | | 1.33 | 5.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 2.00 | 5.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Methyl tert-butyl ether | U | | 0.0590 | 0.200 | 5 | 11/11/2022 04:33 | WG1956793 |
| Naphthalene | U | | 0.620 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| n-Propylbenzene | U | | 0.236 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Styrene | U | | 0.545 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.100 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0780 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.135 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| Tetrachloroethene | U | | 0.140 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| Toluene | U | | 0.250 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.125 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.965 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0550 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.177 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| Trichloroethene | 0.220 | | 0.0800 | 0.200 | 5 | 11/11/2022 04:33 | WG1956793 |
| Trichlorofluoromethane | U | | 0.100 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 1.02 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.232 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.230 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.216 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Vinyl chloride | 1.56 | | 0.137 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| Xylenes, Total | U | | 0.955 | 1.30 | 5 | 11/11/2022 04:33 | WG1956793 |
| Ethyl Ether | U | | 0.0850 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| Tetrahydrofuran | 16.4 | | 0.450 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| Iodomethane | U | | 1.21 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| Allyl chloride | U | | 2.90 | 5.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.280 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/11/2022 04:33* | WG1956793 |
| *(S) Toluene-d8* | *103* | | | *75.0-131* | | *11/18/2022 12:41* | WG1960564 |
| *(S) 4-Bromofluorobenzene* | *99.7* | | | *67.0-138* | | *11/11/2022 04:33* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/18/2022 12:41* | WG1960564 |
| *(S) 1,2-Dichloroethane-d4* | *94.5* | | | *70.0-130* | | *11/11/2022 04:33* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *87.6* | | | *70.0-130* | | *11/18/2022 12:41* | WG1960564 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |

Sample Narrative:

L1554324-04 WG1956793: Lowest possible dilution due to sample foaming.

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 178000 | | 8450 | 20000 | 1 | 11/13/2022 12:37 | WG1958822 |

Sample Narrative:

L1554324-05 WG1958822: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 38800 | | 379 | 1000 | 1 | 11/05/2022 18:13 | WG1954869 |
| Nitrate | 369 | | 48.0 | 100 | 1 | 11/05/2022 18:13 | WG1954869 |
| Sulfate | 34300 | | 594 | 5000 | 1 | 11/05/2022 18:13 | WG1954869 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1020 | B | 102 | 1000 | 1 | 11/21/2022 16:16 | WG1962903 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 2490 | | 28.1 | 100 | 1 | 11/15/2022 14:02 | WG1959247 |
| Manganese | 460 | | 0.704 | 5.00 | 1 | 11/15/2022 14:02 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 136 | | 0.287 | 0.678 | 1 | 11/10/2022 11:47 | WG1957027 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/10/2022 11:47 | WG1957027 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/10/2022 11:47 | WG1957027 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/11/2022 18:20 | WG1958484 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 18:20 | WG1958484 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 18:20 | WG1958484 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/11/2022 18:20 | WG1958484 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 18:20 | WG1958484 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 18:20 | WG1958484 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 18:20 | WG1958484 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 18:20 | WG1958484 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/11/2022 18:20 | WG1958484 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| Tetrachloroethene | 0.0770 | J | 0.0280 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| Toluene | 0.0640 | J | 0.0500 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 18:20 | WG1958484 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 18:20 | WG1958484 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| Tetrahydrofuran | 1.60 | | 0.0900 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 18:20 | WG1958484 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/11/2022 18:20* | WG1958484 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *11/11/2022 18:20* | WG1958484 |
| *(S) 1,2-Dichloroethane-d4* | *97.9* | | | *70.0-130* | | *11/11/2022 18:20* | WG1958484 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 256000 | | 8450 | 20000 | 1 | 11/13/2022 12:41 | WG1958822 |

Sample Narrative:

L1554324-06 WG1958822: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 14900 | | 379 | 1000 | 1 | 11/05/2022 18:26 | WG1954869 |
| Nitrate | 2730 | | 48.0 | 100 | 1 | 11/05/2022 18:26 | WG1954869 |
| Sulfate | 138000 | | 594 | 5000 | 1 | 11/05/2022 18:26 | WG1954869 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2110 | B | 102 | 1000 | 1 | 11/21/2022 16:30 | WG1962903 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1540 | | 28.1 | 100 | 1 | 11/15/2022 14:05 | WG1959247 |
| Manganese | 491 | | 0.704 | 5.00 | 1 | 11/15/2022 14:05 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 414 | | 0.287 | 0.678 | 1 | 11/10/2022 12:04 | WG1957027 |
| Ethane | 1.66 | | 0.296 | 1.29 | 1 | 11/10/2022 12:04 | WG1957027 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/10/2022 12:04 | WG1957027 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/11/2022 18:39 | WG1958484 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 18:39 | WG1958484 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 18:39 | WG1958484 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,1-Dichloroethene | 0.227 | | 0.0200 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| cis-1,2-Dichloroethene | 61.4 | | 0.0276 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| trans-1,2-Dichloroethene | 0.188 | J | 0.0572 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/11/2022 18:39 | WG1958484 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 18:39 | WG1958484 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 18:39 | WG1958484 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 18:39 | WG1958484 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 18:39 | WG1958484 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/11/2022 18:39 | WG1958484 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| Tetrachloroethene | 47.5 | | 0.0280 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| Toluene | 0.0830 | J | 0.0500 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| Trichloroethene | 11.7 | | 0.0160 | 0.0400 | 1 | 11/11/2022 18:39 | WG1958484 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| Vinyl chloride | 0.270 | | 0.0273 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 18:39 | WG1958484 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| Tetrahydrofuran | 0.153 | J | 0.0900 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 18:39 | WG1958484 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/11/2022 18:39* | WG1958484 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/11/2022 18:39* | WG1958484 |
| *(S) 1,2-Dichloroethane-d4* | *95.8* | | | *70.0-130* | | *11/11/2022 18:39* | WG1958484 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 272000 | | 8450 | 20000 | 1 | 11/13/2022 12:52 | WG1958822 |

Sample Narrative:

L1554324-07 WG1958822: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 13100 | | 379 | 1000 | 1 | 11/05/2022 17:02 | WG1954904 |
| Nitrate | 158 | | 48.0 | 100 | 1 | 11/05/2022 17:02 | WG1954904 |
| Sulfate | 25500 | | 594 | 5000 | 1 | 11/05/2022 17:02 | WG1954904 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 8030 | | 204 | 2000 | 2 | 11/21/2022 17:23 | WG1962903 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 163 | | 28.1 | 100 | 1 | 11/17/2022 12:59 | WG1959249 |
| Manganese | 137 | | 0.704 | 5.00 | 1 | 11/17/2022 12:59 | WG1959249 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 14.3 | | 0.287 | 0.678 | 1 | 11/10/2022 12:07 | WG1957027 |
| Ethane | 1.71 | | 0.296 | 1.29 | 1 | 11/10/2022 12:07 | WG1957027 |
| Ethene | 8.25 | | 0.422 | 1.27 | 1 | 11/10/2022 12:07 | WG1957027 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.67 | | 0.548 | 1.00 | 1 | 11/11/2022 18:59 | WG1958484 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| Benzene | 1.03 | | 0.0160 | 0.0400 | 1 | 11/11/2022 18:59 | WG1958484 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 18:59 | WG1958484 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| cis-1,2-Dichloroethene | 0.146 | | 0.0276 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/11/2022 18:59 | WG1958484 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 18:59 | WG1958484 |
| Isopropylbenzene | 0.187 | | 0.0345 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 18:59 | WG1958484 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 18:59 | WG1958484 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 18:59 | WG1958484 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/11/2022 18:59 | WG1958484 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| Tetrachloroethene | 0.274 | | 0.0280 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| Toluene | 0.0770 | J | 0.0500 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| Trichloroethene | 0.0490 | | 0.0160 | 0.0400 | 1 | 11/11/2022 18:59 | WG1958484 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 18:59 | WG1958484 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 18:59 | WG1958484 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/11/2022 18:59* | WG1958484 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/11/2022 18:59* | WG1958484 |
| *(S) 1,2-Dichloroethane-d4* | *93.3* | | | *70.0-130* | | *11/11/2022 18:59* | WG1958484 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 157000 | | 8450 | 20000 | 1 | 11/15/2022 07:49 | WG1958823 |

Sample Narrative:

L1554324-08 WG1958823: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 16400 | | 379 | 1000 | 1 | 11/05/2022 17:47 | WG1954904 |
| Nitrate | 186 | | 48.0 | 100 | 1 | 11/05/2022 17:47 | WG1954904 |
| Sulfate | 80800 | | 594 | 5000 | 1 | 11/05/2022 17:47 | WG1954904 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1670 | B | 102 | 1000 | 1 | 11/21/2022 17:36 | WG1962903 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 421 | | 28.1 | 100 | 1 | 11/17/2022 13:02 | WG1959249 |
| Manganese | 325 | | 3.52 | 25.0 | 5 | 11/17/2022 13:44 | WG1959249 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 427 | | 0.287 | 0.678 | 1 | 11/10/2022 12:10 | WG1957027 |
| Ethane | 2.49 | | 0.296 | 1.29 | 1 | 11/10/2022 12:10 | WG1957027 |
| Ethene | 22.3 | | 0.422 | 1.27 | 1 | 11/10/2022 12:10 | WG1957027 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/11/2022 19:18 | WG1958484 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 19:18 | WG1958484 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 19:18 | WG1958484 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,1-Dichloroethane | 0.0270 | J | 0.0230 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| cis-1,2-Dichloroethene | 0.0720 | J | 0.0276 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/11/2022 19:18 | WG1958484 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 19:18 | WG1958484 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 19:18 | WG1958484 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 19:18 | WG1958484 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 19:18 | WG1958484 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/11/2022 19:18 | WG1958484 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| Tetrachloroethene | 0.0400 | J | 0.0280 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| Toluene | 0.0850 | J | 0.0500 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| Trichloroethene | 0.0360 | J | 0.0160 | 0.0400 | 1 | 11/11/2022 19:18 | WG1958484 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| Vinyl chloride | 0.480 | | 0.0273 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 19:18 | WG1958484 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 19:18 | WG1958484 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/11/2022 19:18* | WG1958484 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/11/2022 19:18* | WG1958484 |
| *(S) 1,2-Dichloroethane-d4* | *97.1* | | | *70.0-130* | | *11/11/2022 19:18* | WG1958484 |

## Method Blank (MB)

(MB) R3860434-2 11/13/22 11:17

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1552964-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552964-01 11/13/22 11:23 • (DUP) R3860434-3 11/13/22 11:28

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 133000 | 134000 | 1 | 0.912 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

## L1554880-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1554880-01 11/13/22 13:07 • (DUP) R3860434-4 11/13/22 13:12

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 150000 | 149000 | 1 | 0.325 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3860434-1 11/13/22 11:12

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 101000 | 101 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3860990-1 11/15/22 07:02

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:
BLANK: Endpoint pH 4.5

## L1552737-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1552737-01 11/15/22 07:11 • (DUP) R3860990-3 11/15/22 07:17

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 238000 | 239000 | 1 | 0.362 | | 20 |

Sample Narrative:
OS: Endpoint pH 4.5
DUP: Endpoint pH 4.5

## L1555227-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1555227-01 11/15/22 08:53 • (DUP) R3860990-4 11/15/22 08:57

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 420000 | 396000 | 1 | 5.81 | | 20 |

Sample Narrative:
OS: Endpoint pH 4.5 Headspace
DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3860990-2 11/15/22 07:07

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 99100 | 99.1 | 90.0-110 | |

Sample Narrative:
LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3858047-1 11/05/22 10:31

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1554284-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1554284-03 11/05/22 13:55 • (DUP) R3858047-3 11/05/22 14:34

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 297000 | 286000 | 1 | 3.95 | E | 15 |
| Nitrate | 3900 | 3720 | 1 | 4.78 | | 15 |
| Sulfate | 854000 | 820000 | 1 | 4.08 | E | 15 |

## L1554324-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1554324-06 11/05/22 18:26 • (DUP) R3858047-6 11/05/22 18:39

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 14900 | 14800 | 1 | 0.509 | | 15 |
| Nitrate | 2730 | 2690 | 1 | 1.42 | | 15 |
| Sulfate | 138000 | 138000 | 1 | 0.239 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3858047-2 11/05/22 10:44

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 39000 | 97.5 | 80.0-120 | |
| Nitrate | 8000 | 7530 | 94.1 | 80.0-120 | |
| Sulfate | 40000 | 39300 | 98.2 | 80.0-120 | |

## L1554284-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1554284-03 11/05/22 13:55 • (MS) R3858047-4 11/05/22 14:46 • (MSD) R3858047-5 11/05/22 14:59

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 297000 | 311000 | 316000 | 27.5 | 37.7 | 1 | 80.0-120 | E V | E V | 1.63 | 15 |
| Nitrate | 5000 | 3900 | 6960 | 7080 | 61.1 | 63.6 | 1 | 80.0-120 | J6 | J6 | 1.77 | 15 |
| Sulfate | 50000 | 854000 | 839000 | 856000 | 0.000 | 4.28 | 1 | 80.0-120 | E V | E V | 2.07 | 15 |

## L1554324-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1554324-06 11/05/22 18:26 • (MS) R3858047-7 11/05/22 18:51

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 14900 | 64200 | 98.6 | 1 | 80.0-120 | |
| Nitrate | 5000 | 2730 | 7370 | 92.8 | 1 | 80.0-120 | |
| Sulfate | 50000 | 138000 | 181000 | 86.9 | 1 | 80.0-120 | |

## Method Blank (MB)

(MB) R3857499-1 11/05/22 10:43

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1554274-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1554274-01 11/05/22 12:20 • (DUP) R3857499-3 11/05/22 12:34

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 12400 | 12400 | 1 | 0.437 | | 15 |
| Nitrate | 888 | 869 | 1 | 2.15 | | 15 |
| Sulfate | 8040 | 8010 | 1 | 0.345 | | 15 |

## L1554424-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1554424-06 11/05/22 19:01 • (DUP) R3857499-6 11/05/22 19:16

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 53800 | 53800 | 1 | 0.0249 | | 15 |
| Nitrate | U | 430 | 1 | 200 | P1 | 15 |
| Sulfate | U | 1670 | 1 | 200 | J P1 | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3857499-2 11/05/22 10:58

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 41200 | 103 | 80.0-120 | |
| Nitrate | 8000 | 7930 | 99.1 | 80.0-120 | |
| Sulfate | 40000 | 42400 | 106 | 80.0-120 | |

## L1554274-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1554274-01 11/05/22 12:20 • (MS) R3857499-4 11/05/22 12:49 • (MSD) R3857499-5 11/05/22 13:04

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 12400 | 63000 | 63200 | 101 | 102 | 1 | 80.0-120 | | | 0.201 | 15 |
| Nitrate | 5000 | 888 | 5860 | 5870 | 99.5 | 99.7 | 1 | 80.0-120 | | | 0.176 | 15 |
| Sulfate | 50000 | 8040 | 58900 | 59200 | 102 | 102 | 1 | 80.0-120 | | | 0.444 | 15 |

## L1554424-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1554424-06 11/05/22 19:01 • (MS) R3857499-7 11/05/22 19:31

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 53800 | 101000 | 95.1 | 1 | 80.0-120 | |
| Nitrate | 5000 | U | 5300 | 106 | 1 | 80.0-120 | |
| Sulfate | 50000 | U | 52600 | 105 | 1 | 80.0-120 | |

## Method Blank (MB)

(MB) R3860184-1 11/11/22 01:26

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Sulfate | U | | 594 | 5000 |

## L1554380-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1554380-16 11/11/22 02:12 • (DUP) R3860184-3 11/11/22 02:28

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Sulfate | 1340 | 1320 | 1 | 1.39 | J | 15 |

## L1554561-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1554561-03 11/11/22 09:08 • (DUP) R3860184-6 11/11/22 09:24

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Sulfate | 2900 | 2890 | 1 | 0.421 | J | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3860184-2 11/11/22 01:41

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Sulfate | 40000 | 39200 | 98.0 | 80.0-120 | |

## L1554380-16 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1554380-16 11/11/22 02:12 • (MS) R3860184-4 11/11/22 02:43 • (MSD) R3860184-5 11/11/22 02:59

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | 50000 | 1340 | 50900 | 50400 | 99.1 | 98.1 | 1 | 80.0-120 | | | 1.01 | 15 |

## L1554561-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1554561-03 11/11/22 09:08 • (MS) R3860184-7 11/11/22 09:39

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Sulfate | 50000 | 2900 | 52500 | 99.1 | 1 | 80.0-120 | |

# QUALITY CONTROL SUMMARY

L1554324-01,02,03,04,05,06,07,08

## Method Blank (MB)

(MB) R3863704-2 11/21/22 07:00

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 396 | J | 102 | 1000 |

## L1548239-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1548239-04 11/21/22 11:22 • (DUP) R3863704-3 11/21/22 11:40

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 160000 | 158000 | 2 | 1.01 | | 20 |

## L1554554-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1554554-04 11/21/22 19:05 • (DUP) R3863704-8 11/21/22 19:17

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 735 | 611 | 1 | 18.5 | J | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3863704-1 11/21/22 06:29

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 72900 | 97.2 | 85.0-115 | |

## L1554304-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1554304-03 11/21/22 13:17 • (MS) R3863704-4 11/21/22 13:36 • (MSD) R3863704-5 11/21/22 14:25

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 4210 | 60400 | 61000 | 112 | 114 | 1 | 80.0-120 | | | 0.873 | 20 |

## L1554324-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1554324-01 11/21/22 14:40 • (MS) R3863704-6 11/21/22 15:00 • (MSD) R3863704-7 11/21/22 15:19

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 5210 | 61500 | 61700 | 113 | 113 | 1 | 80.0-120 | | | 0.406 | 20 |

## Method Blank (MB)

(MB) R3861160-2 11/15/22 12:32

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3861160-3 11/15/22 12:35

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Iron | 5000 | 4830 | 96.6 | 80.0-120 | |
| Manganese | 50.0 | 51.7 | 103 | 80.0-120 | |

## L1553987-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1553987-02 11/15/22 12:38 • (MS) R3861160-5 11/15/22 12:45 • (MSD) R3861160-6 11/15/22 12:48

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iron | 5000 | 9560 | 14400 | 14400 | 96.2 | 96.5 | 1 | 75.0-125 | | | 0.108 | 20 |
| Manganese | 50.0 | 1050 | 1100 | 1110 | 98.3 | 119 | 1 | 75.0-125 | | | 0.953 | 20 |

## Method Blank (MB)

(MB) R3862225-1 11/17/22 12:10

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3862225-2 11/17/22 12:13

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Iron | 5000 | 5630 | 113 | 80.0-120 | |
| Manganese | 50.0 | 54.3 | 109 | 80.0-120 | |

## L1554000-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1554000-01 11/17/22 12:16 • (MS) R3862225-4 11/17/22 12:23 • (MSD) R3862225-5 11/17/22 12:26

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Iron | 5000 | 33.1 | 5520 | 5490 | 110 | 109 | 1 | 75.0-125 | | | 0.502 | 20 |
| Manganese | 50.0 | 2.31 | 55.2 | 54.1 | 106 | 104 | 1 | 75.0-125 | | | 1.91 | 20 |

## Method Blank (MB)

(MB) R3859414-2 11/10/22 10:50

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1554262-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1554262-10 11/10/22 10:58 • (DUP) R3859414-3 11/10/22 11:33

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1555604-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1555604-02 11/10/22 12:21 • (DUP) R3859414-4 11/10/22 12:25

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859414-1 11/10/22 10:47 • (LCSD) R3859414-7 11/10/22 12:32

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 74.6 | 67.0 | 110 | 98.8 | 85.0-115 | | | 10.7 | 20 |
| Ethane | 129 | 120 | 118 | 93.0 | 91.5 | 85.0-115 | | | 1.68 | 20 |
| Ethene | 127 | 123 | 119 | 96.9 | 93.7 | 85.0-115 | | | 3.31 | 20 |

## L1555604-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1555604-03 11/10/22 12:23 • (MS) R3859414-5 11/10/22 12:28 • (MSD) R3859414-6 11/10/22 12:30

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 424 | 513 | 522 | 131 | 145 | 1 | 85.0-115 | V | V | 1.74 | 20 |
| Ethane | 129 | U | 137 | 141 | 106 | 109 | 1 | 85.0-115 | | | 2.88 | 20 |
| Ethene | 127 | U | 138 | 141 | 109 | 111 | 1 | 85.0-115 | | | 2.15 | 20 |

## Method Blank (MB)

(MB) R3859876-2 11/11/22 08:11

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |

## L1554530-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1554530-04 11/11/22 09:47 • (DUP) R3859876-3 11/11/22 09:50

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 2340 | 2140 | 1 | 8.93 | | 20 |

## L1554554-41 Original Sample (OS) • Duplicate (DUP)

(OS) L1554554-41 11/11/22 10:38 • (DUP) R3859876-4 11/11/22 10:41

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3859876-1 11/11/22 08:03 • (LCSD) R3859876-5 11/11/22 10:43

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 64.2 | 70.8 | 94.7 | 104 | 85.0-115 | | | 9.78 | 20 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Method Blank (MB)

(MB) R3861034-3 11/10/22 19:14

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | 0.0350 | J | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3861034-3 11/10/22 19:14

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *110* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *96.6* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3861034-1 11/10/22 17:10 • (LCSD) R3861034-2 11/10/22 17:54

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 27.2 | 28.4 | 109 | 114 | 10.0-160 | | | 4.32 | 31 |
| Acrylonitrile | 25.0 | 29.1 | 28.6 | 116 | 114 | 45.0-153 | | | 1.73 | 22 |
| Benzene | 5.00 | 5.58 | 5.43 | 112 | 109 | 70.0-123 | | | 2.72 | 20 |
| Bromobenzene | 5.00 | 5.42 | 5.38 | 108 | 108 | 73.0-121 | | | 0.741 | 20 |
| Bromodichloromethane | 5.00 | 5.54 | 5.58 | 111 | 112 | 73.0-121 | | | 0.719 | 20 |
| Bromoform | 5.00 | 4.77 | 4.86 | 95.4 | 97.2 | 64.0-132 | | | 1.87 | 20 |
| Bromomethane | 5.00 | 6.83 | 5.32 | 137 | 106 | 56.0-147 | | J3 | 24.9 | 20 |
| n-Butylbenzene | 5.00 | 5.74 | 5.88 | 115 | 118 | 68.0-135 | | | 2.41 | 20 |
| sec-Butylbenzene | 5.00 | 5.86 | 5.93 | 117 | 119 | 74.0-130 | | | 1.19 | 20 |
| tert-Butylbenzene | 5.00 | 5.58 | 5.56 | 112 | 111 | 75.0-127 | | | 0.359 | 20 |
| Carbon tetrachloride | 5.00 | 5.54 | 5.45 | 111 | 109 | 66.0-128 | | | 1.64 | 20 |
| Chlorobenzene | 5.00 | 5.37 | 5.31 | 107 | 106 | 76.0-128 | | | 1.12 | 20 |
| Chlorodibromomethane | 5.00 | 5.38 | 5.43 | 108 | 109 | 74.0-127 | | | 0.925 | 20 |
| Chloroethane | 5.00 | 6.63 | 5.62 | 133 | 112 | 61.0-134 | | | 16.5 | 20 |
| Chloroform | 5.00 | 5.32 | 5.37 | 106 | 107 | 72.0-123 | | | 0.935 | 20 |
| Chloromethane | 5.00 | 5.24 | 5.27 | 105 | 105 | 51.0-138 | | | 0.571 | 20 |
| 2-Chlorotoluene | 5.00 | 5.96 | 5.10 | 119 | 102 | 75.0-124 | | | 15.6 | 20 |
| 4-Chlorotoluene | 5.00 | 5.85 | 5.93 | 117 | 119 | 75.0-124 | | | 1.36 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.16 | 4.51 | 83.2 | 90.2 | 59.0-130 | | | 8.07 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.56 | 5.34 | 111 | 107 | 74.0-128 | | | 4.04 | 20 |
| Dibromomethane | 5.00 | 5.50 | 5.65 | 110 | 113 | 75.0-122 | | | 2.69 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 5.00 | 5.17 | 100 | 103 | 76.0-124 | | | 3.34 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 5.30 | 5.34 | 106 | 107 | 76.0-125 | | | 0.752 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 5.19 | 5.29 | 104 | 106 | 77.0-121 | | | 1.91 | 20 |
| Dichlorodifluoromethane | 5.00 | 4.95 | 4.61 | 99.0 | 92.2 | 43.0-156 | | | 7.11 | 20 |
| 1,1-Dichloroethane | 5.00 | 5.58 | 5.43 | 112 | 109 | 70.0-127 | | | 2.72 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.89 | 4.98 | 97.8 | 99.6 | 65.0-131 | | | 1.82 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.62 | 5.45 | 112 | 109 | 65.0-131 | | | 3.07 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.60 | 5.35 | 112 | 107 | 73.0-125 | | | 4.57 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.78 | 5.53 | 116 | 111 | 71.0-125 | | | 4.42 | 20 |
| 1,2-Dichloropropane | 5.00 | 5.47 | 5.29 | 109 | 106 | 74.0-125 | | | 3.35 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.79 | 5.62 | 116 | 112 | 73.0-125 | | | 2.98 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.21 | 5.23 | 104 | 105 | 80.0-125 | | | 0.383 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 5.43 | 5.42 | 109 | 108 | 76.0-127 | | | 0.184 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 5.28 | 5.26 | 106 | 105 | 73.0-127 | | | 0.380 | 20 |
| 2,2-Dichloropropane | 5.00 | 6.16 | 5.79 | 123 | 116 | 59.0-135 | | | 6.19 | 20 |
| Di-isopropyl ether | 5.00 | 5.61 | 5.51 | 112 | 110 | 60.0-136 | | | 1.80 | 20 |
| Ethylbenzene | 5.00 | 5.41 | 5.38 | 108 | 108 | 74.0-126 | | | 0.556 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 5.15 | 5.26 | 103 | 105 | 57.0-150 | | | 2.11 | 20 |
| Isopropylbenzene | 5.00 | 5.96 | 5.84 | 119 | 117 | 72.0-127 | | | 2.03 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3861034-1 11/10/22 17:10 • (LCSD) R3861034-2 11/10/22 17:54

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.84 | 5.90 | 117 | 118 | 72.0-133 | | | 1.02 | 20 |
| 2-Butanone (MEK) | 25.0 | 27.8 | 28.0 | 111 | 112 | 30.0-160 | | | 0.717 | 24 |
| Methylene Chloride | 5.00 | 5.35 | 5.26 | 107 | 105 | 68.0-123 | | | 1.70 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 31.9 | 32.2 | 128 | 129 | 56.0-143 | | | 0.936 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.29 | 5.20 | 106 | 104 | 66.0-132 | | | 1.72 | 20 |
| Naphthalene | 5.00 | 4.27 | 4.92 | 85.4 | 98.4 | 59.0-130 | | | 14.1 | 20 |
| n-Propylbenzene | 5.00 | 6.15 | 6.11 | 123 | 122 | 74.0-126 | | | 0.653 | 20 |
| Styrene | 5.00 | 5.44 | 5.68 | 109 | 114 | 72.0-127 | | | 4.32 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.48 | 5.29 | 110 | 106 | 74.0-129 | | | 3.53 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 5.16 | 5.21 | 103 | 104 | 68.0-128 | | | 0.964 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.64 | 5.32 | 113 | 106 | 61.0-139 | | | 5.84 | 20 |
| Tetrachloroethene | 5.00 | 5.91 | 5.76 | 118 | 115 | 70.0-136 | | | 2.57 | 20 |
| Toluene | 5.00 | 5.61 | 5.53 | 112 | 111 | 75.0-121 | | | 1.44 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.73 | 5.14 | 94.6 | 103 | 59.0-139 | | | 8.31 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.55 | 4.89 | 91.0 | 97.8 | 62.0-137 | | | 7.20 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.40 | 5.39 | 108 | 108 | 69.0-126 | | | 0.185 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.43 | 5.41 | 109 | 108 | 78.0-123 | | | 0.369 | 20 |
| Trichloroethene | 5.00 | 5.27 | 5.23 | 105 | 105 | 76.0-126 | | | 0.762 | 20 |
| Trichlorofluoromethane | 5.00 | 6.54 | 6.16 | 131 | 123 | 61.0-142 | | | 5.98 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 5.07 | 5.25 | 101 | 105 | 67.0-129 | | | 3.49 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.55 | 5.46 | 111 | 109 | 70.0-126 | | | 1.63 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.36 | 5.45 | 107 | 109 | 74.0-124 | | | 1.67 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.96 | 5.83 | 119 | 117 | 73.0-127 | | | 2.21 | 20 |
| Vinyl chloride | 5.00 | 5.16 | 5.22 | 103 | 104 | 63.0-134 | | | 1.16 | 20 |
| Xylenes, Total | 15.0 | 16.8 | 16.4 | 112 | 109 | 72.0-127 | | | 2.41 | 20 |
| Ethyl ether | 5.00 | 5.43 | 5.26 | 109 | 105 | 64.0-137 | | | 3.18 | 20 |
| Tetrahydrofuran | 5.00 | 4.76 | 5.08 | 95.2 | 102 | 37.0-146 | | | 6.50 | 24 |
| Iodomethane | 25.0 | 27.6 | 26.7 | 110 | 107 | 74.0-134 | | | 3.31 | 20 |
| Allyl chloride | 25.0 | 28.9 | 27.9 | 116 | 112 | 70.0-131 | | | 3.52 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 4.85 | 4.67 | 97.0 | 93.4 | 45.0-143 | | | 3.78 | 20 |
| *(S) Toluene-d8* | | | | *106* | *105* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *99.3* | *99.9* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *99.9* | *96.9* | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R3862344-3 11/11/22 17:42

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | 0.112 | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3862344-3 11/11/22 17:42

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *94.4* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3862344-1 11/11/22 16:25 • (LCSD) R3862344-2 11/11/22 16:44

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 26.2 | 25.2 | 105 | 101 | 10.0-160 | | | 3.89 | 31 |
| Acrylonitrile | 25.0 | 29.0 | 26.5 | 116 | 106 | 45.0-153 | | | 9.01 | 22 |
| Benzene | 5.00 | 5.47 | 5.27 | 109 | 105 | 70.0-123 | | | 3.72 | 20 |
| Bromobenzene | 5.00 | 5.14 | 5.51 | 103 | 110 | 73.0-121 | | | 6.95 | 20 |
| Bromodichloromethane | 5.00 | 5.75 | 5.31 | 115 | 106 | 73.0-121 | | | 7.96 | 20 |
| Bromoform | 5.00 | 5.17 | 4.97 | 103 | 99.4 | 64.0-132 | | | 3.94 | 20 |
| Bromomethane | 5.00 | 6.49 | 4.98 | 130 | 99.6 | 56.0-147 | | J3 | 26.3 | 20 |
| n-Butylbenzene | 5.00 | 5.46 | 5.23 | 109 | 105 | 68.0-135 | | | 4.30 | 20 |
| sec-Butylbenzene | 5.00 | 5.74 | 6.09 | 115 | 122 | 74.0-130 | | | 5.92 | 20 |
| tert-Butylbenzene | 5.00 | 5.47 | 5.59 | 109 | 112 | 75.0-127 | | | 2.17 | 20 |
| Carbon tetrachloride | 5.00 | 5.71 | 5.57 | 114 | 111 | 66.0-128 | | | 2.48 | 20 |
| Chlorobenzene | 5.00 | 5.13 | 5.16 | 103 | 103 | 76.0-128 | | | 0.583 | 20 |
| Chlorodibromomethane | 5.00 | 5.36 | 5.43 | 107 | 109 | 74.0-127 | | | 1.30 | 20 |
| Chloroethane | 5.00 | 5.63 | 5.07 | 113 | 101 | 61.0-134 | | | 10.5 | 20 |
| Chloroform | 5.00 | 5.40 | 5.15 | 108 | 103 | 72.0-123 | | | 4.74 | 20 |
| Chloromethane | 5.00 | 4.72 | 4.56 | 94.4 | 91.2 | 51.0-138 | | | 3.45 | 20 |
| 2-Chlorotoluene | 5.00 | 4.60 | 4.87 | 92.0 | 97.4 | 75.0-124 | | | 5.70 | 20 |
| 4-Chlorotoluene | 5.00 | 5.73 | 5.70 | 115 | 114 | 75.0-124 | | | 0.525 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.56 | 4.59 | 91.2 | 91.8 | 59.0-130 | | | 0.656 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.33 | 5.31 | 107 | 106 | 74.0-128 | | | 0.376 | 20 |
| Dibromomethane | 5.00 | 5.91 | 5.24 | 118 | 105 | 75.0-122 | | | 12.0 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 5.13 | 5.01 | 103 | 100 | 76.0-124 | | | 2.37 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 5.37 | 5.38 | 107 | 108 | 76.0-125 | | | 0.186 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 5.23 | 5.05 | 105 | 101 | 77.0-121 | | | 3.50 | 20 |
| Dichlorodifluoromethane | 5.00 | 4.90 | 4.67 | 98.0 | 93.4 | 43.0-156 | | | 4.81 | 20 |
| 1,1-Dichloroethane | 5.00 | 5.30 | 5.18 | 106 | 104 | 70.0-127 | | | 2.29 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.99 | 4.77 | 99.8 | 95.4 | 65.0-131 | | | 4.51 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.45 | 5.17 | 109 | 103 | 65.0-131 | | | 5.27 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.57 | 5.31 | 111 | 106 | 73.0-125 | | | 4.78 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.55 | 5.36 | 111 | 107 | 71.0-125 | | | 3.48 | 20 |
| 1,2-Dichloropropane | 5.00 | 5.36 | 5.19 | 107 | 104 | 74.0-125 | | | 3.22 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.55 | 5.59 | 111 | 112 | 73.0-125 | | | 0.718 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.15 | 5.15 | 103 | 103 | 80.0-125 | | | 0.000 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 5.56 | 5.30 | 111 | 106 | 76.0-127 | | | 4.79 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 5.28 | 5.31 | 106 | 106 | 73.0-127 | | | 0.567 | 20 |
| 2,2-Dichloropropane | 5.00 | 5.94 | 5.78 | 119 | 116 | 59.0-135 | | | 2.73 | 20 |
| Di-isopropyl ether | 5.00 | 5.48 | 5.21 | 110 | 104 | 60.0-136 | | | 5.05 | 20 |
| Ethylbenzene | 5.00 | 5.18 | 5.15 | 104 | 103 | 74.0-126 | | | 0.581 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 5.19 | 4.45 | 104 | 89.0 | 57.0-150 | | | 15.4 | 20 |
| Isopropylbenzene | 5.00 | 5.76 | 5.73 | 115 | 115 | 72.0-127 | | | 0.522 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3862344-1 11/11/22 16:25 • (LCSD) R3862344-2 11/11/22 16:44

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.73 | 5.95 | 115 | 119 | 72.0-133 | | | 3.77 | 20 |
| 2-Butanone (MEK) | 25.0 | 32.8 | 27.7 | 131 | 111 | 30.0-160 | | | 16.9 | 24 |
| Methylene Chloride | 5.00 | 5.87 | 5.58 | 117 | 112 | 68.0-123 | | | 5.07 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 30.1 | 30.0 | 120 | 120 | 56.0-143 | | | 0.333 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.57 | 5.55 | 111 | 111 | 66.0-132 | | | 0.360 | 20 |
| Naphthalene | 5.00 | 4.44 | 4.53 | 88.8 | 90.6 | 59.0-130 | | | 2.01 | 20 |
| n-Propylbenzene | 5.00 | 5.53 | 5.90 | 111 | 118 | 74.0-126 | | | 6.47 | 20 |
| Styrene | 5.00 | 5.42 | 5.43 | 108 | 109 | 72.0-127 | | | 0.184 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.51 | 5.51 | 110 | 110 | 74.0-129 | | | 0.000 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.93 | 5.18 | 98.6 | 104 | 68.0-128 | | | 4.95 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.39 | 5.26 | 108 | 105 | 61.0-139 | | | 2.44 | 20 |
| Tetrachloroethene | 5.00 | 5.63 | 5.74 | 113 | 115 | 70.0-136 | | | 1.93 | 20 |
| Toluene | 5.00 | 5.37 | 5.34 | 107 | 107 | 75.0-121 | | | 0.560 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.66 | 4.72 | 93.2 | 94.4 | 59.0-139 | | | 1.28 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.76 | 4.12 | 95.2 | 82.4 | 62.0-137 | | | 14.4 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.52 | 5.52 | 110 | 110 | 69.0-126 | | | 0.000 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.48 | 5.35 | 110 | 107 | 78.0-123 | | | 2.40 | 20 |
| Trichloroethene | 5.00 | 5.44 | 5.14 | 109 | 103 | 76.0-126 | | | 5.67 | 20 |
| Trichlorofluoromethane | 5.00 | 6.16 | 6.09 | 123 | 122 | 61.0-142 | | | 1.14 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 5.32 | 5.34 | 106 | 107 | 67.0-129 | | | 0.375 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.44 | 5.37 | 109 | 107 | 70.0-126 | | | 1.30 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.33 | 5.42 | 107 | 108 | 74.0-124 | | | 1.67 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.49 | 5.56 | 110 | 111 | 73.0-127 | | | 1.27 | 20 |
| Vinyl chloride | 5.00 | 5.19 | 5.30 | 104 | 106 | 63.0-134 | | | 2.10 | 20 |
| Xylenes, Total | 15.0 | 14.6 | 16.4 | 97.3 | 109 | 72.0-127 | | | 11.6 | 20 |
| Ethyl ether | 5.00 | 5.59 | 5.14 | 112 | 103 | 64.0-137 | | | 8.39 | 20 |
| Tetrahydrofuran | 5.00 | 5.72 | 5.28 | 114 | 106 | 37.0-146 | | | 8.00 | 24 |
| Iodomethane | 25.0 | 27.6 | 26.5 | 110 | 106 | 74.0-134 | | | 4.07 | 20 |
| Allyl chloride | 25.0 | 27.6 | 27.4 | 110 | 110 | 70.0-131 | | | 0.727 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 4.87 | 4.98 | 97.4 | 99.6 | 45.0-143 | | | 2.23 | 20 |
| *(S) Toluene-d8* | | | | *104* | *105* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *103* | *98.8* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *99.6* | *96.3* | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R3861826-3 11/15/22 22:03

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *99.4* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *94.5* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3861826-1 11/15/22 20:46 • (LCSD) R3861826-2 11/15/22 21:05

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 5.00 | 5.14 | 5.16 | 103 | 103 | 73.0-125 | | | 0.388 | 20 |
| *(S) Toluene-d8* | | | | *103* | *103* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *106* | *103* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *98.4* | *101* | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R3862803-2 11/18/22 12:22

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| *(S) Toluene-d8* | *101* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *104* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *90.4* | | | *70.0-130* |

## Laboratory Control Sample (LCS)

(LCS) R3862803-1 11/18/22 09:54

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 5.00 | 4.96 | 99.2 | 73.0-125 | |
| *(S) Toluene-d8* | | | *100* | *75.0-131* | |
| *(S) 4-Bromofluorobenzene* | | | *102* | *67.0-138* | |
| *(S) 1,2-Dichloroethane-d4* | | | *92.1* | *70.0-130* | |

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| B | The same analyte is found in the associated blank. |
| C4 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result. |
| E | The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL). |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J3 | The associated batch QC was outside the established quality control range for precision. |
| J6 | The sample matrix interfered with the ability to make any accurate determination; spike value is low. |
| P1 | RPD value not applicable for sample concentrations less than 5 times the reporting limit. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**
2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Billing Information:
Attn: Accounts Payable
2101 4th Avenue, Suite 1310
Seattle, WA 98121

Pres Chk

Report to: Brian O'Neal/Bill Haldeman

Email To: Shannon.McKernan@nv5.com;brian.oneal@nv5

Project Description: American Linen

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: 206-529-3980

Client Project # 1413.001.10.701.02

Lab Project # PESENVSWA-ALP

Collected by (print): AGS

Site/Facility ID #

P.O. # 1413.001.10.701.02
~~443018-1413001.05.001~~

Collected by (signature):

Immediately Packed on Ice N ___ Y X

**Rush?** (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW116-110422 | Grab | GW | — | 11-04-22 | 0937 | 9 | X | X | X | X | | X | X | X | | -01 |
| MW-320-110422 | | GW | — | | 1012 | | X | X | X | X | | X | X | X | | -02 |
| MW-323-110422 | | GW | — | | 1047 | | X | X | X | X | | X | X | X | | -03 |
| R-MW6-110422 | | GW | — | | 1131 | | X | X | X | X | | X | X | X | | -04 |
| MW-306-110422 | | GW | — | | 1132 | | X | X | X | X | | X | X | X | | -05 |
| MW-155-110422 | | GW | — | | 1021 | | X | X | X | X | | X | X | X | | -06 |
| MW-307-110422 | | GW | — | | 1059 | | X | X | X | X | | X | X | X | | -07 |
| MW-148-110422 | | GW | — | | 0941 | | X | X | X | X | | X | X | X | | -08 |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other ____

Remarks:

pH ____ Temp ____
Flow ____ Other ____

Samples returned via: __ UPS __ FedEx __ Courier ____

Tracking # 9463 1914 4998

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) |
|---|---|---|---|
| | 11-04-22 | 14:35 | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) |
| | | | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) |
| | | | |

Trip Blank Received: Yes (No) HCL / MeoH TBR

Temp: 6BA °C Bottles Received: 72
3.1+0=3.1

Date: 11.05.22 Time: 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L554324
D119

Acctnum: PESENVSWA
Template: T218236
Prelogin: P957562
PM: 546 - Jared Starkey
PB:

Shipped Via:

# ANALYTICAL REPORT

November 28, 2022



## PES Environmental, Inc.- WA

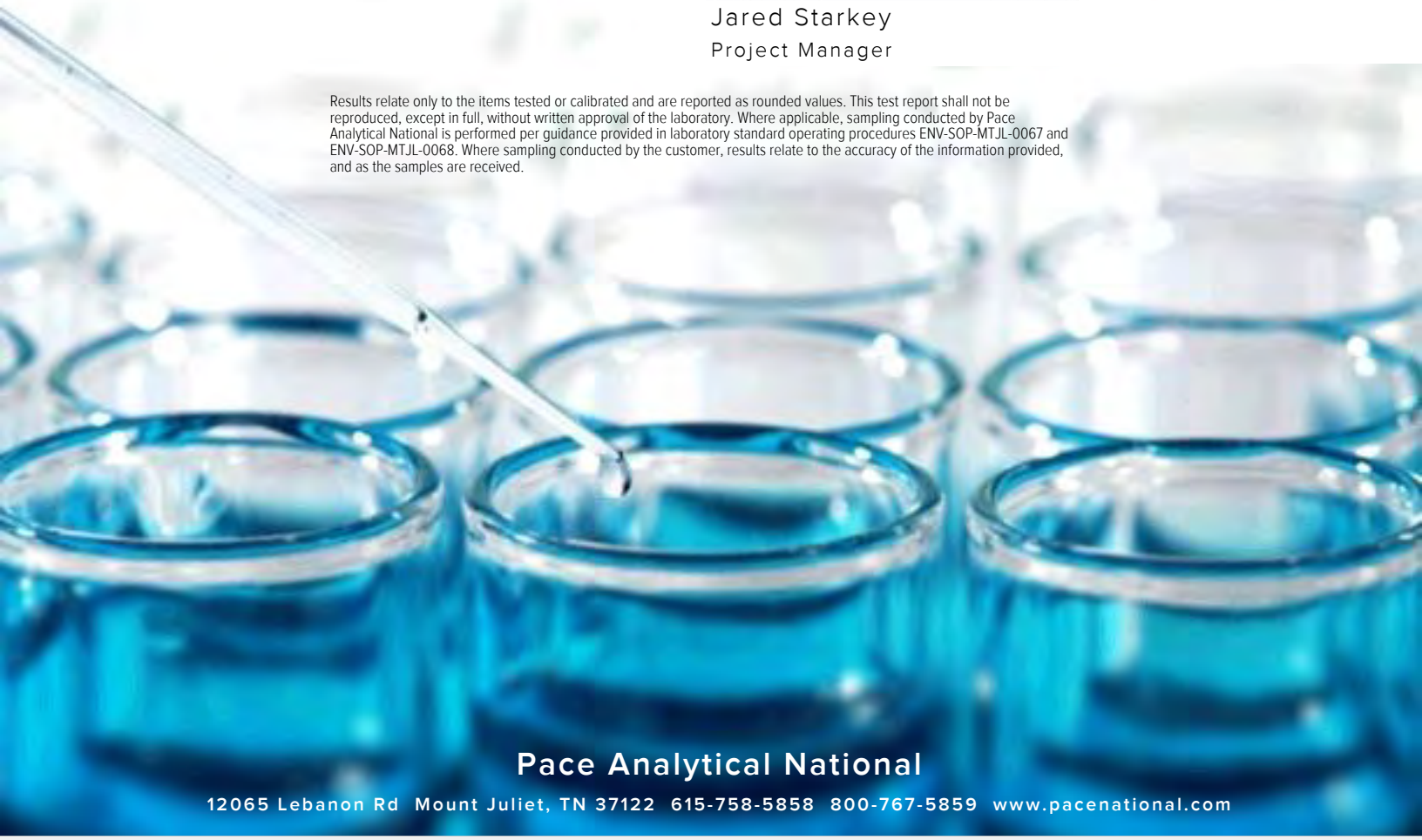
| | |
|---|---|
| Sample Delivery Group: | L1555557 |
| Samples Received: | 11/09/2022 |
| Project Number: | 1413.001,10.70.02 |
| Description: | American Linen |

Report To: Brian O'Neal/Bill Haldeman
2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## R-MW5-110822 L1555557-01 GW

Collected by: NEW | Collected date/time: 11/08/22 10:01 | Received date/time: 11/09/22 10:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958957 | 1 | 11/15/22 12:21 | 11/15/22 12:21 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1956898 | 1 | 11/10/22 02:18 | 11/10/22 02:18 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1963543 | 1 | 11/23/22 12:56 | 11/23/22 12:56 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959258 | 1 | 11/16/22 10:47 | 11/16/22 23:06 | LD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method NWTPHGX | WG1958540 | 1 | 11/12/22 03:32 | 11/12/22 03:32 | BAM | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1958883 | 1 | 11/15/22 11:34 | 11/15/22 11:34 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1959342 | 1 | 11/15/22 04:08 | 11/15/22 04:08 | ACG | Mt. Juliet, TN |

## MW-302-110822 L1555557-02 GW

Collected by: NEW | Collected date/time: 11/08/22 10:49 | Received date/time: 11/09/22 10:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958957 | 1 | 11/15/22 12:25 | 11/15/22 12:25 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1956898 | 1 | 11/10/22 04:47 | 11/10/22 04:47 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1963543 | 1 | 11/23/22 13:14 | 11/23/22 13:14 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959258 | 1 | 11/16/22 10:47 | 11/16/22 23:10 | LD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1958883 | 1 | 11/15/22 11:37 | 11/15/22 11:37 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1959342 | 1 | 11/15/22 04:27 | 11/15/22 04:27 | ACG | Mt. Juliet, TN |

## MW112-110822 L1555557-03 GW

Collected by: NEW | Collected date/time: 11/08/22 12:36 | Received date/time: 11/09/22 10:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958957 | 1 | 11/15/22 12:30 | 11/15/22 12:30 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1956898 | 1 | 11/10/22 05:02 | 11/10/22 05:02 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1963543 | 1 | 11/23/22 13:36 | 11/23/22 13:36 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959258 | 1 | 11/16/22 10:47 | 11/16/22 23:13 | LD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1958883 | 1 | 11/15/22 11:46 | 11/15/22 11:46 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1959342 | 1 | 11/15/22 04:46 | 11/15/22 04:46 | ACG | Mt. Juliet, TN |

## MW-138-110822 L1555557-04 GW

Collected by: NEW | Collected date/time: 11/08/22 10:18 | Received date/time: 11/09/22 10:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958957 | 1 | 11/15/22 12:34 | 11/15/22 12:34 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1956898 | 1 | 11/10/22 02:33 | 11/10/22 02:33 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1963543 | 1 | 11/23/22 13:56 | 11/23/22 13:56 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959258 | 1 | 11/16/22 10:47 | 11/16/22 23:28 | LD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1958883 | 1 | 11/15/22 11:49 | 11/15/22 11:49 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1959342 | 1 | 11/15/22 05:05 | 11/15/22 05:05 | ACG | Mt. Juliet, TN |

## MW-303-110822 L1555557-05 GW

Collected by: NEW | Collected date/time: 11/08/22 10:55 | Received date/time: 11/09/22 10:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1958957 | 1 | 11/15/22 12:39 | 11/15/22 12:39 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1956898 | 1 | 11/10/22 05:17 | 11/10/22 05:17 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1963543 | 1 | 11/23/22 14:15 | 11/23/22 14:15 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959258 | 1 | 11/16/22 10:47 | 11/16/22 23:31 | LD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1958883 | 1 | 11/15/22 11:53 | 11/15/22 11:53 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1959342 | 1 | 11/15/22 05:24 | 11/15/22 05:24 | ACG | Mt. Juliet, TN |

## MW-349-110822 L1555557-06 GW

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| NEW | 11/08/22 15:15 | 11/09/22 10:30 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1959673 | 1 | 11/15/22 12:34 | 11/15/22 12:34 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1956898 | 1 | 11/10/22 05:32 | 11/10/22 05:32 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1963543 | 1 | 11/23/22 14:36 | 11/23/22 14:36 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959258 | 1 | 11/16/22 10:47 | 11/16/22 23:35 | LD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1958883 | 1 | 11/15/22 12:01 | 11/15/22 12:01 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1959897 | 10 | 11/15/22 14:53 | 11/15/22 14:53 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1959342 | 1 | 11/15/22 05:43 | 11/15/22 05:43 | ACG | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 156000 | | 8450 | 20000 | 1 | 11/15/2022 12:21 | WG1958957 |

Sample Narrative:

L1555557-01 WG1958957: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 41500 | | 379 | 1000 | 1 | 11/10/2022 02:18 | WG1956898 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/10/2022 02:18 | WG1956898 |
| Sulfate | 15000 | | 594 | 5000 | 1 | 11/10/2022 02:18 | WG1956898 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 5880 | | 102 | 1000 | 1 | 11/23/2022 12:56 | WG1963543 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 7530 | | 28.1 | 100 | 1 | 11/16/2022 23:06 | WG1959258 |
| Manganese | 4060 | | 0.704 | 5.00 | 1 | 11/16/2022 23:06 | WG1959258 |

## Volatile Organic Compounds (GC) by Method NWTPHGX

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Gasoline Range Organics-NWTPH | 32.6 | B J | 31.6 | 100 | 1 | 11/12/2022 03:32 | WG1958540 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *103* | | | *78.0-120* | | *11/12/2022 03:32* | WG1958540 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 332 | | 0.287 | 0.678 | 1 | 11/15/2022 11:34 | WG1958883 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/15/2022 11:34 | WG1958883 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/15/2022 11:34 | WG1958883 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | C3 | 0.548 | 1.00 | 1 | 11/15/2022 04:08 | WG1959342 |
| Acrylonitrile | U | C3 | 0.0760 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/15/2022 04:08 | WG1959342 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/15/2022 04:08 | WG1959342 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,2-Dichloroethane | U | C3 | 0.0190 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| cis-1,2-Dichloroethene | 0.297 | | 0.0276 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| 2,2-Dichloropropane | U | J3 | 0.0317 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/15/2022 04:08 | WG1959342 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| Hexachloro-1,3-butadiene | U | J4 | 0.508 | 1.00 | 1 | 11/15/2022 04:08 | WG1959342 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| 2-Butanone (MEK) | U | C3 | 0.500 | 1.00 | 1 | 11/15/2022 04:08 | WG1959342 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/15/2022 04:08 | WG1959342 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/15/2022 04:08 | WG1959342 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/15/2022 04:08 | WG1959342 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| Tetrachloroethene | 0.515 | C5 J4 | 0.0280 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| Toluene | 0.0580 | J | 0.0500 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,2,3-Trichlorobenzene | U | J4 | 0.0250 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,2,4-Trichlorobenzene | U | J4 | 0.193 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| Trichloroethene | 0.314 | C5 J4 | 0.0160 | 0.0400 | 1 | 11/15/2022 04:08 | WG1959342 |
| Trichlorofluoromethane | U | C3 | 0.0200 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/15/2022 04:08 | WG1959342 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| Tetrahydrofuran | U | C3 J3 | 0.0900 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/15/2022 04:08 | WG1959342 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| *(S) Toluene-d8* | *110* | | | *75.0-131* | | *11/15/2022 04:08* | WG1959342 |
| *(S) 4-Bromofluorobenzene* | *107* | | | *67.0-138* | | *11/15/2022 04:08* | WG1959342 |
| *(S) 1,2-Dichloroethane-d4* | *69.9* | J2 | | *70.0-130* | | *11/15/2022 04:08* | WG1959342 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 307000 | | 8450 | 20000 | 1 | 11/15/2022 12:25 | WG1958957 |

Sample Narrative:
L1555557-02 WG1958957: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 26600 | | 379 | 1000 | 1 | 11/10/2022 04:47 | WG1956898 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/10/2022 04:47 | WG1956898 |
| Sulfate | 21200 | | 594 | 5000 | 1 | 11/10/2022 04:47 | WG1956898 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 1800 | B | 102 | 1000 | 1 | 11/23/2022 13:14 | WG1963543 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 2860 | | 28.1 | 100 | 1 | 11/16/2022 23:10 | WG1959258 |
| Manganese | 498 | | 0.704 | 5.00 | 1 | 11/16/2022 23:10 | WG1959258 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 207 | | 0.287 | 0.678 | 1 | 11/15/2022 11:37 | WG1958883 |
| Ethane | 1.30 | | 0.296 | 1.29 | 1 | 11/15/2022 11:37 | WG1958883 |
| Ethene | 14.5 | | 0.422 | 1.27 | 1 | 11/15/2022 11:37 | WG1958883 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | C3 | 0.548 | 1.00 | 1 | 11/15/2022 04:27 | WG1959342 |
| Acrylonitrile | U | C3 | 0.0760 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/15/2022 04:27 | WG1959342 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/15/2022 04:27 | WG1959342 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,2-Dichloroethane | U | C3 | 0.0190 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| 2,2-Dichloropropane | U | J3 | 0.0317 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/15/2022 04:27 | WG1959342 |
| Ethylbenzene | 0.0480 | J | 0.0212 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| Hexachloro-1,3-butadiene | U | J4 | 0.508 | 1.00 | 1 | 11/15/2022 04:27 | WG1959342 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| 2-Butanone (MEK) | U | C3 | 0.500 | 1.00 | 1 | 11/15/2022 04:27 | WG1959342 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/15/2022 04:27 | WG1959342 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/15/2022 04:27 | WG1959342 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/15/2022 04:27 | WG1959342 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| Tetrachloroethene | U | J4 | 0.0280 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| Toluene | 0.174 | J | 0.0500 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,2,3-Trichlorobenzene | U | J4 | 0.0250 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,2,4-Trichlorobenzene | U | J4 | 0.193 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| Trichloroethene | U | J4 | 0.0160 | 0.0400 | 1 | 11/15/2022 04:27 | WG1959342 |
| Trichlorofluoromethane | U | C3 | 0.0200 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| Vinyl chloride | 0.0540 | J | 0.0273 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| Xylenes, Total | 0.237 | J | 0.191 | 0.260 | 1 | 11/15/2022 04:27 | WG1959342 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| Tetrahydrofuran | 0.336 | C3 J J3 | 0.0900 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/15/2022 04:27 | WG1959342 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| *(S) Toluene-d8* | *110* | | | *75.0-131* | | *11/15/2022 04:27* | WG1959342 |
| *(S) 4-Bromofluorobenzene* | *107* | | | *67.0-138* | | *11/15/2022 04:27* | WG1959342 |
| *(S) 1,2-Dichloroethane-d4* | *69.8* | J2 | | *70.0-130* | | *11/15/2022 04:27* | WG1959342 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 32600 | | 8450 | 20000 | 1 | 11/15/2022 12:30 | WG1958957 |

Sample Narrative:

L1555557-03 WG1958957: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 17500 | | 379 | 1000 | 1 | 11/10/2022 05:02 | WG1956898 |
| Nitrate | 488 | | 48.0 | 100 | 1 | 11/10/2022 05:02 | WG1956898 |
| Sulfate | 898 | J | 594 | 5000 | 1 | 11/10/2022 05:02 | WG1956898 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4550 | | 102 | 1000 | 1 | 11/23/2022 13:36 | WG1963543 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 672 | | 28.1 | 100 | 1 | 11/16/2022 23:13 | WG1959258 |
| Manganese | 79.9 | | 0.704 | 5.00 | 1 | 11/16/2022 23:13 | WG1959258 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 49.6 | | 0.287 | 0.678 | 1 | 11/15/2022 11:46 | WG1958883 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/15/2022 11:46 | WG1958883 |
| Ethene | 2.37 | | 0.422 | 1.27 | 1 | 11/15/2022 11:46 | WG1958883 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.88 | C3 | 0.548 | 1.00 | 1 | 11/15/2022 04:46 | WG1959342 |
| Acrylonitrile | U | C3 | 0.0760 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/15/2022 04:46 | WG1959342 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/15/2022 04:46 | WG1959342 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,2-Dichloroethane | U | C3 | 0.0190 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| 2,2-Dichloropropane | U | J3 | 0.0317 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/15/2022 04:46 | WG1959342 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| Hexachloro-1,3-butadiene | U | J4 | 0.508 | 1.00 | 1 | 11/15/2022 04:46 | WG1959342 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| 2-Butanone (MEK) | U | C3 | 0.500 | 1.00 | 1 | 11/15/2022 04:46 | WG1959342 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/15/2022 04:46 | WG1959342 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/15/2022 04:46 | WG1959342 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/15/2022 04:46 | WG1959342 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| Tetrachloroethene | U | J4 | 0.0280 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,2,3-Trichlorobenzene | U | J4 | 0.0250 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,2,4-Trichlorobenzene | U | J4 | 0.193 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| Trichloroethene | U | J4 | 0.0160 | 0.0400 | 1 | 11/15/2022 04:46 | WG1959342 |
| Trichlorofluoromethane | U | C3 | 0.0200 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/15/2022 04:46 | WG1959342 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| Tetrahydrofuran | U | C3 J3 | 0.0900 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/15/2022 04:46 | WG1959342 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| *(S) Toluene-d8* | *112* | | | *75.0-131* | | *11/15/2022 04:46* | WG1959342 |
| *(S) 4-Bromofluorobenzene* | *106* | | | *67.0-138* | | *11/15/2022 04:46* | WG1959342 |
| *(S) 1,2-Dichloroethane-d4* | *68.1* | J2 | | *70.0-130* | | *11/15/2022 04:46* | WG1959342 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 115000 | | 8450 | 20000 | 1 | 11/15/2022 12:34 | WG1958957 |

Sample Narrative:

L1555557-04 WG1958957: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 8380 | | 379 | 1000 | 1 | 11/10/2022 02:33 | WG1956898 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/10/2022 02:33 | WG1956898 |
| Sulfate | 6810 | | 594 | 5000 | 1 | 11/10/2022 02:33 | WG1956898 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 1810 | B | 102 | 1000 | 1 | 11/23/2022 13:56 | WG1963543 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 971 | | 28.1 | 100 | 1 | 11/16/2022 23:28 | WG1959258 |
| Manganese | 331 | | 0.704 | 5.00 | 1 | 11/16/2022 23:28 | WG1959258 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 321 | | 0.287 | 0.678 | 1 | 11/15/2022 11:49 | WG1958883 |
| Ethane | 1.73 | | 0.296 | 1.29 | 1 | 11/15/2022 11:49 | WG1958883 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/15/2022 11:49 | WG1958883 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | C3 | 0.548 | 1.00 | 1 | 11/15/2022 05:05 | WG1959342 |
| Acrylonitrile | U | C3 | 0.0760 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/15/2022 05:05 | WG1959342 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/15/2022 05:05 | WG1959342 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,2-Dichloroethane | U | C3 | 0.0190 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| 2,2-Dichloropropane | U | J3 | 0.0317 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/15/2022 05:05 | WG1959342 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| Hexachloro-1,3-butadiene | U | J4 | 0.508 | 1.00 | 1 | 11/15/2022 05:05 | WG1959342 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| 2-Butanone (MEK) | U | C3 | 0.500 | 1.00 | 1 | 11/15/2022 05:05 | WG1959342 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/15/2022 05:05 | WG1959342 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/15/2022 05:05 | WG1959342 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/15/2022 05:05 | WG1959342 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| Tetrachloroethene | U | J4 | 0.0280 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| Toluene | 0.0680 | J | 0.0500 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,2,3-Trichlorobenzene | U | J4 | 0.0250 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,2,4-Trichlorobenzene | U | J4 | 0.193 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| Trichloroethene | U | J4 | 0.0160 | 0.0400 | 1 | 11/15/2022 05:05 | WG1959342 |
| Trichlorofluoromethane | U | C3 | 0.0200 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/15/2022 05:05 | WG1959342 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| Tetrahydrofuran | 0.213 | C3 J J3 | 0.0900 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/15/2022 05:05 | WG1959342 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| *(S) Toluene-d8* | *110* | | | *75.0-131* | | *11/15/2022 05:05* | WG1959342 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *11/15/2022 05:05* | WG1959342 |
| *(S) 1,2-Dichloroethane-d4* | *67.2* | J2 | | *70.0-130* | | *11/15/2022 05:05* | WG1959342 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 142000 | | 8450 | 20000 | 1 | 11/15/2022 12:39 | WG1958957 |

Sample Narrative:

L1555557-05 WG1958957: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 15700 | | 379 | 1000 | 1 | 11/10/2022 05:17 | WG1956898 |
| Nitrate | 151 | | 48.0 | 100 | 1 | 11/10/2022 05:17 | WG1956898 |
| Sulfate | 60000 | | 594 | 5000 | 1 | 11/10/2022 05:17 | WG1956898 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1400 | B | 102 | 1000 | 1 | 11/23/2022 14:15 | WG1963543 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1970 | | 28.1 | 100 | 1 | 11/16/2022 23:31 | WG1959258 |
| Manganese | 328 | | 0.704 | 5.00 | 1 | 11/16/2022 23:31 | WG1959258 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 67.6 | | 0.287 | 0.678 | 1 | 11/15/2022 11:53 | WG1958883 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/15/2022 11:53 | WG1958883 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/15/2022 11:53 | WG1958883 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | C3 | 0.548 | 1.00 | 1 | 11/15/2022 05:24 | WG1959342 |
| Acrylonitrile | U | C3 | 0.0760 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/15/2022 05:24 | WG1959342 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/15/2022 05:24 | WG1959342 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,2-Dichloroethane | U | C3 | 0.0190 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| 2,2-Dichloropropane | U | J3 | 0.0317 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/15/2022 05:24 | WG1959342 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| Hexachloro-1,3-butadiene | U | J4 | 0.508 | 1.00 | 1 | 11/15/2022 05:24 | WG1959342 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| 2-Butanone (MEK) | U | C3 | 0.500 | 1.00 | 1 | 11/15/2022 05:24 | WG1959342 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/15/2022 05:24 | WG1959342 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/15/2022 05:24 | WG1959342 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/15/2022 05:24 | WG1959342 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| Tetrachloroethene | U | J4 | 0.0280 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,2,3-Trichlorobenzene | U | J4 | 0.0250 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,2,4-Trichlorobenzene | U | J4 | 0.193 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| Trichloroethene | U | J4 | 0.0160 | 0.0400 | 1 | 11/15/2022 05:24 | WG1959342 |
| Trichlorofluoromethane | U | C3 | 0.0200 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/15/2022 05:24 | WG1959342 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| Tetrahydrofuran | U | C3 J3 | 0.0900 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/15/2022 05:24 | WG1959342 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| *(S) Toluene-d8* | *111* | | | *75.0-131* | | *11/15/2022 05:24* | WG1959342 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/15/2022 05:24* | WG1959342 |
| *(S) 1,2-Dichloroethane-d4* | *67.8* | J2 | | *70.0-130* | | *11/15/2022 05:24* | WG1959342 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 568000 | | 8450 | 20000 | 1 | 11/15/2022 12:34 | WG1959673 |

Sample Narrative:

L1555557-06 WG1959673: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 45500 | | 379 | 1000 | 1 | 11/10/2022 05:32 | WG1956898 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/10/2022 05:32 | WG1956898 |
| Sulfate | 2280 | J | 594 | 5000 | 1 | 11/10/2022 05:32 | WG1956898 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 63800 | | 102 | 1000 | 1 | 11/23/2022 14:36 | WG1963543 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 9410 | | 28.1 | 100 | 1 | 11/16/2022 23:35 | WG1959258 |
| Manganese | 1080 | | 0.704 | 5.00 | 1 | 11/16/2022 23:35 | WG1959258 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 27100 | | 2.87 | 6.78 | 10 | 11/15/2022 14:53 | WG1959897 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/15/2022 12:01 | WG1958883 |
| Ethene | 3.25 | | 0.422 | 1.27 | 1 | 11/15/2022 12:01 | WG1958883 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 4.20 | C3 | 0.548 | 1.00 | 1 | 11/15/2022 05:43 | WG1959342 |
| Acrylonitrile | U | C3 | 0.0760 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/15/2022 05:43 | WG1959342 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/15/2022 05:43 | WG1959342 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,2-Dichloroethane | U | C3 | 0.0190 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,1-Dichloroethene | 0.227 | | 0.0200 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| cis-1,2-Dichloroethene | 4.95 | | 0.0276 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| 2,2-Dichloropropane | U | J3 | 0.0317 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/15/2022 05:43 | WG1959342 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| Hexachloro-1,3-butadiene | U | J4 | 0.508 | 1.00 | 1 | 11/15/2022 05:43 | WG1959342 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| 2-Butanone (MEK) | 20.1 | C3 | 0.500 | 1.00 | 1 | 11/15/2022 05:43 | WG1959342 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/15/2022 05:43 | WG1959342 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/15/2022 05:43 | WG1959342 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/15/2022 05:43 | WG1959342 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| Tetrachloroethene | 0.0430 | J J4 | 0.0280 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| Toluene | 0.702 | | 0.0500 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,2,3-Trichlorobenzene | U | J4 | 0.0250 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,2,4-Trichlorobenzene | U | J4 | 0.193 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| Trichloroethene | 0.240 | C5 J4 | 0.0160 | 0.0400 | 1 | 11/15/2022 05:43 | WG1959342 |
| Trichlorofluoromethane | U | C3 | 0.0200 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| Vinyl chloride | 9.84 | | 0.0273 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/15/2022 05:43 | WG1959342 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| Tetrahydrofuran | 12.2 | C3 J3 | 0.0900 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/15/2022 05:43 | WG1959342 |
| Trans-1,4-Dichloro-2-butene | U | C3 | 0.0560 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| *(S) Toluene-d8* | *112* | | | *75.0-131* | | *11/15/2022 05:43* | WG1959342 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/15/2022 05:43* | WG1959342 |
| *(S) 1,2-Dichloroethane-d4* | *66.4* | J2 | | *70.0-130* | | *11/15/2022 05:43* | WG1959342 |

## Method Blank (MB)

(MB) R3861103-3 11/15/22 10:33

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1554466-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1554466-01 11/15/22 10:38 • (DUP) R3861103-4 11/15/22 10:45

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 1740000 | 1740000 | 1 | 0.0264 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

## L1554990-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1554990-12 11/15/22 11:55 • (DUP) R3861103-5 11/15/22 12:01

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 148000 | 149000 | 1 | 0.266 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3861103-1 11/15/22 10:21

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 102000 | 102 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Method Blank (MB)

(MB) R3861146-2 11/15/22 10:51

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1553925-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1553925-02 11/15/22 10:59 • (DUP) R3861146-3 11/15/22 11:01

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 111000 | 110000 | 1 | 0.552 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

## L1555557-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1555557-06 11/15/22 12:34 • (DUP) R3861146-4 11/15/22 12:38

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 568000 | 575000 | 1 | 1.25 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3861146-1 11/15/22 10:46

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 99600 | 99.6 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3860298-1 11/09/22 21:41

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1555604-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1555604-03 11/09/22 23:19 • (DUP) R3860298-3 11/09/22 23:34

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 90200 | 90200 | 1 | 0.0735 | | 15 |
| Nitrate | 1310 | 1300 | 1 | 0.261 | | 15 |
| Sulfate | 124000 | 124000 | 1 | 0.0274 | | 15 |

## L1555508-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1555508-01 11/10/22 00:18 • (DUP) R3860298-6 11/10/22 01:03

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 80800 | 80400 | 1 | 0.568 | | 15 |
| Nitrate | U | U | 1 | 0.000 | | 15 |
| Sulfate | 13600 | 13500 | 1 | 0.645 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3860298-2 11/09/22 21:56

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 41200 | 103 | 80.0-120 | |
| Nitrate | 8000 | 7970 | 99.6 | 80.0-120 | |
| Sulfate | 40000 | 42100 | 105 | 80.0-120 | |

## L1555604-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1555604-03 11/09/22 23:19 • (MS) R3860298-4 11/09/22 23:49 • (MSD) R3860298-5 11/10/22 00:03

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 90200 | 137000 | 136000 | 92.7 | 92.1 | 1 | 80.0-120 | | | 0.195 | 15 |
| Nitrate | 5000 | 1310 | 6280 | 6240 | 99.6 | 98.6 | 1 | 80.0-120 | | | 0.775 | 15 |
| Sulfate | 50000 | 124000 | 169000 | 169000 | 90.3 | 90.0 | 1 | 80.0-120 | | | 0.0773 | 15 |

## L1555508-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1555508-01 11/10/22 00:18 • (MS) R3860298-7 11/10/22 01:18

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 80800 | 128000 | 95.0 | 1 | 80.0-120 | |
| Nitrate | 5000 | U | 4940 | 98.8 | 1 | 80.0-120 | |
| Sulfate | 50000 | 13600 | 64800 | 102 | 1 | 80.0-120 | |

## Method Blank (MB)

(MB) R3864779-2 11/23/22 07:25

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 196 | J | 102 | 1000 |

## L1555546-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1555546-05 11/23/22 11:19 • (DUP) R3864779-7 11/23/22 11:38

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1720 | 1760 | 1 | 2.24 | | 20 |

## L1555577-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1555577-01 11/23/22 14:53 • (DUP) R3864779-8 11/23/22 15:13

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1660 | 1600 | 1 | 3.92 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3864779-1 11/23/22 07:09

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 76700 | 102 | 85.0-115 | |

## L1555546-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1555546-02 11/23/22 08:46 • (MS) R3864779-3 11/23/22 09:09 • (MSD) R3864779-4 11/23/22 09:33

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 13800 | 63300 | 63300 | 99.0 | 99.0 | 1 | 80.0-120 | | | 0.0158 | 20 |

## L1555546-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1555546-03 11/23/22 09:57 • (MS) R3864779-5 11/23/22 10:20 • (MSD) R3864779-6 11/23/22 10:43

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 10700 | 60300 | 60500 | 99.3 | 99.6 | 1 | 80.0-120 | | | 0.298 | 20 |

## Method Blank (MB)

(MB) R3861929-1 11/16/22 22:02

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3861929-2 11/16/22 22:06

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Iron | 5000 | 4970 | 99.5 | 80.0-120 | |
| Manganese | 50.0 | 51.8 | 104 | 80.0-120 | |

## L1554945-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1554945-04 11/16/22 22:09 • (MS) R3861929-4 11/16/22 22:16 • (MSD) R3861929-5 11/16/22 22:19

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iron | 5000 | 259 | 5280 | 5630 | 100 | 107 | 1 | 75.0-125 | | | 6.35 | 20 |
| Manganese | 50.0 | 1220 | 1250 | 1260 | 60.5 | 84.7 | 1 | 75.0-125 | V | | 0.968 | 20 |

## Method Blank (MB)

(MB) R3860848-3 11/11/22 23:05

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | 42.5 | J | 31.6 | 100 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *103* | | | *78.0-120* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3860848-1 11/11/22 21:30 • (LCSD) R3860848-2 11/11/22 21:51

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | 5500 | 5400 | 5830 | 98.2 | 106 | 70.0-124 | | | 7.66 | 20 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | *108* | *109* | *78.0-120* | | | | |

## Method Blank (MB)

(MB) R3861099-2 11/15/22 11:06

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1555313-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1555313-01 11/15/22 11:08 • (DUP) R3861099-3 11/15/22 12:04

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1556727-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1556727-01 11/15/22 12:50 • (DUP) R3861099-4 11/15/22 12:52

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3861099-1 11/15/22 11:03 • (LCSD) R3861099-5 11/15/22 12:54

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 66.2 | 65.0 | 97.6 | 95.9 | 85.0-115 | | | 1.83 | 20 |
| Ethane | 129 | 116 | 116 | 89.9 | 89.9 | 85.0-115 | | | 0.000 | 20 |
| Ethene | 127 | 117 | 117 | 92.1 | 92.1 | 85.0-115 | | | 0.000 | 20 |

## Method Blank (MB)

(MB) R3861348-2 11/15/22 14:05

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |

## L1555313-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1555313-02 11/15/22 15:20 • (DUP) R3861348-3 11/15/22 15:37

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 18900 | 17900 | 10 | 5.43 | | 20 |

## L1556192-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1556192-08 11/15/22 16:29 • (DUP) R3861348-4 11/15/22 16:34

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3861348-1 11/15/22 14:02 • (LCSD) R3861348-9 11/15/22 17:24

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 66.5 | 64.2 | 98.1 | 94.7 | 85.0-115 | | | 3.52 | 20 |

## L1554945-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1554945-04 11/15/22 14:14 • (MS) R3861348-5 11/15/22 16:40 • (MSD) R3861348-6 11/15/22 17:00

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Methane | 678 | 10200 | 11800 | 12200 | 236 | 295 | 10 | 85.0-115 | V | V | 3.33 | 20 |

## L1555622-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1555622-06 11/15/22 15:14 • (MS) R3861348-7 11/15/22 17:19 • (MSD) R3861348-8 11/15/22 17:21

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Methane | 67.8 | 6200 | 6490 | 5570 | 428 | 0.000 | 1 | 85.0-115 | V | V | 15.3 | 20 |

## Method Blank (MB)

(MB) R3862362-3 11/15/22 01:56

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3862362-3 11/15/22 01:56

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *107* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *71.3* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3862362-1 11/15/22 00:40 • (LCSD) R3862362-2 11/15/22 00:59

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 14.9 | 14.6 | 59.6 | 58.4 | 10.0-160 | | | 2.03 | 31 |
| Acrylonitrile | 25.0 | 18.8 | 18.8 | 75.2 | 75.2 | 45.0-153 | | | 0.000 | 22 |
| Benzene | 5.00 | 5.36 | 4.97 | 107 | 99.4 | 70.0-123 | | | 7.55 | 20 |
| Bromobenzene | 5.00 | 5.15 | 5.06 | 103 | 101 | 73.0-121 | | | 1.76 | 20 |
| Bromodichloromethane | 5.00 | 4.74 | 4.59 | 94.8 | 91.8 | 73.0-121 | | | 3.22 | 20 |
| Bromoform | 5.00 | 5.70 | 5.70 | 114 | 114 | 64.0-132 | | | 0.000 | 20 |
| Bromomethane | 5.00 | 4.16 | 3.64 | 83.2 | 72.8 | 56.0-147 | | | 13.3 | 20 |
| n-Butylbenzene | 5.00 | 4.67 | 4.38 | 93.4 | 87.6 | 68.0-135 | | | 6.41 | 20 |
| sec-Butylbenzene | 5.00 | 4.58 | 4.38 | 91.6 | 87.6 | 74.0-130 | | | 4.46 | 20 |
| tert-Butylbenzene | 5.00 | 4.79 | 5.33 | 95.8 | 107 | 75.0-127 | | | 10.7 | 20 |
| Carbon tetrachloride | 5.00 | 5.33 | 4.74 | 107 | 94.8 | 66.0-128 | | | 11.7 | 20 |
| Chlorobenzene | 5.00 | 5.92 | 5.87 | 118 | 117 | 76.0-128 | | | 0.848 | 20 |
| Chlorodibromomethane | 5.00 | 5.32 | 5.41 | 106 | 108 | 74.0-127 | | | 1.68 | 20 |
| Chloroethane | 5.00 | 4.11 | 3.37 | 82.2 | 67.4 | 61.0-134 | | | 19.8 | 20 |
| Chloroform | 5.00 | 4.84 | 4.32 | 96.8 | 86.4 | 72.0-123 | | | 11.4 | 20 |
| Chloromethane | 5.00 | 4.14 | 3.63 | 82.8 | 72.6 | 51.0-138 | | | 13.1 | 20 |
| 2-Chlorotoluene | 5.00 | 4.78 | 4.60 | 95.6 | 92.0 | 75.0-124 | | | 3.84 | 20 |
| 4-Chlorotoluene | 5.00 | 4.42 | 4.48 | 88.4 | 89.6 | 75.0-124 | | | 1.35 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.19 | 4.38 | 83.8 | 87.6 | 59.0-130 | | | 4.43 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.40 | 5.56 | 108 | 111 | 74.0-128 | | | 2.92 | 20 |
| Dibromomethane | 5.00 | 4.60 | 4.54 | 92.0 | 90.8 | 75.0-122 | | | 1.31 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 5.13 | 5.27 | 103 | 105 | 76.0-124 | | | 2.69 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 5.23 | 5.10 | 105 | 102 | 76.0-125 | | | 2.52 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 5.05 | 4.91 | 101 | 98.2 | 77.0-121 | | | 2.81 | 20 |
| Dichlorodifluoromethane | 5.00 | 5.01 | 4.38 | 100 | 87.6 | 43.0-156 | | | 13.4 | 20 |
| 1,1-Dichloroethane | 5.00 | 4.73 | 4.37 | 94.6 | 87.4 | 70.0-127 | | | 7.91 | 20 |
| 1,2-Dichloroethane | 5.00 | 3.97 | 3.64 | 79.4 | 72.8 | 65.0-131 | | | 8.67 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.03 | 4.21 | 101 | 84.2 | 65.0-131 | | | 17.7 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.24 | 4.81 | 105 | 96.2 | 73.0-125 | | | 8.56 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.59 | 5.00 | 112 | 100 | 71.0-125 | | | 11.1 | 20 |
| 1,2-Dichloropropane | 5.00 | 4.97 | 4.72 | 99.4 | 94.4 | 74.0-125 | | | 5.16 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.18 | 4.65 | 104 | 93.0 | 73.0-125 | | | 10.8 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.22 | 5.24 | 104 | 105 | 80.0-125 | | | 0.382 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 4.90 | 4.60 | 98.0 | 92.0 | 76.0-127 | | | 6.32 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 4.88 | 4.83 | 97.6 | 96.6 | 73.0-127 | | | 1.03 | 20 |
| 2,2-Dichloropropane | 5.00 | 5.32 | 4.06 | 106 | 81.2 | 59.0-135 | | J3 | 26.9 | 20 |
| Di-isopropyl ether | 5.00 | 4.60 | 4.34 | 92.0 | 86.8 | 60.0-136 | | | 5.82 | 20 |
| Ethylbenzene | 5.00 | 5.78 | 5.51 | 116 | 110 | 74.0-126 | | | 4.78 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 7.61 | 6.88 | 152 | 138 | 57.0-150 | J4 | | 10.1 | 20 |
| Isopropylbenzene | 5.00 | 5.75 | 5.49 | 115 | 110 | 72.0-127 | | | 4.63 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3862362-1 11/15/22 00:40 • (LCSD) R3862362-2 11/15/22 00:59

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.08 | 4.82 | 102 | 96.4 | 72.0-133 | | | 5.25 | 20 |
| 2-Butanone (MEK) | 25.0 | 18.3 | 18.8 | 73.2 | 75.2 | 30.0-160 | | | 2.70 | 24 |
| Methylene Chloride | 5.00 | 4.87 | 5.25 | 97.4 | 105 | 68.0-123 | | | 7.51 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 21.1 | 22.4 | 84.4 | 89.6 | 56.0-143 | | | 5.98 | 20 |
| Methyl tert-butyl ether | 5.00 | 4.12 | 4.21 | 82.4 | 84.2 | 66.0-132 | | | 2.16 | 20 |
| Naphthalene | 5.00 | 5.00 | 5.43 | 100 | 109 | 59.0-130 | | | 8.25 | 20 |
| n-Propylbenzene | 5.00 | 4.46 | 4.34 | 89.2 | 86.8 | 74.0-126 | | | 2.73 | 20 |
| Styrene | 5.00 | 5.53 | 5.52 | 111 | 110 | 72.0-127 | | | 0.181 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.72 | 5.80 | 114 | 116 | 74.0-129 | | | 1.39 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.18 | 4.25 | 83.6 | 85.0 | 68.0-128 | | | 1.66 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.58 | 4.91 | 112 | 98.2 | 61.0-139 | | | 12.8 | 20 |
| Tetrachloroethene | 5.00 | 6.95 | 6.42 | 139 | 128 | 70.0-136 | J4 | | 7.93 | 20 |
| Toluene | 5.00 | 5.71 | 5.42 | 114 | 108 | 75.0-121 | | | 5.21 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 6.81 | 7.17 | 136 | 143 | 59.0-139 | | J4 | 5.15 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 6.90 | 7.18 | 138 | 144 | 62.0-137 | J4 | J4 | 3.98 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.39 | 4.95 | 108 | 99.0 | 69.0-126 | | | 8.51 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.28 | 5.33 | 106 | 107 | 78.0-123 | | | 0.943 | 20 |
| Trichloroethene | 5.00 | 6.36 | 5.61 | 127 | 112 | 76.0-126 | J4 | | 12.5 | 20 |
| Trichlorofluoromethane | 5.00 | 3.66 | 3.18 | 73.2 | 63.6 | 61.0-142 | | | 14.0 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 4.26 | 4.15 | 85.2 | 83.0 | 67.0-129 | | | 2.62 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 4.50 | 4.40 | 90.0 | 88.0 | 70.0-126 | | | 2.25 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 4.34 | 4.30 | 86.8 | 86.0 | 74.0-124 | | | 0.926 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 4.53 | 4.35 | 90.6 | 87.0 | 73.0-127 | | | 4.05 | 20 |
| Vinyl chloride | 5.00 | 4.15 | 3.66 | 83.0 | 73.2 | 63.0-134 | | | 12.5 | 20 |
| Xylenes, Total | 15.0 | 17.5 | 17.0 | 117 | 113 | 72.0-127 | | | 2.90 | 20 |
| Ethyl ether | 5.00 | 4.22 | 3.97 | 84.4 | 79.4 | 64.0-137 | | | 6.11 | 20 |
| Tetrahydrofuran | 5.00 | 3.57 | 2.31 | 71.4 | 46.2 | 37.0-146 | | J3 | 42.9 | 24 |
| Iodomethane | 25.0 | 26.0 | 23.4 | 104 | 93.6 | 74.0-134 | | | 10.5 | 20 |
| Allyl chloride | 25.0 | 26.8 | 23.8 | 107 | 95.2 | 70.0-131 | | | 11.9 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 3.22 | 3.35 | 64.4 | 67.0 | 45.0-143 | | | 3.96 | 20 |
| *(S) Toluene-d8* | | | | *108* | *108* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *104* | *105* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *75.3* | *72.3* | *70.0-130* | | | | |

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| B | The same analyte is found in the associated blank. |
| C3 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable. |
| C5 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded high. Data is likely to show a high bias concerning the result. |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J2 | Surrogate recovery limits have been exceeded; values are outside lower control limits. |
| J3 | The associated batch QC was outside the established quality control range for precision. |
| J4 | The associated batch QC was outside the established quality control range for accuracy. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

**2101 Fourth Ave., Suite 1310**
**Seattle, WA 98121**

Billing Information:
**Attn: Accounts Payable**
**2101 4th Avenue, Suite 1310**
**Seattle, WA 98121**

Pres Chk

Report to:
**Brian O'Neal/Bill Haldeman**

Email To:
**Shannon.McKernan@nv5.com;brian.oneal@nv5**

Project Description:
**American Linen**

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: **206-529-3980**

Client Project #
1413.001.10.701.02

Lab Project #
**PESENVSWA-ALP**

Collected by (print):
NEW

Site/Facility ID #

P.O. # 1413.001.10.701-02
~~443018-1413001.05.601~~

Collected by (signature):
[signature]

Immediately Packed on Ice N ___ Y ✓

***Rush?*** (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R-MW5-110822 | Grab | GW | — | 11/8/22 | 1001 | 12 | X | X | X | X | X | X | X | X | | -01 |
| MW-302-110822 | | GW | | | 1049 | 9 | X | X | X | X | | X | X | X | | -02 |
| MW112-110822 | | GW | | | 1236 | 9 | X | X | X | X | | X | X | X | | -03 |
| MW-138-110822 | | GW | | | 1018 | 9 | X | X | X | X | | X | X | X | | -04 |
| MW-303-110822 | ↓ | GW | ↓ | ↓ | 1055 | 9 | X | X | X | X | | X | X | X | | -05 |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | NEW | | | | | | | |
| | | GW | | | | | | | 11/8/22 | | | | | | | |
| | | GW | | | | | | | | | | | | | | |

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1555557
G178

Acctnum: **PESENVSWA**
Template: **T218236**
Prelogin: **P957562**
PM: **546 - Jared Starkey**
PB: 10/17/22
Shipped Via:

* Matrix:
**SS** - Soil **AIR** - Air **F** - Filter
**GW** - Groundwater **B** - Bioassay
**WW** - WasteWater
**DW** - Drinking Water
**OT** - Other_____

**Remarks:**

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 5433 8382 0277

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: ✓Y __N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / No HCL / MeoH TBR | If preservation required by Login: Date/Time |
|---|---|---|---|---|---|
| Natalie Wisdom | 11/8/22 | 1730 | | | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: 4.7 °C Bottles Received: GB 22+0=22 | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) D.Ramsey | Date: 11-04-22 Time: 1030 | Hold: / Condition: NCF / OK |

Company Name/Address:
**PES Environmental, Inc.- WA**

**2101 Fourth Ave., Suite 1310**
**Seattle, WA 98121**

Billing Information:
**Attn: Accounts Payable**
**2101 4th Avenue, Suite 1310**
**Seattle, WA 98121**

Pres Chk

Report to: **Brian O'Neal/Bill Haldeman**

Email To: **Shannon.McKernan@nv5.com;brian.oneal@nv5**

Project Description: **American Linen**

City/State Collected: **Seattle, WA**

Please Circle: PT MT CT ET

Phone: **206-529-3980**

Client Project # **1413001.10.603.04**

Lab Project # **PESENVSWA-ALP**

Collected by (print): **NEW**

Site/Facility ID #

P.O. # **1413001.10.603.04**
~~443018-1413001.05.601~~

Collected by (signature): **NEW**

Immediately Packed on Ice N ___ Y ✓

***Rush?*** (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | | | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | | 1 | | | | | | | | | |
| MW-349-110822 | Grab | GW | — | 11/8/22 | 1515 | | | | | | | | | | | | -06 |
| | | GW | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | |

NEW 11/8/22

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1555557

Table #

Acctnum: **PESENVSWA**

Template: **T218236**

Prelogin: **P957562**

PM: **546 - Jared Starkey**

PB: jjh 10/17/22

Shipped Via:

* Matrix:
**SS** - Soil **AIR** - Air **F** - Filter
**GW** - Groundwater **B** - Bioassay
**WW** - WasteWater
**DW** - Drinking Water
**OT** - Other_____

**Remarks:**

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 5433 8382 0277

Sample Receipt Checklist

| | | |
|---|---|---|
| COC Seal Present/Intact: | __NP | ✓Y __N |
| COC Signed/Accurate: | | ✓Y __N |
| Bottles arrive intact: | | ✓Y __N |
| Correct bottles used: | | ✓Y __N |
| Sufficient volume sent: | | ✓Y __N |
| If Applicable | | |
| VOA Zero Headspace: | | __Y __N |
| Preservation Correct/Checked: | | __Y __N |
| RAD Screen <0.5 mR/hr: | | ✓Y __N |

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / No HCL / MeoH TBR | If preservation required by Login: Date/Time |
|---|---|---|---|---|---|
| Natalie Weston | 11/8/22 | 1730 | | | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: GBA7 °C Bottles Received: 2.2+0=2.2 | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) D-Ramsey | Date: 11-04-22 Time: 1030 | Hold: / Condition: NCF / OK |

# ANALYTICAL REPORT

November 28, 2022



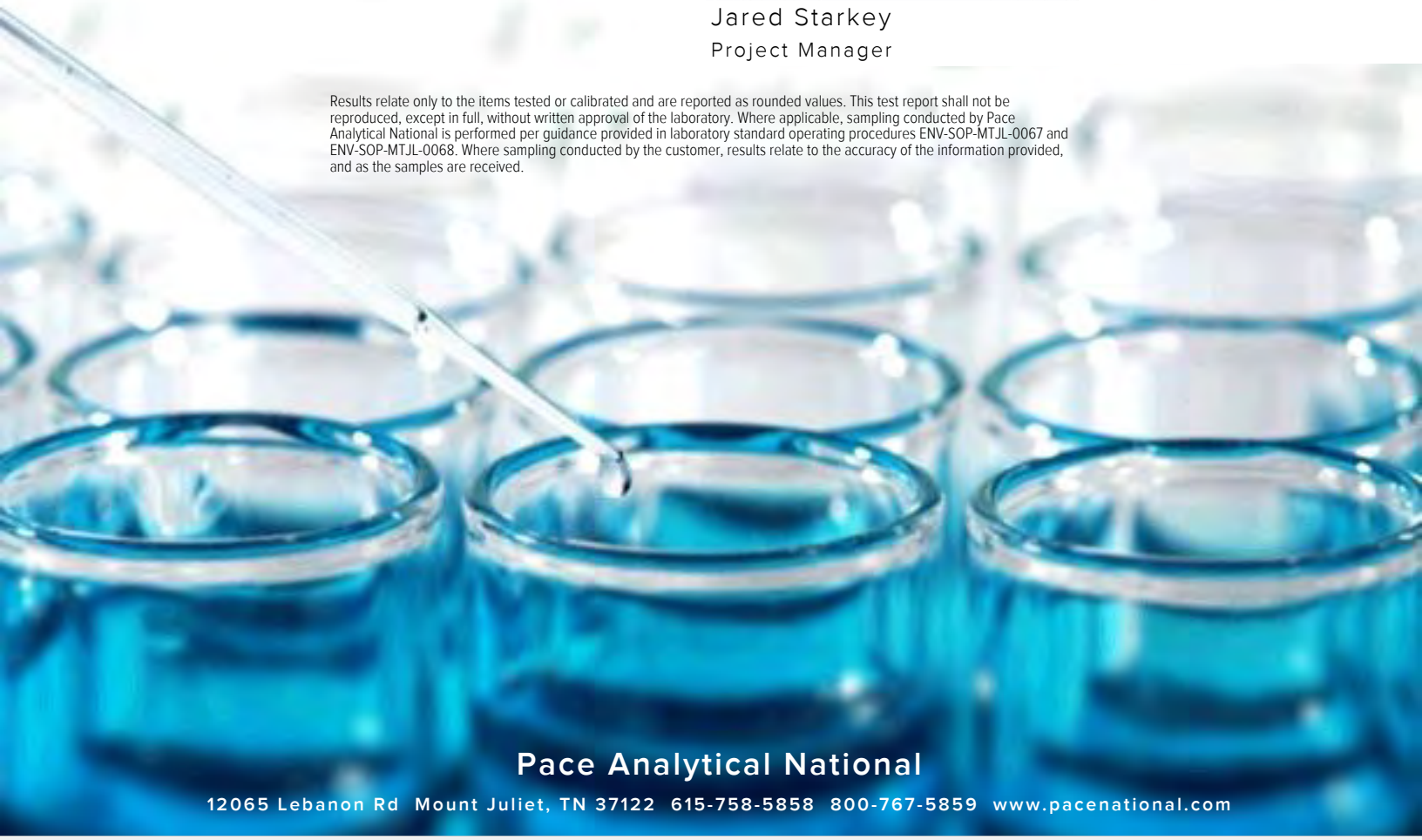
## PES Environmental, Inc.- WA

| | |
|---|---|
| Sample Delivery Group: | L1556122 |
| Samples Received: | 11/10/2022 |
| Project Number: | 1413.001.10.701.02 |
| Description: | American Linen |
| Report To: | Brian O'Neal/Bill Haldeman |
| | 2101 Fourth Ave., Suite 1310 |
| | Seattle, WA 98121 |

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## MW105-110922 L1556122-01 GW

Collected by: NEW | Collected date/time: 11/09/22 09:50 | Received date/time: 11/10/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1960842 | 1 | 11/17/22 09:01 | 11/17/22 09:01 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1957434 | 1 | 11/10/22 21:47 | 11/10/22 21:47 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1964116 | 1 | 11/24/22 03:33 | 11/24/22 03:33 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959267 | 1 | 11/18/22 09:05 | 11/18/22 14:29 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1960395 | 1 | 11/16/22 09:04 | 11/16/22 09:04 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1961578 | 1 | 11/18/22 13:01 | 11/18/22 13:01 | JAH | Mt. Juliet, TN |

## MW-304-110922 L1556122-02 GW

Collected by: NEW | Collected date/time: 11/09/22 11:48 | Received date/time: 11/10/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1960842 | 1 | 11/17/22 09:07 | 11/17/22 09:07 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1957434 | 1 | 11/10/22 21:59 | 11/10/22 21:59 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1964116 | 1 | 11/24/22 03:50 | 11/24/22 03:50 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959267 | 1 | 11/18/22 09:05 | 11/18/22 14:52 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1960395 | 1 | 11/16/22 09:07 | 11/16/22 09:07 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1961578 | 1 | 11/18/22 13:20 | 11/18/22 13:20 | JAH | Mt. Juliet, TN |

## BB-8-110922 L1556122-03 GW

Collected by: NEW | Collected date/time: 11/09/22 10:17 | Received date/time: 11/10/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1960842 | 1 | 11/17/22 09:12 | 11/17/22 09:12 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1957434 | 1 | 11/10/22 22:12 | 11/10/22 22:12 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1964116 | 1 | 11/24/22 04:07 | 11/24/22 04:07 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959267 | 1 | 11/18/22 09:05 | 11/18/22 15:06 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1960395 | 1 | 11/16/22 09:10 | 11/16/22 09:10 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1959342 | 10 | 11/15/22 08:32 | 11/15/22 08:32 | JAH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1961578 | 1 | 11/18/22 13:39 | 11/18/22 13:39 | JAH | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 84100 | | 8450 | 20000 | 1 | 11/17/2022 09:01 | WG1960842 |

Sample Narrative:

L1556122-01 WG1960842: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 132000 | | 379 | 1000 | 1 | 11/10/2022 21:47 | WG1957434 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/10/2022 21:47 | WG1957434 |
| Sulfate | 1090 | J | 594 | 5000 | 1 | 11/10/2022 21:47 | WG1957434 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 9090 | | 102 | 1000 | 1 | 11/24/2022 03:33 | WG1964116 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 269 | | 28.1 | 100 | 1 | 11/18/2022 14:29 | WG1959267 |
| Manganese | 76.1 | | 0.704 | 5.00 | 1 | 11/18/2022 14:29 | WG1959267 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 91.6 | | 0.287 | 0.678 | 1 | 11/16/2022 09:04 | WG1960395 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/16/2022 09:04 | WG1960395 |
| Ethene | 14.1 | | 0.422 | 1.27 | 1 | 11/16/2022 09:04 | WG1960395 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/18/2022 13:01 | WG1961578 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| Benzene | 0.0410 | | 0.0160 | 0.0400 | 1 | 11/18/2022 13:01 | WG1961578 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/18/2022 13:01 | WG1961578 |
| Bromomethane | U | C3 | 0.148 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| Chloroethane | U | C3 | 0.0432 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| Chloromethane | U | C3 | 0.0556 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| cis-1,2-Dichloroethene | 0.102 | | 0.0276 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| 2,2-Dichloropropane | U | C3 | 0.0317 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/18/2022 13:01 | WG1961578 |
| Ethylbenzene | 0.0670 | J | 0.0212 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/18/2022 13:01 | WG1961578 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/18/2022 13:01 | WG1961578 |
| Methylene Chloride | U | C3 | 0.265 | 1.00 | 1 | 11/18/2022 13:01 | WG1961578 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/18/2022 13:01 | WG1961578 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/18/2022 13:01 | WG1961578 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| Tetrachloroethene | 0.0420 | J | 0.0280 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| Toluene | 0.310 | | 0.0500 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,2,4-Trichlorobenzene | U | J4 | 0.193 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| Trichloroethene | 0.173 | | 0.0160 | 0.0400 | 1 | 11/18/2022 13:01 | WG1961578 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| Vinyl chloride | U | C3 | 0.0273 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| Xylenes, Total | 0.338 | | 0.191 | 0.260 | 1 | 11/18/2022 13:01 | WG1961578 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/18/2022 13:01 | WG1961578 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| *(S) Toluene-d8* | *101* | | | *75.0-131* | | *11/18/2022 13:01* | WG1961578 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/18/2022 13:01* | WG1961578 |
| *(S) 1,2-Dichloroethane-d4* | *85.2* | | | *70.0-130* | | *11/18/2022 13:01* | WG1961578 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 147000 | | 8450 | 20000 | 1 | 11/17/2022 09:07 | WG1960842 |

Sample Narrative:

L1556122-02 WG1960842: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 11600 | | 379 | 1000 | 1 | 11/10/2022 21:59 | WG1957434 |
| Nitrate | 83.9 | J | 48.0 | 100 | 1 | 11/10/2022 21:59 | WG1957434 |
| Sulfate | 14900 | | 594 | 5000 | 1 | 11/10/2022 21:59 | WG1957434 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2130 | B | 102 | 1000 | 1 | 11/24/2022 03:50 | WG1964116 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 5950 | | 28.1 | 100 | 1 | 11/18/2022 14:52 | WG1959267 |
| Manganese | 364 | | 0.704 | 5.00 | 1 | 11/18/2022 14:52 | WG1959267 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 26.0 | | 0.287 | 0.678 | 1 | 11/16/2022 09:07 | WG1960395 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/16/2022 09:07 | WG1960395 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/16/2022 09:07 | WG1960395 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/18/2022 13:20 | WG1961578 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/18/2022 13:20 | WG1961578 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/18/2022 13:20 | WG1961578 |
| Bromomethane | U | C3 | 0.148 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| Chloroethane | U | C3 | 0.0432 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| Chloromethane | U | C3 | 0.0556 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| 2,2-Dichloropropane | U | C3 | 0.0317 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/18/2022 13:20 | WG1961578 |
| Ethylbenzene | 0.0520 | J | 0.0212 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/18/2022 13:20 | WG1961578 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/18/2022 13:20 | WG1961578 |
| Methylene Chloride | U | C3 | 0.265 | 1.00 | 1 | 11/18/2022 13:20 | WG1961578 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/18/2022 13:20 | WG1961578 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/18/2022 13:20 | WG1961578 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| Toluene | 0.308 | | 0.0500 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,2,4-Trichlorobenzene | U | J4 | 0.193 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/18/2022 13:20 | WG1961578 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| Vinyl chloride | U | C3 | 0.0273 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| Xylenes, Total | 0.276 | | 0.191 | 0.260 | 1 | 11/18/2022 13:20 | WG1961578 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/18/2022 13:20 | WG1961578 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| *(S) Toluene-d8* | *102* | | | *75.0-131* | | *11/18/2022 13:20* | WG1961578 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/18/2022 13:20* | WG1961578 |
| *(S) 1,2-Dichloroethane-d4* | *87.3* | | | *70.0-130* | | *11/18/2022 13:20* | WG1961578 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 207000 | | 8450 | 20000 | 1 | 11/17/2022 09:12 | WG1960842 |

Sample Narrative:

L1556122-03 WG1960842: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 34100 | | 379 | 1000 | 1 | 11/10/2022 22:12 | WG1957434 |
| Nitrate | 1050 | | 48.0 | 100 | 1 | 11/10/2022 22:12 | WG1957434 |
| Sulfate | 78700 | | 594 | 5000 | 1 | 11/10/2022 22:12 | WG1957434 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 2370 | B | 102 | 1000 | 1 | 11/24/2022 04:07 | WG1964116 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 228 | | 28.1 | 100 | 1 | 11/18/2022 15:06 | WG1959267 |
| Manganese | 76.3 | | 0.704 | 5.00 | 1 | 11/18/2022 15:06 | WG1959267 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 297 | | 0.287 | 0.678 | 1 | 11/16/2022 09:10 | WG1960395 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/16/2022 09:10 | WG1960395 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/16/2022 09:10 | WG1960395 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/18/2022 13:39 | WG1961578 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| Benzene | 0.0340 | J | 0.0160 | 0.0400 | 1 | 11/18/2022 13:39 | WG1961578 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/18/2022 13:39 | WG1961578 |
| Bromomethane | U | C3 | 0.148 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| Chloroethane | U | C3 | 0.0432 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| Chloromethane | U | C3 | 0.0556 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,1-Dichloroethene | 0.131 | | 0.0200 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| cis-1,2-Dichloroethene | 23.5 | | 0.0276 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| trans-1,2-Dichloroethene | 0.224 | | 0.0572 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| 2,2-Dichloropropane | U | C3 | 0.0317 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/18/2022 13:39 | WG1961578 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/18/2022 13:39 | WG1961578 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/18/2022 13:39 | WG1961578 |
| Methylene Chloride | U | C3 | 0.265 | 1.00 | 1 | 11/18/2022 13:39 | WG1961578 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/18/2022 13:39 | WG1961578 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/18/2022 13:39 | WG1961578 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| Tetrachloroethene | 109 | C5 J4 | 0.280 | 1.00 | 10 | 11/15/2022 08:32 | WG1959342 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,2,4-Trichlorobenzene | U | J4 | 0.193 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| Trichloroethene | 32.2 | | 0.0160 | 0.0400 | 1 | 11/18/2022 13:39 | WG1961578 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| Vinyl chloride | U | C3 | 0.0273 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/18/2022 13:39 | WG1961578 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/18/2022 13:39 | WG1961578 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| *(S) Toluene-d8* | *111* | | | *75.0-131* | | *11/15/2022 08:32* | WG1959342 |
| *(S) Toluene-d8* | *103* | | | *75.0-131* | | *11/18/2022 13:39* | WG1961578 |
| *(S) 4-Bromofluorobenzene* | *104* | | | *67.0-138* | | *11/15/2022 08:32* | WG1959342 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/18/2022 13:39* | WG1961578 |
| *(S) 1,2-Dichloroethane-d4* | *72.4* | | | *70.0-130* | | *11/15/2022 08:32* | WG1959342 |
| *(S) 1,2-Dichloroethane-d4* | *88.1* | | | *70.0-130* | | *11/18/2022 13:39* | WG1961578 |

## Method Blank (MB)

(MB) R3862257-2 11/17/22 08:35

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1555740-38 Original Sample (OS) • Duplicate (DUP)

(OS) L1555740-38 11/17/22 08:43 • (DUP) R3862257-4 11/17/22 08:45

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 9080 | 9260 | 1 | 1.94 | J | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

## L1556920-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1556920-01 11/17/22 10:31 • (DUP) R3862257-6 11/17/22 10:37

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 100000 | 101000 | 1 | 0.713 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3862257-1 11/17/22 08:30

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 100000 | 100 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3860191-1 11/10/22 21:21

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1555223-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1555223-01 11/10/22 23:54 • (DUP) R3860191-3 11/11/22 00:07

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 50300 | 50300 | 1 | 0.0388 | | 15 |
| Sulfate | 19900 | 19800 | 1 | 0.272 | | 15 |

## L1555227-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1555227-02 11/11/22 02:40 • (DUP) R3860191-6 11/11/22 02:52

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 17400 | 17300 | 1 | 0.505 | | 15 |
| Sulfate | 73600 | 73700 | 1 | 0.0904 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3860191-2 11/10/22 21:34

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 39100 | 97.6 | 80.0-120 | |
| Nitrate | 8000 | 7490 | 93.7 | 80.0-120 | |
| Sulfate | 40000 | 39000 | 97.6 | 80.0-120 | |

## L1555223-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1555223-01 11/10/22 23:54 • (MS) R3860191-4 11/11/22 00:20 • (MSD) R3860191-5 11/11/22 00:32

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 50300 | 99700 | 99900 | 98.9 | 99.2 | 1 | 80.0-120 | | | 0.125 | 15 |
| Sulfate | 50000 | 19900 | 70000 | 70200 | 100 | 101 | 1 | 80.0-120 | | | 0.185 | 15 |

## L1555227-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1555227-02 11/11/22 02:40 • (MS) R3860191-7 11/11/22 03:05

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 17400 | 68600 | 102 | 1 | 80.0-120 | |
| Sulfate | 50000 | 73600 | 124000 | 101 | 1 | 80.0-120 | |

## Method Blank (MB)

(MB) R3864757-2 11/23/22 20:19

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 665 | J | 102 | 1000 |

## L1555559-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1555559-01 11/23/22 20:36 • (DUP) R3864757-3 11/23/22 20:49

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2420 | 2230 | 1 | 8.05 | | 20 |

## L1555720-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1555720-05 11/23/22 21:45 • (DUP) R3864757-4 11/23/22 22:01

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1610 | 1400 | 1 | 14.0 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3864757-1 11/23/22 20:03

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 77000 | 103 | 85.0-115 | |

## L1555720-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1555720-09 11/23/22 23:48 • (MS) R3864757-5 11/24/22 00:10 • (MSD) R3864757-6 11/24/22 00:27

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 1590 | 63400 | 63400 | 124 | 124 | 1 | 80.0-120 | J5 | J5 | 0.0158 | 20 |

## L1555720-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1555720-10 11/24/22 00:47 • (MS) R3864757-7 11/24/22 01:10 • (MSD) R3864757-8 11/24/22 01:30

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 1610 | 63000 | 63900 | 123 | 125 | 1 | 80.0-120 | J5 | J5 | 1.42 | 20 |

## Method Blank (MB)

(MB) R3862814-1 11/18/22 14:22

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3862814-2 11/18/22 14:26

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Iron | 5000 | 4880 | 97.7 | 80.0-120 | |
| Manganese | 50.0 | 47.9 | 95.9 | 80.0-120 | |

## L1556122-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1556122-01 11/18/22 14:29 • (MS) R3862814-4 11/18/22 14:36 • (MSD) R3862814-5 11/18/22 14:39

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iron | 5000 | 269 | 5190 | 5380 | 98.4 | 102 | 1 | 75.0-125 | | | 3.72 | 20 |
| Manganese | 50.0 | 76.1 | 122 | 124 | 92.0 | 96.0 | 1 | 75.0-125 | | | 1.63 | 20 |

## Method Blank (MB)

(MB) R3861584-2 11/16/22 09:01

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1556122-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1556122-02 11/16/22 09:07 • (DUP) R3861584-3 11/16/22 09:38

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | 26.0 | 29.3 | 1 | 11.9 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1556189-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1556189-10 11/16/22 09:46 • (DUP) R3861584-4 11/16/22 10:36

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3861584-1 11/16/22 08:58 • (LCSD) R3861584-7 11/16/22 10:43

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 68.8 | 65.4 | 101 | 96.5 | 85.0-115 | | | 5.07 | 20 |
| Ethane | 129 | 121 | 118 | 93.8 | 91.5 | 85.0-115 | | | 2.51 | 20 |
| Ethene | 127 | 122 | 119 | 96.1 | 93.7 | 85.0-115 | | | 2.49 | 20 |

## L1557067-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1557067-01 11/16/22 10:24 • (MS) R3861584-5 11/16/22 10:38 • (MSD) R3861584-6 11/16/22 10:41

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | U | 72.4 | 74.7 | 107 | 110 | 1 | 85.0-115 | | | 3.13 | 20 |
| Ethane | 129 | U | 129 | 128 | 100 | 99.2 | 1 | 85.0-115 | | | 0.778 | 20 |
| Ethene | 127 | U | 130 | 129 | 102 | 102 | 1 | 85.0-115 | | | 0.772 | 20 |

## Method Blank (MB)

(MB) R3862362-3 11/15/22 01:56

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *107* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *71.3* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3862362-1 11/15/22 00:40 • (LCSD) R3862362-2 11/15/22 00:59

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | 5.00 | 6.95 | 6.42 | 139 | 128 | 70.0-136 | J4 | | 7.93 | 20 |
| *(S) Toluene-d8* | | | | *108* | *108* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *104* | *105* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *75.3* | *72.3* | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R3862804-2 11/18/22 12:22

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3862804-2 11/18/22 12:22

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *101* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *104* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *90.4* | | | *70.0-130* |

## Laboratory Control Sample (LCS)

(LCS) R3862804-1 11/18/22 09:54

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Acetone | 25.0 | 22.8 | 91.2 | 10.0-160 | |
| Acrylonitrile | 25.0 | 21.2 | 84.8 | 45.0-153 | |
| Benzene | 5.00 | 5.26 | 105 | 70.0-123 | |
| Bromobenzene | 5.00 | 5.09 | 102 | 73.0-121 | |
| Bromodichloromethane | 5.00 | 5.19 | 104 | 73.0-121 | |
| Bromoform | 5.00 | 4.85 | 97.0 | 64.0-132 | |
| Bromomethane | 5.00 | 3.55 | 71.0 | 56.0-147 | |
| n-Butylbenzene | 5.00 | 4.85 | 97.0 | 68.0-135 | |
| sec-Butylbenzene | 5.00 | 4.62 | 92.4 | 74.0-130 | |
| tert-Butylbenzene | 5.00 | 4.71 | 94.2 | 75.0-127 | |
| Carbon tetrachloride | 5.00 | 5.10 | 102 | 66.0-128 | |
| Chlorobenzene | 5.00 | 5.14 | 103 | 76.0-128 | |
| Chlorodibromomethane | 5.00 | 4.83 | 96.6 | 74.0-127 | |
| Chloroethane | 5.00 | 3.62 | 72.4 | 61.0-134 | |
| Chloroform | 5.00 | 4.62 | 92.4 | 72.0-123 | |
| Chloromethane | 5.00 | 3.39 | 67.8 | 51.0-138 | |
| 2-Chlorotoluene | 5.00 | 4.16 | 83.2 | 75.0-124 | |
| 4-Chlorotoluene | 5.00 | 4.94 | 98.8 | 75.0-124 | |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.31 | 86.2 | 59.0-130 | |
| 1,2-Dibromoethane | 5.00 | 5.08 | 102 | 74.0-128 | |
| Dibromomethane | 5.00 | 5.07 | 101 | 75.0-122 | |
| 1,2-Dichlorobenzene | 5.00 | 5.13 | 103 | 76.0-124 | |
| 1,3-Dichlorobenzene | 5.00 | 5.07 | 101 | 76.0-125 | |
| 1,4-Dichlorobenzene | 5.00 | 5.09 | 102 | 77.0-121 | |
| Dichlorodifluoromethane | 5.00 | 3.84 | 76.8 | 43.0-156 | |
| 1,1-Dichloroethane | 5.00 | 4.74 | 94.8 | 70.0-127 | |
| 1,2-Dichloroethane | 5.00 | 4.60 | 92.0 | 65.0-131 | |
| 1,1-Dichloroethene | 5.00 | 4.79 | 95.8 | 65.0-131 | |
| cis-1,2-Dichloroethene | 5.00 | 4.96 | 99.2 | 73.0-125 | |
| trans-1,2-Dichloroethene | 5.00 | 4.95 | 99.0 | 71.0-125 | |
| 1,2-Dichloropropane | 5.00 | 5.28 | 106 | 74.0-125 | |
| 1,1-Dichloropropene | 5.00 | 5.19 | 104 | 73.0-125 | |
| 1,3-Dichloropropane | 5.00 | 5.28 | 106 | 80.0-125 | |
| cis-1,3-Dichloropropene | 5.00 | 5.27 | 105 | 76.0-127 | |
| trans-1,3-Dichloropropene | 5.00 | 4.94 | 98.8 | 73.0-127 | |
| 2,2-Dichloropropane | 5.00 | 3.79 | 75.8 | 59.0-135 | |
| Di-isopropyl ether | 5.00 | 4.95 | 99.0 | 60.0-136 | |
| Ethylbenzene | 5.00 | 4.98 | 99.6 | 74.0-126 | |
| Hexachloro-1,3-butadiene | 5.00 | 5.64 | 113 | 57.0-150 | |
| Isopropylbenzene | 5.00 | 5.00 | 100 | 72.0-127 | |

## Laboratory Control Sample (LCS)

(LCS) R3862804-1 11/18/22 09:54

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.01 | 100 | 72.0-133 | |
| 2-Butanone (MEK) | 25.0 | 23.0 | 92.0 | 30.0-160 | |
| Methylene Chloride | 5.00 | 3.52 | 70.4 | 68.0-123 | |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 24.2 | 96.8 | 56.0-143 | |
| Methyl tert-butyl ether | 5.00 | 4.12 | 82.4 | 66.0-132 | |
| Naphthalene | 5.00 | 5.76 | 115 | 59.0-130 | |
| n-Propylbenzene | 5.00 | 4.73 | 94.6 | 74.0-126 | |
| Styrene | 5.00 | 4.98 | 99.6 | 72.0-127 | |
| 1,1,1,2-Tetrachloroethane | 5.00 | 4.94 | 98.8 | 74.0-129 | |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.77 | 95.4 | 68.0-128 | |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 4.80 | 96.0 | 61.0-139 | |
| Tetrachloroethene | 5.00 | 5.29 | 106 | 70.0-136 | |
| Toluene | 5.00 | 5.11 | 102 | 75.0-121 | |
| 1,2,3-Trichlorobenzene | 5.00 | 6.88 | 138 | 59.0-139 | |
| 1,2,4-Trichlorobenzene | 5.00 | 6.95 | 139 | 62.0-137 | J4 |
| 1,1,1-Trichloroethane | 5.00 | 3.80 | 76.0 | 69.0-126 | |
| 1,1,2-Trichloroethane | 5.00 | 4.95 | 99.0 | 78.0-123 | |
| Trichloroethene | 5.00 | 5.28 | 106 | 76.0-126 | |
| Trichlorofluoromethane | 5.00 | 4.00 | 80.0 | 61.0-142 | |
| 1,2,3-Trichloropropane | 5.00 | 4.68 | 93.6 | 67.0-129 | |
| 1,2,4-Trimethylbenzene | 5.00 | 4.93 | 98.6 | 70.0-126 | |
| 1,2,3-Trimethylbenzene | 5.00 | 4.76 | 95.2 | 74.0-124 | |
| 1,3,5-Trimethylbenzene | 5.00 | 4.88 | 97.6 | 73.0-127 | |
| Vinyl chloride | 5.00 | 3.23 | 64.6 | 63.0-134 | |
| Xylenes, Total | 15.0 | 15.1 | 101 | 72.0-127 | |
| Ethyl ether | 5.00 | 4.89 | 97.8 | 64.0-137 | |
| Tetrahydrofuran | 5.00 | 4.16 | 83.2 | 37.0-146 | |
| Iodomethane | 25.0 | 22.6 | 90.4 | 74.0-134 | |
| Allyl chloride | 25.0 | 24.0 | 96.0 | 70.0-131 | |
| trans-1,4-Dichloro-2-butene | 5.00 | 4.33 | 86.6 | 45.0-143 | |
| *(S) Toluene-d8* | | | *100* | *75.0-131* | |
| *(S) 4-Bromofluorobenzene* | | | *102* | *67.0-138* | |
| *(S) 1,2-Dichloroethane-d4* | | | *92.1* | *70.0-130* | |

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| B | The same analyte is found in the associated blank. |
| C3 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable. |
| C5 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded high. Data is likely to show a high bias concerning the result. |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J4 | The associated batch QC was outside the established quality control range for accuracy. |
| J5 | The sample matrix interfered with the ability to make any accurate determination; spike value is high. |

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Billing Information:
Attn: Accounts Payable
2101 4th Avenue, Suite 1310
Seattle, WA 98121

Pres Chk

Report to: Brian O'Neal/Bill Haldeman

Email To: Shannon.McKernan@nv5.com;brian.oneal@nv5

Project Description: American Linen

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: 206-529-3980

Client Project # 1413.001.10.701.02

Lab Project # PESENVSWA-ALP

Collected by (print): NEW

Site/Facility ID #

P.O. # 1413001070102
~~443018-1413001.05.601~~

Collected by (signature): NEW

Immediately Packed on Ice N___ Y✓

*Rush?* (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | | | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | L2 | | | | L2 | | | | | |
| MW105-110922 | Grab | GW | — | 11/9/22 | 0950 | 9 | X | X | X | X | | X | X | X | | | | 01 |
| MW-304-110922 | ↓ | GW | — | ↓ | 1148 | 9 | X | X | X | X | | X | X | X | | | | 02 |
| BB-8-110922 | ↓ | GW | — | ↓ | 1017 | 9 | X | X | X | X | | X | X | X | | | | 03 |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |

NEW
11/9/22

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1556122
G243

Acctnum: PESENVSWA
Template: T218236
Prelogin: P957562
PM: 546 - Jared Starkey
PB: JJ 10/17/22
Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: Tier 2 lab QA/QC (batch QC ok)

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / No HCL / MeoH TBR |
|---|---|---|---|---|
| Natalie Wisdom | 11/9/22 | 1530 | | 0 |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: 4.0 4.2C 4.0+0=4.0 Bottles Received: 27 |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: 11/10/22 Time: 901 |

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

# ANALYTICAL REPORT

November 28, 2022



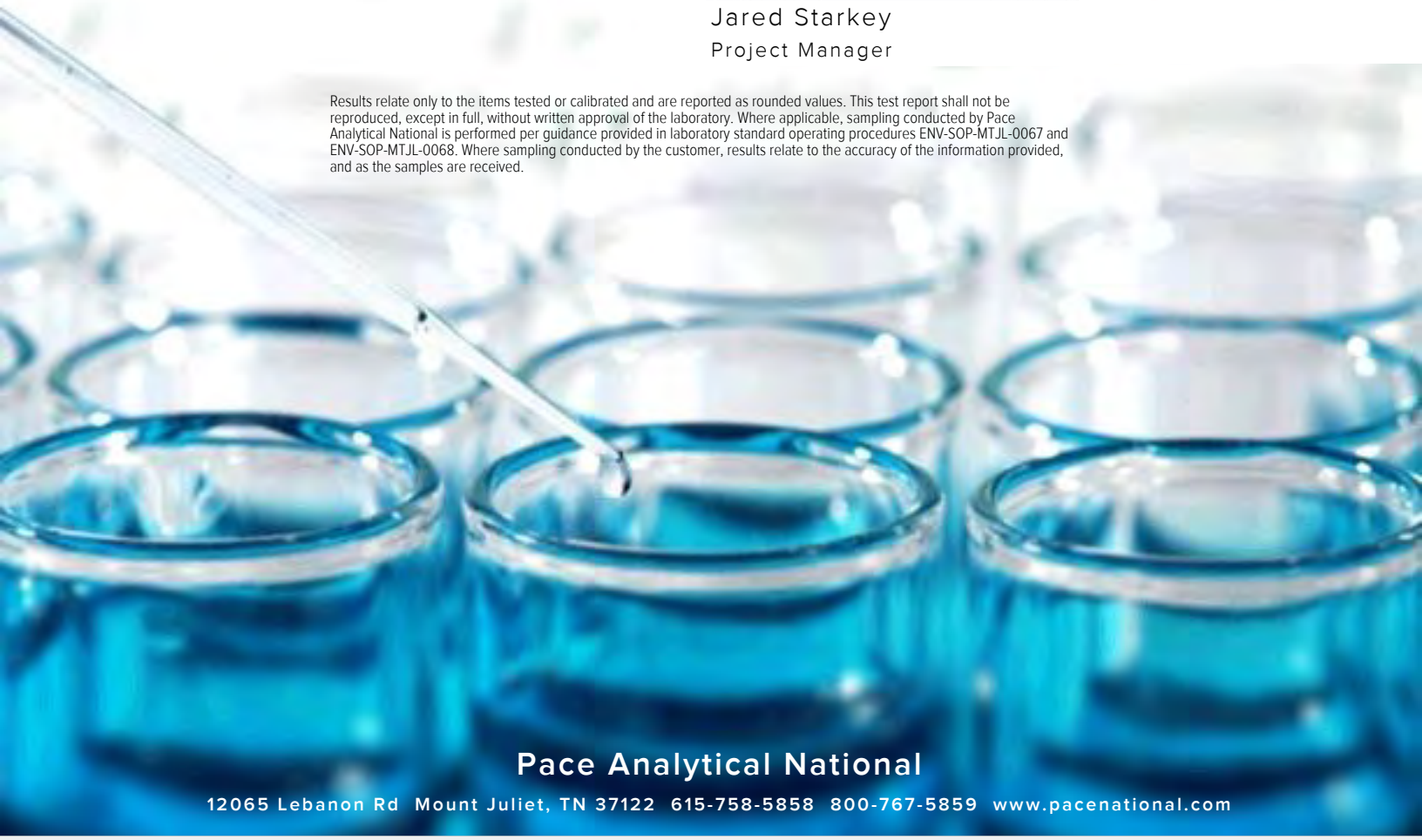
## PES Environmental, Inc.- WA

| | |
|---|---|
| Sample Delivery Group: | L1556124 |
| Samples Received: | 11/10/2022 |
| Project Number: | 1413.001.10.603.04 |
| Description: | American Linen |
| Report To: | Brian O'Neal/Bill Haldeman |
| | 2101 Fourth Ave., Suite 1310 |
| | Seattle, WA 98121 |

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## HMW-9IB-110922 L1556124-01 GW

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| NEW | 11/09/22 13:00 | 11/10/22 09:00 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1960842 | 1 | 11/17/22 09:18 | 11/17/22 09:18 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1957434 | 1 | 11/10/22 22:25 | 11/10/22 22:25 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1964116 | 1 | 11/24/22 04:25 | 11/24/22 04:25 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1959267 | 1 | 11/18/22 09:05 | 11/18/22 15:09 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1960395 | 1 | 11/16/22 09:13 | 11/16/22 09:13 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1960511 | 10 | 11/16/22 11:02 | 11/16/22 11:02 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1960747 | 25 | 11/16/22 21:19 | 11/16/22 21:19 | DWR | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 442000 | | 8450 | 20000 | 1 | 11/17/2022 09:18 | WG1960842 |

Sample Narrative:

L1556124-01 WG1960842: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 33800 | | 379 | 1000 | 1 | 11/10/2022 22:25 | WG1957434 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/10/2022 22:25 | WG1957434 |
| Sulfate | U | | 594 | 5000 | 1 | 11/10/2022 22:25 | WG1957434 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 40500 | | 102 | 1000 | 1 | 11/24/2022 04:25 | WG1964116 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 41200 | | 28.1 | 100 | 1 | 11/18/2022 15:09 | WG1959267 |
| Manganese | 2990 | | 0.704 | 5.00 | 1 | 11/18/2022 15:09 | WG1959267 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 19300 | | 2.87 | 6.78 | 10 | 11/16/2022 11:02 | WG1960511 |
| Ethane | 7.24 | | 0.296 | 1.29 | 1 | 11/16/2022 09:13 | WG1960395 |
| Ethene | 559 | | 0.422 | 1.27 | 1 | 11/16/2022 09:13 | WG1960395 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 13.7 | 25.0 | 25 | 11/16/2022 21:19 | WG1960747 |
| Acrylonitrile | U | | 1.90 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| Benzene | U | | 0.400 | 1.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| Bromobenzene | U | | 1.05 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| Bromodichloromethane | U | | 0.788 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Bromoform | U | | 5.98 | 25.0 | 25 | 11/16/2022 21:19 | WG1960747 |
| Bromomethane | U | J3 | 3.70 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| n-Butylbenzene | U | | 3.83 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| sec-Butylbenzene | U | | 2.53 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| tert-Butylbenzene | U | | 1.55 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| Carbon tetrachloride | U | | 1.08 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| Chlorobenzene | U | | 0.573 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Chlorodibromomethane | U | | 0.450 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Chloroethane | U | | 1.08 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| Chloroform | U | | 0.415 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Chloromethane | U | | 1.39 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| 2-Chlorotoluene | U | | 0.920 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| 4-Chlorotoluene | U | | 1.13 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,2-Dibromo-3-Chloropropane | U | | 5.10 | 25.0 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,2-Dibromoethane | U | | 0.525 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 1.00 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,2-Dichlorobenzene | U | | 1.45 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,3-Dichlorobenzene | U | | 1.70 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,4-Dichlorobenzene | U | | 1.97 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| Dichlorodifluoromethane | U | | 0.818 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,1-Dichloroethane | U | | 0.575 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,2-Dichloroethane | U | | 0.475 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,1-Dichloroethene | U | | 0.500 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| cis-1,2-Dichloroethene | 119 | | 0.690 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| trans-1,2-Dichloroethene | 3.28 | J | 1.43 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,2-Dichloropropane | U | | 1.27 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,1-Dichloropropene | U | | 0.700 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,3-Dichloropropane | U | | 1.75 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| cis-1,3-Dichloropropene | U | | 0.678 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| trans-1,3-Dichloropropene | U | | 1.53 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| 2,2-Dichloropropane | U | | 0.793 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Di-isopropyl ether | U | | 0.350 | 1.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| Ethylbenzene | U | | 0.530 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Hexachloro-1,3-butadiene | U | | 12.7 | 25.0 | 25 | 11/16/2022 21:19 | WG1960747 |
| Isopropylbenzene | U | | 0.863 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| p-Isopropyltoluene | U | | 2.33 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| 2-Butanone (MEK) | U | | 12.5 | 25.0 | 25 | 11/16/2022 21:19 | WG1960747 |
| Methylene Chloride | U | | 6.63 | 25.0 | 25 | 11/16/2022 21:19 | WG1960747 |
| 4-Methyl-2-pentanone (MIBK) | U | | 10.0 | 25.0 | 25 | 11/16/2022 21:19 | WG1960747 |
| Methyl tert-butyl ether | U | | 0.295 | 1.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| Naphthalene | U | | 3.10 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| n-Propylbenzene | U | | 1.18 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| Styrene | U | | 2.73 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,1,1,2-Tetrachloroethane | U | | 0.500 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,1,2,2-Tetrachloroethane | U | | 0.390 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.675 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Tetrachloroethene | U | | 0.700 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Toluene | U | | 1.25 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.625 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,2,4-Trichlorobenzene | U | C4 | 4.83 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,1,1-Trichloroethane | U | | 0.275 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,1,2-Trichloroethane | U | | 0.883 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Trichloroethene | U | | 0.400 | 1.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| Trichlorofluoromethane | U | | 0.500 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,2,3-Trichloropropane | U | | 5.10 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,2,4-Trimethylbenzene | U | | 1.16 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,2,3-Trimethylbenzene | U | | 1.15 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,3,5-Trimethylbenzene | U | | 1.08 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| Vinyl chloride | 1220 | | 0.682 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Xylenes, Total | U | | 4.78 | 6.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Ethyl Ether | U | | 0.425 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Tetrahydrofuran | U | | 2.25 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| Iodomethane | U | | 6.05 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| Allyl chloride | U | | 14.5 | 25.0 | 25 | 11/16/2022 21:19 | WG1960747 |
| Trans-1,4-Dichloro-2-butene | U | | 1.40 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *11/16/2022 21:19* | WG1960747 |
| *(S) 4-Bromofluorobenzene* | *97.4* | | | *67.0-138* | | *11/16/2022 21:19* | WG1960747 |
| *(S) 1,2-Dichloroethane-d4* | *96.2* | | | *70.0-130* | | *11/16/2022 21:19* | WG1960747 |

**Sample Narrative:**

L1556124-01 WG1960747: Target compounds too high to run at a lower dilution.

## Method Blank (MB)

(MB) R3862257-2 11/17/22 08:35

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1555740-38 Original Sample (OS) • Duplicate (DUP)

(OS) L1555740-38 11/17/22 08:43 • (DUP) R3862257-4 11/17/22 08:45

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 9080 | 9260 | 1 | 1.94 | J | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

## L1556920-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1556920-01 11/17/22 10:31 • (DUP) R3862257-6 11/17/22 10:37

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 100000 | 101000 | 1 | 0.713 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3862257-1 11/17/22 08:30

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 100000 | 100 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3860191-1 11/10/22 21:21

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1555223-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1555223-01 11/10/22 23:54 • (DUP) R3860191-3 11/11/22 00:07

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Chloride | 50300 | 50300 | 1 | 0.0388 | | 15 |
| Sulfate | 19900 | 19800 | 1 | 0.272 | | 15 |

## L1555227-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1555227-02 11/11/22 02:40 • (DUP) R3860191-6 11/11/22 02:52

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Chloride | 17400 | 17300 | 1 | 0.505 | | 15 |
| Sulfate | 73600 | 73700 | 1 | 0.0904 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3860191-2 11/10/22 21:34

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Chloride | 40000 | 39100 | 97.6 | 80.0-120 | |
| Nitrate | 8000 | 7490 | 93.7 | 80.0-120 | |
| Sulfate | 40000 | 39000 | 97.6 | 80.0-120 | |

## L1555223-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1555223-01 11/10/22 23:54 • (MS) R3860191-4 11/11/22 00:20 • (MSD) R3860191-5 11/11/22 00:32

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Chloride | 50000 | 50300 | 99700 | 99900 | 98.9 | 99.2 | 1 | 80.0-120 | | | 0.125 | 15 |
| Sulfate | 50000 | 19900 | 70000 | 70200 | 100 | 101 | 1 | 80.0-120 | | | 0.185 | 15 |

## L1555227-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1555227-02 11/11/22 02:40 • (MS) R3860191-7 11/11/22 03:05

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 17400 | 68600 | 102 | 1 | 80.0-120 | |
| Sulfate | 50000 | 73600 | 124000 | 101 | 1 | 80.0-120 | |

## Method Blank (MB)

(MB) R3864757-2 11/23/22 20:19

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 665 | J | 102 | 1000 |

## L1555559-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1555559-01 11/23/22 20:36 • (DUP) R3864757-3 11/23/22 20:49

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2420 | 2230 | 1 | 8.05 | | 20 |

## L1555720-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1555720-05 11/23/22 21:45 • (DUP) R3864757-4 11/23/22 22:01

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1610 | 1400 | 1 | 14.0 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3864757-1 11/23/22 20:03

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 77000 | 103 | 85.0-115 | |

## L1555720-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1555720-09 11/23/22 23:48 • (MS) R3864757-5 11/24/22 00:10 • (MSD) R3864757-6 11/24/22 00:27

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 1590 | 63400 | 63400 | 124 | 124 | 1 | 80.0-120 | J5 | J5 | 0.0158 | 20 |

## L1555720-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1555720-10 11/24/22 00:47 • (MS) R3864757-7 11/24/22 01:10 • (MSD) R3864757-8 11/24/22 01:30

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 1610 | 63000 | 63900 | 123 | 125 | 1 | 80.0-120 | J5 | J5 | 1.42 | 20 |

## Method Blank (MB)

(MB) R3862814-1 11/18/22 14:22

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3862814-2 11/18/22 14:26

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Iron | 5000 | 4880 | 97.7 | 80.0-120 | |
| Manganese | 50.0 | 47.9 | 95.9 | 80.0-120 | |

## L1556122-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1556122-01 11/18/22 14:29 • (MS) R3862814-4 11/18/22 14:36 • (MSD) R3862814-5 11/18/22 14:39

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Iron | 5000 | 269 | 5190 | 5380 | 98.4 | 102 | 1 | 75.0-125 | | | 3.72 | 20 |
| Manganese | 50.0 | 76.1 | 122 | 124 | 92.0 | 96.0 | 1 | 75.0-125 | | | 1.63 | 20 |

## Method Blank (MB)

(MB) R3861584-2 11/16/22 09:01

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1556122-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1556122-02 11/16/22 09:07 • (DUP) R3861584-3 11/16/22 09:38

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1556189-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1556189-10 11/16/22 09:46 • (DUP) R3861584-4 11/16/22 10:36

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3861584-1 11/16/22 08:58 • (LCSD) R3861584-7 11/16/22 10:43

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Ethane | 129 | 121 | 118 | 93.8 | 91.5 | 85.0-115 | | | 2.51 | 20 |
| Ethene | 127 | 122 | 119 | 96.1 | 93.7 | 85.0-115 | | | 2.49 | 20 |

## L1557067-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1557067-01 11/16/22 10:24 • (MS) R3861584-5 11/16/22 10:38 • (MSD) R3861584-6 11/16/22 10:41

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Ethane | 129 | U | 129 | 128 | 100 | 99.2 | 1 | 85.0-115 | | | 0.778 | 20 |
| Ethene | 127 | U | 130 | 129 | 102 | 102 | 1 | 85.0-115 | | | 0.772 | 20 |

## Method Blank (MB)

(MB) R3861630-2 11/16/22 10:57

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |

## L1557067-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1557067-06 11/16/22 11:28 • (DUP) R3861630-3 11/16/22 11:36

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |

## L1557067-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1557067-11 11/16/22 11:46 • (DUP) R3861630-4 11/16/22 12:06

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3861630-1 11/16/22 10:55 • (LCSD) R3861630-5 11/16/22 12:08

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 65.7 | 69.5 | 96.9 | 103 | 85.0-115 | | | 5.62 | 20 |

## Method Blank (MB)

(MB) R3862095-3 11/16/22 12:31

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3862095-3 11/16/22 12:31

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *98.4* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *96.7* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3862095-1 11/16/22 11:14 • (LCSD) R3862095-2 11/16/22 11:33

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 28.9 | 28.0 | 116 | 112 | 10.0-160 | | | 3.16 | 31 |
| Acrylonitrile | 25.0 | 27.7 | 28.0 | 111 | 112 | 45.0-153 | | | 1.08 | 22 |
| Benzene | 5.00 | 5.07 | 5.38 | 101 | 108 | 70.0-123 | | | 5.93 | 20 |
| Bromobenzene | 5.00 | 4.96 | 5.29 | 99.2 | 106 | 73.0-121 | | | 6.44 | 20 |
| Bromodichloromethane | 5.00 | 5.21 | 5.53 | 104 | 111 | 73.0-121 | | | 5.96 | 20 |
| Bromoform | 5.00 | 4.84 | 5.00 | 96.8 | 100 | 64.0-132 | | | 3.25 | 20 |
| Bromomethane | 5.00 | 5.62 | 4.58 | 112 | 91.6 | 56.0-147 | | J3 | 20.4 | 20 |
| n-Butylbenzene | 5.00 | 5.06 | 5.48 | 101 | 110 | 68.0-135 | | | 7.97 | 20 |
| sec-Butylbenzene | 5.00 | 5.16 | 5.73 | 103 | 115 | 74.0-130 | | | 10.5 | 20 |
| tert-Butylbenzene | 5.00 | 4.89 | 5.39 | 97.8 | 108 | 75.0-127 | | | 9.73 | 20 |
| Carbon tetrachloride | 5.00 | 5.15 | 5.35 | 103 | 107 | 66.0-128 | | | 3.81 | 20 |
| Chlorobenzene | 5.00 | 4.79 | 5.08 | 95.8 | 102 | 76.0-128 | | | 5.88 | 20 |
| Chlorodibromomethane | 5.00 | 5.19 | 5.31 | 104 | 106 | 74.0-127 | | | 2.29 | 20 |
| Chloroethane | 5.00 | 5.39 | 5.07 | 108 | 101 | 61.0-134 | | | 6.12 | 20 |
| Chloroform | 5.00 | 4.96 | 5.22 | 99.2 | 104 | 72.0-123 | | | 5.11 | 20 |
| Chloromethane | 5.00 | 4.19 | 4.69 | 83.8 | 93.8 | 51.0-138 | | | 11.3 | 20 |
| 2-Chlorotoluene | 5.00 | 5.39 | 5.29 | 108 | 106 | 75.0-124 | | | 1.87 | 20 |
| 4-Chlorotoluene | 5.00 | 5.39 | 5.73 | 108 | 115 | 75.0-124 | | | 6.12 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.27 | 4.62 | 85.4 | 92.4 | 59.0-130 | | | 7.87 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.01 | 5.22 | 100 | 104 | 74.0-128 | | | 4.11 | 20 |
| Dibromomethane | 5.00 | 5.26 | 5.45 | 105 | 109 | 75.0-122 | | | 3.55 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 4.79 | 5.08 | 95.8 | 102 | 76.0-124 | | | 5.88 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 4.93 | 5.08 | 98.6 | 102 | 76.0-125 | | | 3.00 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 4.75 | 5.00 | 95.0 | 100 | 77.0-121 | | | 5.13 | 20 |
| Dichlorodifluoromethane | 5.00 | 5.51 | 5.85 | 110 | 117 | 43.0-156 | | | 5.99 | 20 |
| 1,1-Dichloroethane | 5.00 | 5.10 | 5.44 | 102 | 109 | 70.0-127 | | | 6.45 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.71 | 4.63 | 94.2 | 92.6 | 65.0-131 | | | 1.71 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.21 | 5.48 | 104 | 110 | 65.0-131 | | | 5.05 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.06 | 5.32 | 101 | 106 | 73.0-125 | | | 5.01 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 4.97 | 5.35 | 99.4 | 107 | 71.0-125 | | | 7.36 | 20 |
| 1,2-Dichloropropane | 5.00 | 4.93 | 5.16 | 98.6 | 103 | 74.0-125 | | | 4.56 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.21 | 5.65 | 104 | 113 | 73.0-125 | | | 8.10 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.06 | 4.97 | 101 | 99.4 | 80.0-125 | | | 1.79 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 5.13 | 5.08 | 103 | 102 | 76.0-127 | | | 0.979 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 4.98 | 5.06 | 99.6 | 101 | 73.0-127 | | | 1.59 | 20 |
| 2,2-Dichloropropane | 5.00 | 5.11 | 5.44 | 102 | 109 | 59.0-135 | | | 6.26 | 20 |
| Di-isopropyl ether | 5.00 | 5.24 | 5.35 | 105 | 107 | 60.0-136 | | | 2.08 | 20 |
| Ethylbenzene | 5.00 | 4.82 | 5.24 | 96.4 | 105 | 74.0-126 | | | 8.35 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 4.67 | 5.00 | 93.4 | 100 | 57.0-150 | | | 6.83 | 20 |
| Isopropylbenzene | 5.00 | 5.43 | 5.74 | 109 | 115 | 72.0-127 | | | 5.55 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3862095-1 11/16/22 11:14 • (LCSD) R3862095-2 11/16/22 11:33

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.21 | 5.68 | 104 | 114 | 72.0-133 | | | 8.63 | 20 |
| 2-Butanone (MEK) | 25.0 | 28.1 | 28.9 | 112 | 116 | 30.0-160 | | | 2.81 | 24 |
| Methylene Chloride | 5.00 | 4.98 | 5.23 | 99.6 | 105 | 68.0-123 | | | 4.90 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 30.4 | 29.6 | 122 | 118 | 56.0-143 | | | 2.67 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.21 | 5.07 | 104 | 101 | 66.0-132 | | | 2.72 | 20 |
| Naphthalene | 5.00 | 4.18 | 4.70 | 83.6 | 94.0 | 59.0-130 | | | 11.7 | 20 |
| n-Propylbenzene | 5.00 | 5.38 | 5.88 | 108 | 118 | 74.0-126 | | | 8.88 | 20 |
| Styrene | 5.00 | 5.08 | 5.45 | 102 | 109 | 72.0-127 | | | 7.03 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.09 | 5.26 | 102 | 105 | 74.0-129 | | | 3.29 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 5.20 | 5.21 | 104 | 104 | 68.0-128 | | | 0.192 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.38 | 5.65 | 108 | 113 | 61.0-139 | | | 4.90 | 20 |
| Tetrachloroethene | 5.00 | 5.02 | 5.27 | 100 | 105 | 70.0-136 | | | 4.86 | 20 |
| Toluene | 5.00 | 4.95 | 5.33 | 99.0 | 107 | 75.0-121 | | | 7.39 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.36 | 5.12 | 87.2 | 102 | 59.0-139 | | | 16.0 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.38 | 4.76 | 87.6 | 95.2 | 62.0-137 | | | 8.32 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.12 | 5.46 | 102 | 109 | 69.0-126 | | | 6.43 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.13 | 5.20 | 103 | 104 | 78.0-123 | | | 1.36 | 20 |
| Trichloroethene | 5.00 | 4.95 | 5.09 | 99.0 | 102 | 76.0-126 | | | 2.79 | 20 |
| Trichlorofluoromethane | 5.00 | 5.49 | 5.92 | 110 | 118 | 61.0-142 | | | 7.54 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 5.34 | 5.19 | 107 | 104 | 67.0-129 | | | 2.85 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 4.98 | 5.41 | 99.6 | 108 | 70.0-126 | | | 8.28 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 4.89 | 5.28 | 97.8 | 106 | 74.0-124 | | | 7.67 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.08 | 5.60 | 102 | 112 | 73.0-127 | | | 9.74 | 20 |
| Vinyl chloride | 5.00 | 4.32 | 4.81 | 86.4 | 96.2 | 63.0-134 | | | 10.7 | 20 |
| Xylenes, Total | 15.0 | 15.2 | 16.1 | 101 | 107 | 72.0-127 | | | 5.75 | 20 |
| Ethyl ether | 5.00 | 5.09 | 5.18 | 102 | 104 | 64.0-137 | | | 1.75 | 20 |
| Tetrahydrofuran | 5.00 | 5.25 | 5.03 | 105 | 101 | 37.0-146 | | | 4.28 | 24 |
| Iodomethane | 25.0 | 24.4 | 25.2 | 97.6 | 101 | 74.0-134 | | | 3.23 | 20 |
| Allyl chloride | 25.0 | 25.0 | 26.9 | 100 | 108 | 70.0-131 | | | 7.32 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 5.14 | 5.04 | 103 | 101 | 45.0-143 | | | 1.96 | 20 |
| *(S) Toluene-d8* | | | | *105* | *104* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *103* | *103* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *96.1* | *96.0* | *70.0-130* | | | | |

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| C4 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result. |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J3 | The associated batch QC was outside the established quality control range for precision. |
| J5 | The sample matrix interfered with the ability to make any accurate determination; spike value is high. |

# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LAO000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

**2101 Fourth Ave., Suite 1310**
**Seattle, WA 98121**

Billing Information:
**Attn: Accounts Payable**
**2101 4th Avenue, Suite 1310**
**Seattle, WA 98121**

Pres Chk

Report to:
**Brian O'Neal/Bill Haldeman**

Email To:
**Shannon.McKernan@nv5.com;brian.oneal@nv5**

Project Description:
**American Linen**

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: **206-529-3980**

Client Project #
1413.001.10.603.04

Lab Project #
**PESENVSWA-ALP**

Collected by (print):
NEW

Site/Facility ID #

P.O. # 1413001106030 4
~~443018-1413001.05.601~~

Collected by (signature):
NEW

Immediately Packed on Ice N ___ Y ✓

***Rush?*** (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HMW-9IB-110922 | Grab | GW | — | 11/9/22 | 1300 | 9 | X | X | X | X | | X | X | X | | 01 |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |

NEW
11/9/22

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # USJ6124
G242

Acctnum: PESENVSWA
Template: T218236
Prelogin: P957562
PM: 546 - Jared Starkey
PB: JJ 10/17/22
Shipped Via:

* Matrix:
**SS** - Soil **AIR** - Air **F** - Filter
**GW** - Groundwater **B** - Bioassay
**WW** - WasteWater
**DW** - Drinking Water
**OT** - Other_____

**Remarks:** Tier 2 lab QA/QC (batch QC ok)

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP Y __N
COC Signed/Accurate: Y __N
Bottles arrive intact: Y __N
Correct bottles used: Y __N
Sufficient volume sent: Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / (No) HCL / MeoH TBR | If preservation required by Login: Date/Time |
|---|---|---|---|---|---|
| Natalie Wisdom | 11/9/22 | 1530 | | 0 | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp 4.4 C (0.4 CF) Bottles Received: 9 | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: 11/10/22 Time: 900 | Hold: / Condition: NCF / OK |

# ANALYTICAL REPORT

November 28, 2022



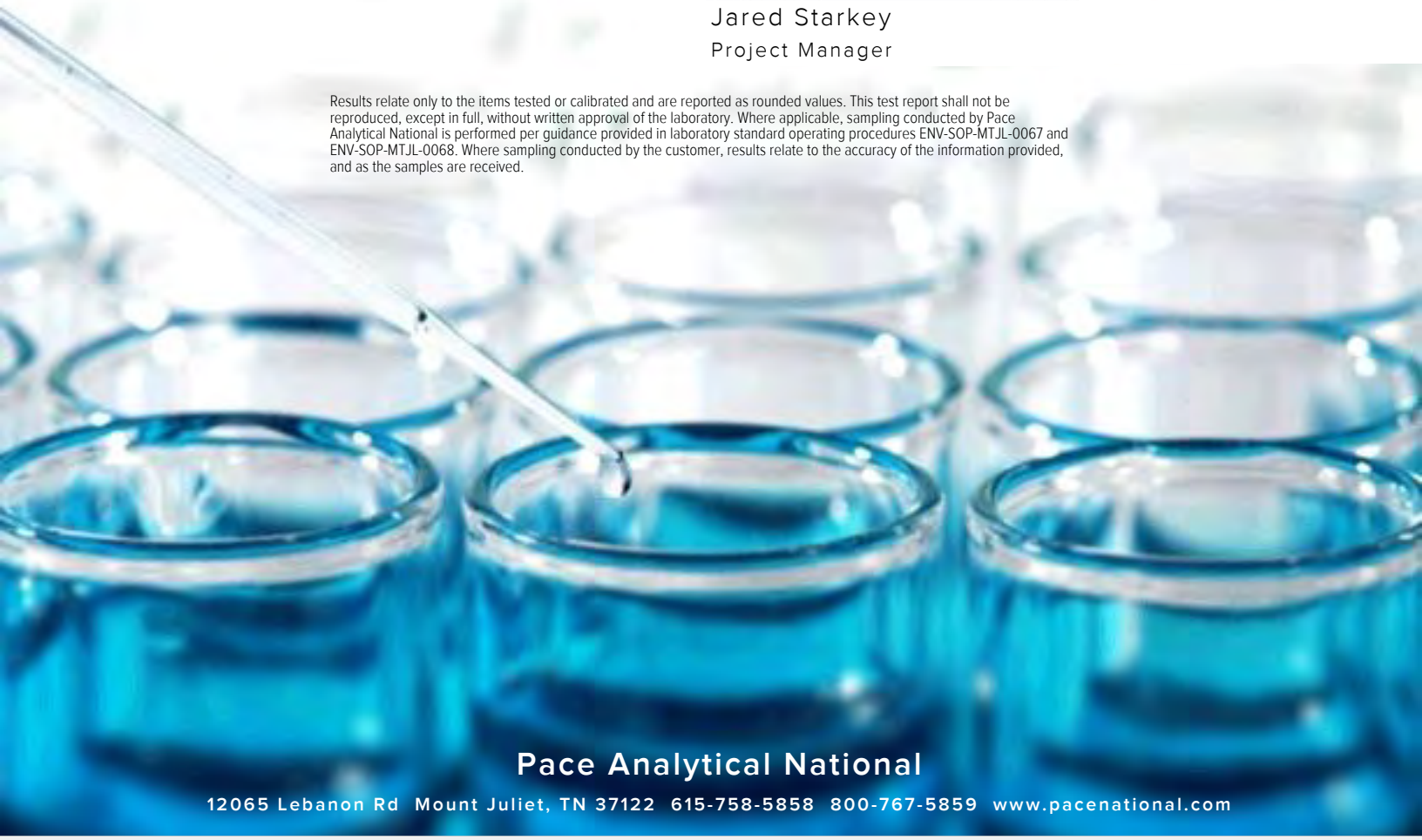
## PES Environmental, Inc.- WA

| | |
|---|---|
| Sample Delivery Group: | L1556817 |
| Samples Received: | 11/11/2022 |
| Project Number: | 1413.001.10.603.04 |
| Description: | American Linen |
| Report To: | Brian O'Neal/Bill Haldeman |
| | 2101 Fourth Ave., Suite 1310 |
| | Seattle, WA 98121 |

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## MW-348-111022 L1556817-01 GW

Collected by: NEW | Collected date/time: 11/10/22 10:14 | Received date/time: 11/11/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1961983 | 1 | 11/18/22 16:11 | 11/18/22 16:11 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1958580 | 1 | 11/12/22 01:01 | 11/12/22 01:01 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1959994 | 1 | 11/16/22 08:14 | 11/16/22 08:14 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1964791 | 50 | 11/25/22 17:19 | 11/25/22 17:19 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1960372 | 500 | 11/18/22 11:55 | 11/18/22 20:17 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1960631 | 1 | 11/16/22 14:26 | 11/16/22 14:26 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1960747 | 20 | 11/16/22 21:57 | 11/16/22 21:57 | DWR | Mt. Juliet, TN |

## MW-347-111022 L1556817-02 GW

Collected by: NEW | Collected date/time: 11/10/22 11:53 | Received date/time: 11/11/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1961983 | 1 | 11/18/22 16:14 | 11/18/22 16:14 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1958580 | 1 | 11/12/22 01:14 | 11/12/22 01:14 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1959994 | 1 | 11/16/22 08:32 | 11/16/22 08:32 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1964791 | 1 | 11/25/22 17:44 | 11/25/22 17:44 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1963571 | 1 | 11/22/22 17:08 | 11/22/22 23:40 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1960631 | 1 | 11/16/22 14:29 | 11/16/22 14:29 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1960778 | 10 | 11/17/22 08:48 | 11/17/22 08:48 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1960747 | 1 | 11/16/22 20:41 | 11/16/22 20:41 | DWR | Mt. Juliet, TN |

## MW-346-111022 L1556817-03 GW

Collected by: NEW | Collected date/time: 11/10/22 14:24 | Received date/time: 11/11/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1961983 | 1 | 11/18/22 16:29 | 11/18/22 16:29 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1958580 | 1 | 11/12/22 02:09 | 11/12/22 02:09 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1959994 | 1 | 11/16/22 08:50 | 11/16/22 08:50 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1964791 | 1 | 11/25/22 18:15 | 11/25/22 18:15 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1963571 | 10 | 11/22/22 17:08 | 11/23/22 13:53 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1960778 | 1 | 11/17/22 08:51 | 11/17/22 08:51 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1960747 | 1 | 11/16/22 21:00 | 11/16/22 21:00 | DWR | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 1440000 | | 8450 | 20000 | 1 | 11/18/2022 16:11 | WG1961983 |

Sample Narrative:

L1556817-01 WG1961983: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 117000 | | 379 | 1000 | 1 | 11/16/2022 08:14 | WG1959994 |
| Nitrate | 593 | | 48.0 | 100 | 1 | 11/12/2022 01:01 | WG1958580 |
| Sulfate | 649 | J | 594 | 5000 | 1 | 11/16/2022 08:14 | WG1959994 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2180000 | | 5100 | 50000 | 50 | 11/25/2022 17:19 | WG1964791 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 465000 | | 14000 | 50000 | 500 | 11/18/2022 20:17 | WG1960372 |
| Manganese | 4710 | B | 352 | 2500 | 500 | 11/18/2022 20:17 | WG1960372 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 5390 | | 0.287 | 0.678 | 1 | 11/16/2022 14:26 | WG1960631 |
| Ethane | 3.80 | | 0.296 | 1.29 | 1 | 11/16/2022 14:26 | WG1960631 |
| Ethene | 3.01 | | 0.422 | 1.27 | 1 | 11/16/2022 14:26 | WG1960631 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 90.6 | | 11.0 | 20.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| Acrylonitrile | U | | 1.52 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| Benzene | 1.78 | | 0.320 | 0.800 | 20 | 11/16/2022 21:57 | WG1960747 |
| Bromobenzene | U | | 0.840 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| Bromodichloromethane | U | | 0.630 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Bromoform | U | | 4.78 | 20.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| Bromomethane | U | J3 | 2.96 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| n-Butylbenzene | U | | 3.06 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| sec-Butylbenzene | U | | 2.02 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| tert-Butylbenzene | U | | 1.24 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Carbon tetrachloride | U | | 0.864 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Chlorobenzene | U | | 0.458 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Chlorodibromomethane | U | | 0.360 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Chloroethane | U | | 0.864 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Chloroform | U | | 0.332 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Chloromethane | U | | 1.11 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| 2-Chlorotoluene | U | | 0.736 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 4-Chlorotoluene | U | | 0.904 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,2-Dibromo-3-Chloropropane | U | | 4.08 | 20.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,2-Dibromoethane | U | | 0.420 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.800 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,2-Dichlorobenzene | U | | 1.16 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,3-Dichlorobenzene | U | | 1.36 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,4-Dichlorobenzene | U | | 1.58 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Dichlorodifluoromethane | U | | 0.654 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,1-Dichloroethane | U | | 0.460 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,2-Dichloroethane | U | | 0.380 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,1-Dichloroethene | U | | 0.400 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| cis-1,2-Dichloroethene | 49.4 | | 0.552 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| trans-1,2-Dichloroethene | U | | 1.14 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,2-Dichloropropane | U | | 1.02 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,1-Dichloropropene | U | | 0.560 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,3-Dichloropropane | U | | 1.40 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| cis-1,3-Dichloropropene | U | | 0.542 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| trans-1,3-Dichloropropene | U | | 1.22 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 2,2-Dichloropropane | U | | 0.634 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Di-isopropyl ether | U | | 0.280 | 0.800 | 20 | 11/16/2022 21:57 | WG1960747 |
| Ethylbenzene | U | | 0.424 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Hexachloro-1,3-butadiene | U | | 10.2 | 20.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| Isopropylbenzene | U | | 0.690 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| p-Isopropyltoluene | U | | 1.86 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 2-Butanone (MEK) | 2340 | | 10.0 | 20.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| Methylene Chloride | U | | 5.30 | 20.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| 4-Methyl-2-pentanone (MIBK) | U | | 8.00 | 20.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| Methyl tert-butyl ether | U | | 0.236 | 0.800 | 20 | 11/16/2022 21:57 | WG1960747 |
| Naphthalene | U | | 2.48 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| n-Propylbenzene | U | | 0.944 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Styrene | U | | 2.18 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,1,1,2-Tetrachloroethane | U | | 0.400 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,1,2,2-Tetrachloroethane | U | | 0.312 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.540 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Tetrachloroethene | U | | 0.560 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Toluene | U | | 1.00 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.500 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,2,4-Trichlorobenzene | U | C4 | 3.86 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,1,1-Trichloroethane | U | | 0.220 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,1,2-Trichloroethane | U | | 0.706 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Trichloroethene | U | | 0.320 | 0.800 | 20 | 11/16/2022 21:57 | WG1960747 |
| Trichlorofluoromethane | U | | 0.400 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,2,3-Trichloropropane | U | | 4.08 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,2,4-Trimethylbenzene | U | | 0.928 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,2,3-Trimethylbenzene | U | | 0.920 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,3,5-Trimethylbenzene | U | | 0.864 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Vinyl chloride | 13.9 | | 0.546 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Xylenes, Total | U | | 3.82 | 5.20 | 20 | 11/16/2022 21:57 | WG1960747 |
| Ethyl Ether | U | | 0.340 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Tetrahydrofuran | 56.3 | | 1.80 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| Iodomethane | U | | 4.84 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| Allyl chloride | U | | 11.6 | 20.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| Trans-1,4-Dichloro-2-butene | U | | 1.12 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/16/2022 21:57* | WG1960747 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/16/2022 21:57* | WG1960747 |
| *(S) 1,2-Dichloroethane-d4* | *96.1* | | | *70.0-130* | | *11/16/2022 21:57* | WG1960747 |

**Sample Narrative:**

L1556817-01 WG1960747: Lowest possible dilution due to sample foaming.

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 248000 | | 8450 | 20000 | 1 | 11/18/2022 16:14 | WG1961983 |

Sample Narrative:

L1556817-02 WG1961983: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 32800 | | 379 | 1000 | 1 | 11/16/2022 08:32 | WG1959994 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/12/2022 01:14 | WG1958580 |
| Sulfate | 4720 | J | 594 | 5000 | 1 | 11/16/2022 08:32 | WG1959994 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 11600 | | 102 | 1000 | 1 | 11/25/2022 17:44 | WG1964791 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1380 | | 28.1 | 100 | 1 | 11/22/2022 23:40 | WG1963571 |
| Manganese | 153 | | 0.704 | 5.00 | 1 | 11/22/2022 23:40 | WG1963571 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 7090 | | 2.87 | 6.78 | 10 | 11/17/2022 08:48 | WG1960778 |
| Ethane | 1.50 | | 0.296 | 1.29 | 1 | 11/16/2022 14:29 | WG1960631 |
| Ethene | 11.5 | | 0.422 | 1.27 | 1 | 11/16/2022 14:29 | WG1960631 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 11.0 | | 0.548 | 1.00 | 1 | 11/16/2022 20:41 | WG1960747 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/16/2022 20:41 | WG1960747 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/16/2022 20:41 | WG1960747 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| cis-1,2-Dichloroethene | 15.8 | | 0.0276 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| trans-1,2-Dichloroethene | 0.134 | J | 0.0572 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/16/2022 20:41 | WG1960747 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/16/2022 20:41 | WG1960747 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/16/2022 20:41 | WG1960747 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/16/2022 20:41 | WG1960747 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/16/2022 20:41 | WG1960747 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/16/2022 20:41 | WG1960747 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| Toluene | 0.0760 | J | 0.0500 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/16/2022 20:41 | WG1960747 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| Vinyl chloride | 28.7 | | 0.0273 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/16/2022 20:41 | WG1960747 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| Tetrahydrofuran | 95.7 | | 0.0900 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/16/2022 20:41 | WG1960747 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/16/2022 20:41* | WG1960747 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/16/2022 20:41* | WG1960747 |
| *(S) 1,2-Dichloroethane-d4* | *97.5* | | | *70.0-130* | | *11/16/2022 20:41* | WG1960747 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 193000 | | 8450 | 20000 | 1 | 11/18/2022 16:29 | WG1961983 |

Sample Narrative:

L1556817-03 WG1961983: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 35000 | | 379 | 1000 | 1 | 11/16/2022 08:50 | WG1959994 |
| Nitrate | 67.7 | J | 48.0 | 100 | 1 | 11/12/2022 02:09 | WG1958580 |
| Sulfate | 81300 | | 594 | 5000 | 1 | 11/16/2022 08:50 | WG1959994 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1170 | B | 102 | 1000 | 1 | 11/25/2022 18:15 | WG1964791 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 8200 | | 281 | 1000 | 10 | 11/23/2022 13:53 | WG1963571 |
| Manganese | 301 | | 7.04 | 50.0 | 10 | 11/23/2022 13:53 | WG1963571 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 96.6 | | 0.287 | 0.678 | 1 | 11/17/2022 08:51 | WG1960778 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/17/2022 08:51 | WG1960778 |
| Ethene | 2.21 | | 0.422 | 1.27 | 1 | 11/17/2022 08:51 | WG1960778 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 2.81 | | 0.548 | 1.00 | 1 | 11/16/2022 21:00 | WG1960747 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/16/2022 21:00 | WG1960747 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/16/2022 21:00 | WG1960747 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| cis-1,2-Dichloroethene | 2.68 | | 0.0276 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/16/2022 21:00 | WG1960747 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/16/2022 21:00 | WG1960747 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/16/2022 21:00 | WG1960747 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/16/2022 21:00 | WG1960747 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/16/2022 21:00 | WG1960747 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/16/2022 21:00 | WG1960747 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| Toluene | 0.216 | | 0.0500 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,2,4-Trichlorobenzene | U | C4 | 0.193 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| Trichloroethene | 0.570 | | 0.0160 | 0.0400 | 1 | 11/16/2022 21:00 | WG1960747 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| Vinyl chloride | 1.54 | | 0.0273 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/16/2022 21:00 | WG1960747 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| Tetrahydrofuran | 1.45 | | 0.0900 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/16/2022 21:00 | WG1960747 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/16/2022 21:00* | WG1960747 |
| *(S) 4-Bromofluorobenzene* | *96.8* | | | *67.0-138* | | *11/16/2022 21:00* | WG1960747 |
| *(S) 1,2-Dichloroethane-d4* | *94.7* | | | *70.0-130* | | *11/16/2022 21:00* | WG1960747 |

## Method Blank (MB)

(MB) R3862918-2 11/18/22 14:27

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1556768-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1556768-03 11/18/22 14:38 • (DUP) R3862918-3 11/18/22 14:44

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 48800 | 49100 | 1 | 0.546 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

## L1557251-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1557251-04 11/18/22 16:46 • (DUP) R3862918-4 11/18/22 16:50

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 308000 | 310000 | 1 | 0.619 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3862918-1 11/18/22 14:20

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 101000 | 101 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3861356-1 11/12/22 00:27

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Nitrate | U | | 48.0 | 100 |

## L1556817-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1556817-02 11/12/22 01:14 • (DUP) R3861356-3 11/12/22 01:28

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Nitrate | U | U | 1 | 0.000 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3861356-2 11/12/22 00:41

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Nitrate | 8000 | 7710 | 96.4 | 80.0-120 | |

## L1556817-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1556817-02 11/12/22 01:14 • (MS) R3861356-4 11/12/22 01:42 • (MSD) R3861356-5 11/12/22 01:55

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nitrate | 5000 | U | 4620 | 4530 | 92.3 | 90.5 | 1 | 80.0-120 | | | 1.95 | 15 |

## Method Blank (MB)

(MB) R3861878-1 11/15/22 23:00

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | 547 | J | 379 | 1000 |
| Sulfate | U | | 594 | 5000 |

## L1556781-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1556781-09 11/16/22 03:28 • (DUP) R3861878-3 11/16/22 03:46

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 552 | 553 | 1 | 0.145 | J | 15 |
| Sulfate | U | U | 1 | 0.000 | | 15 |

## L1557050-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1557050-01 11/16/22 10:01 • (DUP) R3861878-6 11/16/22 10:19

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 2430000 | 2380000 | 100 | 1.85 | | 15 |
| Sulfate | 1300000 | 1280000 | 100 | 1.65 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3861878-2 11/15/22 23:18

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 40100 | 100 | 80.0-120 | |
| Sulfate | 40000 | 40100 | 100 | 80.0-120 | |

## L1556781-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1556781-09 11/16/22 03:28 • (MS) R3861878-4 11/16/22 04:04 • (MSD) R3861878-5 11/16/22 04:21

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 552 | 51000 | 47600 | 101 | 94.0 | 1 | 80.0-120 | | | 6.88 | 15 |
| Sulfate | 50000 | U | 51000 | 47600 | 102 | 95.1 | 1 | 80.0-120 | | | 6.97 | 15 |

## L1557050-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1557050-01 11/16/22 10:01 • (MS) R3861878-7 11/16/22 10:37

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 2430000 | 2240000 | 0.000 | 100 | 80.0-120 | V |
| Sulfate | 50000 | 1300000 | 1220000 | 0.000 | 100 | 80.0-120 | V |

## Method Blank (MB)

(MB) R3865163-2 11/25/22 01:20

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 505 | J | 102 | 1000 |

## L1556785-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1556785-01 11/25/22 11:22 • (DUP) R3865163-7 11/25/22 11:53

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 694 | 556 | 1 | 22.2 | J P1 | 20 |

## L1556785-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1556785-02 11/25/22 12:18 • (DUP) R3865163-8 11/25/22 14:17

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 610 | 656 | 1 | 7.27 | J | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3865163-1 11/25/22 00:46

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 75900 | 101 | 85.0-115 | |

## L1556781-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1556781-01 11/25/22 01:50 • (MS) R3865163-3 11/25/22 02:16 • (MSD) R3865163-4 11/25/22 02:42

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 814 | 57400 | 59000 | 113 | 116 | 1 | 80.0-120 | | | 2.73 | 20 |

## L1556781-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1556781-03 11/25/22 03:07 • (MS) R3865163-5 11/25/22 03:33 • (MSD) R3865163-6 11/25/22 03:58

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 1060 | 58300 | 58300 | 114 | 115 | 1 | 80.0-120 | | | 0.0938 | 20 |

## Method Blank (MB)

(MB) R3862944-1 11/18/22 18:16

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Iron | U | | 28.1 | 100 |
| Manganese | 1.27 | J | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3862944-2 11/18/22 18:20

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Iron | 5000 | 5660 | 113 | 80.0-120 | |
| Manganese | 50.0 | 54.7 | 109 | 80.0-120 | |

## L1556817-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1556817-01 11/18/22 18:23 • (MS) R3862944-4 11/18/22 18:29 • (MSD) R3862944-5 11/18/22 18:33

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iron | 5000 | 452000 | 490000 | 527000 | 757 | 1500 | 10 | 75.0-125 | V | V | 7.35 | 20 |
| Manganese | 50.0 | 4380 | 4820 | 5060 | 877 | 1370 | 10 | 75.0-125 | V | V | 5.02 | 20 |

## Method Blank (MB)

(MB) R3864217-1 11/22/22 20:59

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3864217-2 11/22/22 21:02

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Iron | 5000 | 5290 | 106 | 80.0-120 | |
| Manganese | 50.0 | 50.4 | 101 | 80.0-120 | |

## L1557444-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1557444-08 11/22/22 21:05 • (MS) R3864217-7 11/22/22 23:01 • (MSD) R3864217-8 11/22/22 23:04

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | % | % | | % | | | % | % |
| Iron | 5000 | | 4990 | 5090 | 99.0 | 101 | 1 | 75.0-125 | | | 1.99 | 20 |
| Manganese | 50.0 | | 104 | 105 | 91.7 | 93.1 | 1 | 75.0-125 | | | 0.684 | 20 |

## Method Blank (MB)

(MB) R3861731-2 11/16/22 13:17

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1556727-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1556727-02 11/16/22 14:08 • (DUP) R3861731-3 11/16/22 14:10

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1556727-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1556727-05 11/16/22 14:19 • (DUP) R3861731-4 11/16/22 14:44

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3861731-1 11/16/22 13:14 • (LCSD) R3861731-5 11/16/22 14:46

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 68.0 | 61.8 | 100 | 91.2 | 85.0-115 | | | 9.55 | 20 |
| Ethane | 129 | 121 | 114 | 93.8 | 88.4 | 85.0-115 | | | 5.96 | 20 |
| Ethene | 127 | 121 | 116 | 95.3 | 91.3 | 85.0-115 | | | 4.22 | 20 |

## Method Blank (MB)

(MB) R3862021-2 11/17/22 08:42

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1556724-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1556724-13 11/17/22 08:45 • (DUP) R3862021-3 11/17/22 10:01

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1557102-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1557102-08 11/17/22 11:00 • (DUP) R3862021-4 11/17/22 11:05

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3862021-1 11/17/22 08:34 • (LCSD) R3862021-7 11/17/22 11:13

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 64.2 | 66.5 | 94.7 | 98.1 | 85.0-115 | | | 3.52 | 20 |
| Ethane | 129 | 118 | 116 | 91.5 | 89.9 | 85.0-115 | | | 1.71 | 20 |
| Ethene | 127 | 119 | 117 | 93.7 | 92.1 | 85.0-115 | | | 1.69 | 20 |

## L1557102-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1557102-03 11/17/22 10:48 • (MS) R3862021-5 11/17/22 11:07 • (MSD) R3862021-6 11/17/22 11:10

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | U | 68.6 | 69.2 | 101 | 102 | 1 | 85.0-115 | | | 0.871 | 20 |
| Ethane | 129 | U | 124 | 125 | 96.1 | 96.9 | 1 | 85.0-115 | | | 0.803 | 20 |
| Ethene | 127 | U | 124 | 126 | 97.6 | 99.2 | 1 | 85.0-115 | | | 1.60 | 20 |

## Method Blank (MB)

(MB) R3862095-3 11/16/22 12:31

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3862095-3 11/16/22 12:31

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *98.4* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *96.7* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3862095-1 11/16/22 11:14 • (LCSD) R3862095-2 11/16/22 11:33

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 28.9 | 28.0 | 116 | 112 | 10.0-160 | | | 3.16 | 31 |
| Acrylonitrile | 25.0 | 27.7 | 28.0 | 111 | 112 | 45.0-153 | | | 1.08 | 22 |
| Benzene | 5.00 | 5.07 | 5.38 | 101 | 108 | 70.0-123 | | | 5.93 | 20 |
| Bromobenzene | 5.00 | 4.96 | 5.29 | 99.2 | 106 | 73.0-121 | | | 6.44 | 20 |
| Bromodichloromethane | 5.00 | 5.21 | 5.53 | 104 | 111 | 73.0-121 | | | 5.96 | 20 |
| Bromoform | 5.00 | 4.84 | 5.00 | 96.8 | 100 | 64.0-132 | | | 3.25 | 20 |
| Bromomethane | 5.00 | 5.62 | 4.58 | 112 | 91.6 | 56.0-147 | | J3 | 20.4 | 20 |
| n-Butylbenzene | 5.00 | 5.06 | 5.48 | 101 | 110 | 68.0-135 | | | 7.97 | 20 |
| sec-Butylbenzene | 5.00 | 5.16 | 5.73 | 103 | 115 | 74.0-130 | | | 10.5 | 20 |
| tert-Butylbenzene | 5.00 | 4.89 | 5.39 | 97.8 | 108 | 75.0-127 | | | 9.73 | 20 |
| Carbon tetrachloride | 5.00 | 5.15 | 5.35 | 103 | 107 | 66.0-128 | | | 3.81 | 20 |
| Chlorobenzene | 5.00 | 4.79 | 5.08 | 95.8 | 102 | 76.0-128 | | | 5.88 | 20 |
| Chlorodibromomethane | 5.00 | 5.19 | 5.31 | 104 | 106 | 74.0-127 | | | 2.29 | 20 |
| Chloroethane | 5.00 | 5.39 | 5.07 | 108 | 101 | 61.0-134 | | | 6.12 | 20 |
| Chloroform | 5.00 | 4.96 | 5.22 | 99.2 | 104 | 72.0-123 | | | 5.11 | 20 |
| Chloromethane | 5.00 | 4.19 | 4.69 | 83.8 | 93.8 | 51.0-138 | | | 11.3 | 20 |
| 2-Chlorotoluene | 5.00 | 5.39 | 5.29 | 108 | 106 | 75.0-124 | | | 1.87 | 20 |
| 4-Chlorotoluene | 5.00 | 5.39 | 5.73 | 108 | 115 | 75.0-124 | | | 6.12 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.27 | 4.62 | 85.4 | 92.4 | 59.0-130 | | | 7.87 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.01 | 5.22 | 100 | 104 | 74.0-128 | | | 4.11 | 20 |
| Dibromomethane | 5.00 | 5.26 | 5.45 | 105 | 109 | 75.0-122 | | | 3.55 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 4.79 | 5.08 | 95.8 | 102 | 76.0-124 | | | 5.88 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 4.93 | 5.08 | 98.6 | 102 | 76.0-125 | | | 3.00 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 4.75 | 5.00 | 95.0 | 100 | 77.0-121 | | | 5.13 | 20 |
| Dichlorodifluoromethane | 5.00 | 5.51 | 5.85 | 110 | 117 | 43.0-156 | | | 5.99 | 20 |
| 1,1-Dichloroethane | 5.00 | 5.10 | 5.44 | 102 | 109 | 70.0-127 | | | 6.45 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.71 | 4.63 | 94.2 | 92.6 | 65.0-131 | | | 1.71 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.21 | 5.48 | 104 | 110 | 65.0-131 | | | 5.05 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.06 | 5.32 | 101 | 106 | 73.0-125 | | | 5.01 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 4.97 | 5.35 | 99.4 | 107 | 71.0-125 | | | 7.36 | 20 |
| 1,2-Dichloropropane | 5.00 | 4.93 | 5.16 | 98.6 | 103 | 74.0-125 | | | 4.56 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.21 | 5.65 | 104 | 113 | 73.0-125 | | | 8.10 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.06 | 4.97 | 101 | 99.4 | 80.0-125 | | | 1.79 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 5.13 | 5.08 | 103 | 102 | 76.0-127 | | | 0.979 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 4.98 | 5.06 | 99.6 | 101 | 73.0-127 | | | 1.59 | 20 |
| 2,2-Dichloropropane | 5.00 | 5.11 | 5.44 | 102 | 109 | 59.0-135 | | | 6.26 | 20 |
| Di-isopropyl ether | 5.00 | 5.24 | 5.35 | 105 | 107 | 60.0-136 | | | 2.08 | 20 |
| Ethylbenzene | 5.00 | 4.82 | 5.24 | 96.4 | 105 | 74.0-126 | | | 8.35 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 4.67 | 5.00 | 93.4 | 100 | 57.0-150 | | | 6.83 | 20 |
| Isopropylbenzene | 5.00 | 5.43 | 5.74 | 109 | 115 | 72.0-127 | | | 5.55 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3862095-1 11/16/22 11:14 • (LCSD) R3862095-2 11/16/22 11:33

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.21 | 5.68 | 104 | 114 | 72.0-133 | | | 8.63 | 20 |
| 2-Butanone (MEK) | 25.0 | 28.1 | 28.9 | 112 | 116 | 30.0-160 | | | 2.81 | 24 |
| Methylene Chloride | 5.00 | 4.98 | 5.23 | 99.6 | 105 | 68.0-123 | | | 4.90 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 30.4 | 29.6 | 122 | 118 | 56.0-143 | | | 2.67 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.21 | 5.07 | 104 | 101 | 66.0-132 | | | 2.72 | 20 |
| Naphthalene | 5.00 | 4.18 | 4.70 | 83.6 | 94.0 | 59.0-130 | | | 11.7 | 20 |
| n-Propylbenzene | 5.00 | 5.38 | 5.88 | 108 | 118 | 74.0-126 | | | 8.88 | 20 |
| Styrene | 5.00 | 5.08 | 5.45 | 102 | 109 | 72.0-127 | | | 7.03 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.09 | 5.26 | 102 | 105 | 74.0-129 | | | 3.29 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 5.20 | 5.21 | 104 | 104 | 68.0-128 | | | 0.192 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.38 | 5.65 | 108 | 113 | 61.0-139 | | | 4.90 | 20 |
| Tetrachloroethene | 5.00 | 5.02 | 5.27 | 100 | 105 | 70.0-136 | | | 4.86 | 20 |
| Toluene | 5.00 | 4.95 | 5.33 | 99.0 | 107 | 75.0-121 | | | 7.39 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.36 | 5.12 | 87.2 | 102 | 59.0-139 | | | 16.0 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.38 | 4.76 | 87.6 | 95.2 | 62.0-137 | | | 8.32 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.12 | 5.46 | 102 | 109 | 69.0-126 | | | 6.43 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.13 | 5.20 | 103 | 104 | 78.0-123 | | | 1.36 | 20 |
| Trichloroethene | 5.00 | 4.95 | 5.09 | 99.0 | 102 | 76.0-126 | | | 2.79 | 20 |
| Trichlorofluoromethane | 5.00 | 5.49 | 5.92 | 110 | 118 | 61.0-142 | | | 7.54 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 5.34 | 5.19 | 107 | 104 | 67.0-129 | | | 2.85 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 4.98 | 5.41 | 99.6 | 108 | 70.0-126 | | | 8.28 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 4.89 | 5.28 | 97.8 | 106 | 74.0-124 | | | 7.67 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.08 | 5.60 | 102 | 112 | 73.0-127 | | | 9.74 | 20 |
| Vinyl chloride | 5.00 | 4.32 | 4.81 | 86.4 | 96.2 | 63.0-134 | | | 10.7 | 20 |
| Xylenes, Total | 15.0 | 15.2 | 16.1 | 101 | 107 | 72.0-127 | | | 5.75 | 20 |
| Ethyl ether | 5.00 | 5.09 | 5.18 | 102 | 104 | 64.0-137 | | | 1.75 | 20 |
| Tetrahydrofuran | 5.00 | 5.25 | 5.03 | 105 | 101 | 37.0-146 | | | 4.28 | 24 |
| Iodomethane | 25.0 | 24.4 | 25.2 | 97.6 | 101 | 74.0-134 | | | 3.23 | 20 |
| Allyl chloride | 25.0 | 25.0 | 26.9 | 100 | 108 | 70.0-131 | | | 7.32 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 5.14 | 5.04 | 103 | 101 | 45.0-143 | | | 1.96 | 20 |
| *(S) Toluene-d8* | | | | *105* | *104* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *103* | *103* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *96.1* | *96.0* | *70.0-130* | | | | |

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| B | The same analyte is found in the associated blank. |
| C4 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result. |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J3 | The associated batch QC was outside the established quality control range for precision. |
| P1 | RPD value not applicable for sample concentrations less than 5 times the reporting limit. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Billing Information:
Attn: Accounts Payable
2101 4th Avenue, Suite 1310
Seattle, WA 98121

Pres Chk

Report to:
Brian O'Neal/Bill Haldeman

Email To:
Shannon.McKernan@nv5.com;brian.oneal@nv5

Project Description:
American Linen

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: 206-529-3980

Client Project #
1413.001.10.603.04

Lab Project #
PESENVSWA-ALP

Collected by (print):
NEW

Site/Facility ID #

P.O. # 1413001106603.04
~~443018-1413001.05.601~~

Collected by (signature):
NEW

Immediately Packed on Ice N ___ Y ✓

***Rush?*** (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-348-111022 | Grab | GW | — | 11/10/22 | 1014 | 9 | X | X | X | X | | X | X | X | | -01 |
| MW-347-111022 | ↓ | GW | — | ↓ | 1153 | ↓ | X | X | X | X | | X | X | X | | -02 |
| MW-346-111022 | ↓ | GW | — | ↓ | 1424 | ↓ | X | X | X | X | | X | X | X | | -03 |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | NEW | | | | | | | |
| | | GW | | | | | | | 11/10/22 | | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 155617

A238

Acctnum: PESENVSWA
Template: T218236
Prelogin: P957562
PM: 546 - Jared Starkey
PB: JJH 10/17/22
Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WaseWater
DW - Drinking Water
OT - Other_____

**Remarks:**

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier _____

Tracking # 5300 4298 6974

Sample Receipt Checklist
COC Seal Present/Intact: __NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / (No) HCL / MeoH TBR | If preservation required by Login: Date/Time |
|---|---|---|---|---|---|
| Natalie Watson | 11/10/22 | 1615 | | | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: ~~NOW~~ 0.8+0.2=0.8 °C Bottles Received: 27 | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: 11/11 Time: 0900 | Hold: Condition: NCF / OK |

# ANALYTICAL REPORT

November 28, 2022



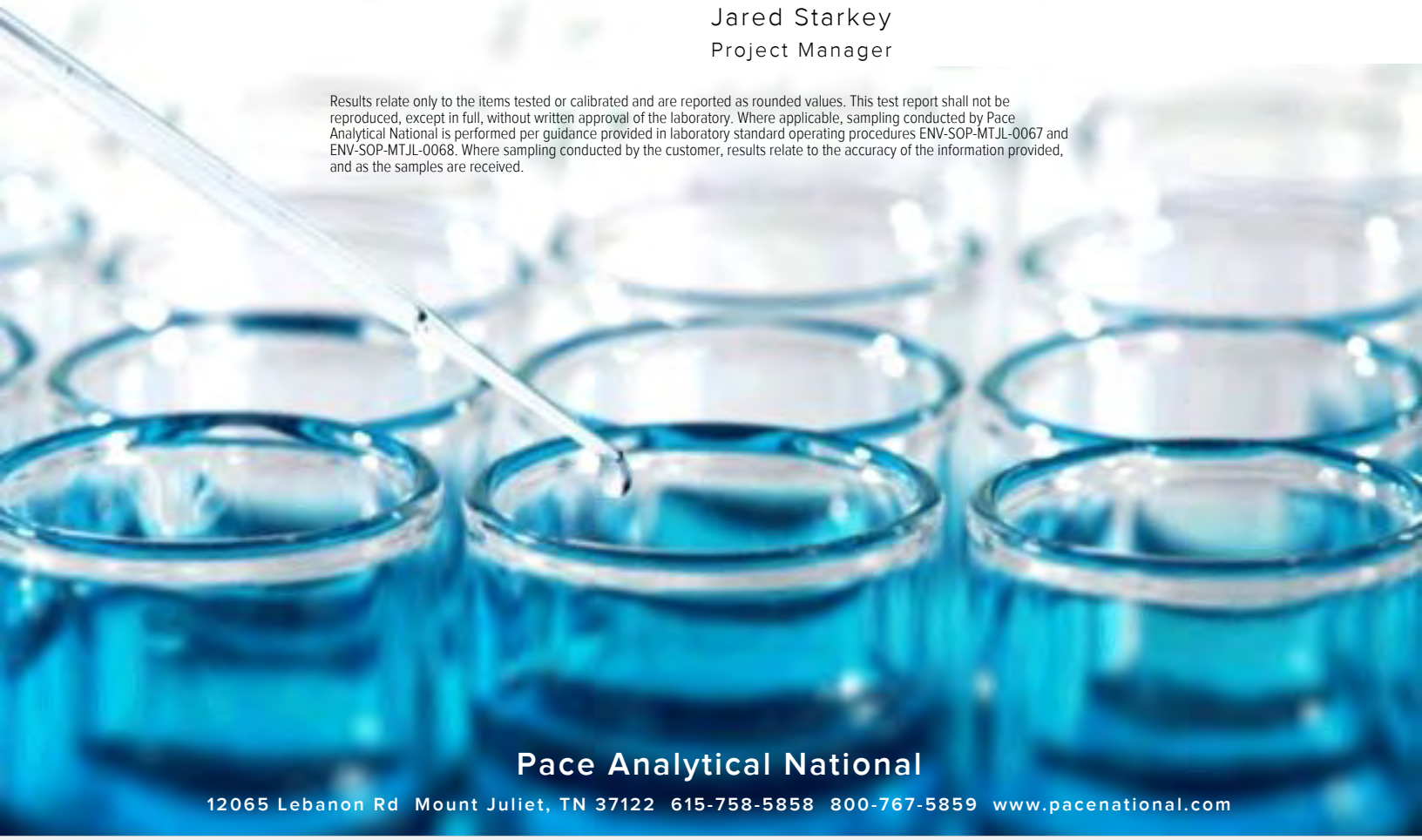
## PES Environmental, Inc.- WA

| | |
|---|---|
| Sample Delivery Group: | L1557120 |
| Samples Received: | 11/12/2022 |
| Project Number: | 1413.001.10.603.04 |
| Description: | American Linen |
| Report To: | Brian O'Neal/Bill Haldeman |
| | 2101 Fourth Ave., Suite 1310 |
| | Seattle, WA 98121 |

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## FMW-129-111122 L1557120-01 GW

Collected by: NEW | Collected date/time: 11/11/22 10:10 | Received date/time: 11/12/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1961190 | 1 | 11/18/22 11:18 | 11/18/22 11:18 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1958695 | 1 | 11/12/22 21:11 | 11/12/22 21:11 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1964902 | 1 | 11/25/22 18:50 | 11/25/22 18:50 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1962932 | 1 | 11/22/22 13:50 | 11/22/22 19:10 | LD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1960824 | 1 | 11/17/22 12:04 | 11/17/22 12:04 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1962038 | 1 | 11/18/22 16:24 | 11/18/22 16:24 | DWR | Mt. Juliet, TN |

## MW-350-111122 L1557120-02 GW

Collected by: NEW | Collected date/time: 11/11/22 11:51 | Received date/time: 11/12/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1961190 | 1 | 11/18/22 11:24 | 11/18/22 11:24 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1958695 | 1 | 11/12/22 21:24 | 11/12/22 21:24 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1964902 | 1 | 11/25/22 19:07 | 11/25/22 19:07 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1962932 | 5 | 11/22/22 13:50 | 11/22/22 20:31 | LD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1960824 | 1 | 11/17/22 12:10 | 11/17/22 12:10 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1962038 | 1 | 11/18/22 16:43 | 11/18/22 16:43 | DWR | Mt. Juliet, TN |

## EQ-111122 L1557120-03 GW

Collected by: NEW | Collected date/time: 11/11/22 13:29 | Received date/time: 11/12/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1961190 | 1 | 11/18/22 11:30 | 11/18/22 11:30 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1958695 | 1 | 11/12/22 21:38 | 11/12/22 21:38 | LBR | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1964902 | 1 | 11/25/22 20:04 | 11/25/22 20:04 | SJF | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1962932 | 1 | 11/22/22 13:50 | 11/22/22 19:16 | LD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1960824 | 1 | 11/17/22 12:20 | 11/17/22 12:20 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1962038 | 1 | 11/18/22 15:46 | 11/18/22 15:46 | DWR | Mt. Juliet, TN |

## TB-111122 L1557120-04 GW

Collected by: NEW | Collected date/time: 11/11/22 00:00 | Received date/time: 11/12/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1962038 | 1 | 11/18/22 15:08 | 11/18/22 15:08 | DWR | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1963353 | 1 | 11/23/22 00:47 | 11/23/22 00:47 | ADM | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Sample Delivery Group (SDG) Narrative

**Analyzed from headspace vial.**

| Lab Sample ID | Project Sample ID | Method |
|---|---|---|
| L1557120-04 | TB-111122 | 8260D |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 48300 | | 8450 | 20000 | 1 | 11/18/2022 11:18 | WG1961190 |

Sample Narrative:

L1557120-01 WG1961190: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 2720 | | 379 | 1000 | 1 | 11/12/2022 21:11 | WG1958695 |
| Nitrate | 806 | | 48.0 | 100 | 1 | 11/12/2022 21:11 | WG1958695 |
| Sulfate | 5120 | | 594 | 5000 | 1 | 11/12/2022 21:11 | WG1958695 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 1260 | B | 102 | 1000 | 1 | 11/25/2022 18:50 | WG1964902 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 115 | | 28.1 | 100 | 1 | 11/22/2022 19:10 | WG1962932 |
| Manganese | 15.2 | | 0.704 | 5.00 | 1 | 11/22/2022 19:10 | WG1962932 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | U | | 0.287 | 0.678 | 1 | 11/17/2022 12:04 | WG1960824 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/17/2022 12:04 | WG1960824 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/17/2022 12:04 | WG1960824 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/18/2022 16:24 | WG1962038 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/18/2022 16:24 | WG1962038 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/18/2022 16:24 | WG1962038 |
| Bromomethane | U | C3 | 0.148 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| Chloroethane | U | C3 | 0.0432 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| Chloromethane | U | C3 | 0.0556 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| cis-1,2-Dichloroethene | 16.7 | | 0.0276 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| trans-1,2-Dichloroethene | 0.0920 | J | 0.0572 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| 2,2-Dichloropropane | U | C3 | 0.0317 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/18/2022 16:24 | WG1962038 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/18/2022 16:24 | WG1962038 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/18/2022 16:24 | WG1962038 |
| Methylene Chloride | U | C3 | 0.265 | 1.00 | 1 | 11/18/2022 16:24 | WG1962038 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/18/2022 16:24 | WG1962038 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/18/2022 16:24 | WG1962038 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| Tetrachloroethene | 1.17 | | 0.0280 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,2,4-Trichlorobenzene | U | J4 | 0.193 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| Trichloroethene | 4.01 | | 0.0160 | 0.0400 | 1 | 11/18/2022 16:24 | WG1962038 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| Vinyl chloride | U | C3 | 0.0273 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/18/2022 16:24 | WG1962038 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| Tetrahydrofuran | 0.145 | J | 0.0900 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/18/2022 16:24 | WG1962038 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| *(S) Toluene-d8* | *102* | | | *75.0-131* | | *11/18/2022 16:24* | WG1962038 |
| *(S) 4-Bromofluorobenzene* | *99.8* | | | *67.0-138* | | *11/18/2022 16:24* | WG1962038 |
| *(S) 1,2-Dichloroethane-d4* | *84.7* | | | *70.0-130* | | *11/18/2022 16:24* | WG1962038 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 250000 | | 8450 | 20000 | 1 | 11/18/2022 11:24 | WG1961190 |

Sample Narrative:

L1557120-02 WG1961190: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 14800 | | 379 | 1000 | 1 | 11/12/2022 21:24 | WG1958695 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/12/2022 21:24 | WG1958695 |
| Sulfate | 40400 | | 594 | 5000 | 1 | 11/12/2022 21:24 | WG1958695 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 1200 | B | 102 | 1000 | 1 | 11/25/2022 19:07 | WG1964902 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 2510 | | 140 | 500 | 5 | 11/22/2022 20:31 | WG1962932 |
| Manganese | 566 | | 3.52 | 25.0 | 5 | 11/22/2022 20:31 | WG1962932 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 298 | | 0.287 | 0.678 | 1 | 11/17/2022 12:10 | WG1960824 |
| Ethane | 1.60 | | 0.296 | 1.29 | 1 | 11/17/2022 12:10 | WG1960824 |
| Ethene | 1.52 | | 0.422 | 1.27 | 1 | 11/17/2022 12:10 | WG1960824 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/18/2022 16:43 | WG1962038 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/18/2022 16:43 | WG1962038 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/18/2022 16:43 | WG1962038 |
| Bromomethane | U | C3 | 0.148 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| Chloroethane | U | C3 | 0.0432 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| Chloromethane | U | C3 | 0.0556 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| 2,2-Dichloropropane | U | C3 | 0.0317 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/18/2022 16:43 | WG1962038 |
| Ethylbenzene | 0.0810 | J | 0.0212 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/18/2022 16:43 | WG1962038 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/18/2022 16:43 | WG1962038 |
| Methylene Chloride | U | C3 | 0.265 | 1.00 | 1 | 11/18/2022 16:43 | WG1962038 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/18/2022 16:43 | WG1962038 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/18/2022 16:43 | WG1962038 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| Toluene | 0.0990 | J | 0.0500 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,2,4-Trichlorobenzene | U | J4 | 0.193 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/18/2022 16:43 | WG1962038 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,2,4-Trimethylbenzene | 0.106 | J | 0.0464 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,2,3-Trimethylbenzene | 0.0670 | J | 0.0460 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| Vinyl chloride | 0.672 | C3 | 0.0273 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| Xylenes, Total | 0.331 | | 0.191 | 0.260 | 1 | 11/18/2022 16:43 | WG1962038 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/18/2022 16:43 | WG1962038 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| *(S) Toluene-d8* | *102* | | | *75.0-131* | | *11/18/2022 16:43* | WG1962038 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/18/2022 16:43* | WG1962038 |
| *(S) 1,2-Dichloroethane-d4* | *86.7* | | | *70.0-130* | | *11/18/2022 16:43* | WG1962038 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | U | | 8450 | 20000 | 1 | 11/18/2022 11:30 | WG1961190 |

Sample Narrative:

L1557120-03 WG1961190: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | U | | 379 | 1000 | 1 | 11/12/2022 21:38 | WG1958695 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/12/2022 21:38 | WG1958695 |
| Sulfate | U | | 594 | 5000 | 1 | 11/12/2022 21:38 | WG1958695 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 220 | B J | 102 | 1000 | 1 | 11/25/2022 20:04 | WG1964902 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | U | | 28.1 | 100 | 1 | 11/22/2022 19:16 | WG1962932 |
| Manganese | 0.945 | J | 0.704 | 5.00 | 1 | 11/22/2022 19:16 | WG1962932 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | U | | 0.287 | 0.678 | 1 | 11/17/2022 12:20 | WG1960824 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/17/2022 12:20 | WG1960824 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/17/2022 12:20 | WG1960824 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/18/2022 15:46 | WG1962038 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/18/2022 15:46 | WG1962038 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/18/2022 15:46 | WG1962038 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/18/2022 15:46 | WG1962038 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/18/2022 15:46 | WG1962038 |
| Bromomethane | U | C3 | 0.148 | 0.500 | 1 | 11/18/2022 15:46 | WG1962038 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/18/2022 15:46 | WG1962038 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/18/2022 15:46 | WG1962038 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/18/2022 15:46 | WG1962038 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/18/2022 15:46 | WG1962038 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| Chloroethane | U | C3 | 0.0432 | 0.200 | 1 | 11/18/2022 15:46 | WG1962038 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| Chloromethane | U | C3 | 0.0556 | 0.500 | 1 | 11/18/2022 15:46 | WG1962038 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/18/2022 15:46 | WG1962038 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/18/2022 15:46 | WG1962038 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/18/2022 15:46 | WG1962038 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/18/2022 15:46 | WG1962038 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/18/2022 15:46 | WG1962038 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/18/2022 15:46 | WG1962038 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/18/2022 15:46 | WG1962038 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/18/2022 15:46 | WG1962038 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/18/2022 15:46 | WG1962038 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/18/2022 15:46 | WG1962038 |
| 2,2-Dichloropropane | U | C3 | 0.0317 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/18/2022 15:46 | WG1962038 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/18/2022 15:46 | WG1962038 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/18/2022 15:46 | WG1962038 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/18/2022 15:46 | WG1962038 |
| Methylene Chloride | U | C3 | 0.265 | 1.00 | 1 | 11/18/2022 15:46 | WG1962038 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/18/2022 15:46 | WG1962038 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/18/2022 15:46 | WG1962038 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/18/2022 15:46 | WG1962038 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/18/2022 15:46 | WG1962038 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/18/2022 15:46 | WG1962038 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/18/2022 15:46 | WG1962038 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 11/18/2022 15:46 | WG1962038 |
| 1,2,4-Trichlorobenzene | U | J4 | 0.193 | 0.500 | 1 | 11/18/2022 15:46 | WG1962038 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/18/2022 15:46 | WG1962038 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/18/2022 15:46 | WG1962038 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/18/2022 15:46 | WG1962038 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/18/2022 15:46 | WG1962038 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/18/2022 15:46 | WG1962038 |
| Vinyl chloride | U | C3 | 0.0273 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/18/2022 15:46 | WG1962038 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/18/2022 15:46 | WG1962038 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/18/2022 15:46 | WG1962038 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/18/2022 15:46 | WG1962038 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/18/2022 15:46 | WG1962038 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/18/2022 15:46 | WG1962038 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *11/18/2022 15:46* | WG1962038 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/18/2022 15:46* | WG1962038 |
| *(S) 1,2-Dichloroethane-d4* | *87.0* | | | *70.0-130* | | *11/18/2022 15:46* | WG1962038 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 1.98 | | 0.548 | 1.00 | 1 | 11/18/2022 15:08 | WG1962038 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/18/2022 15:08 | WG1962038 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/18/2022 15:08 | WG1962038 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/18/2022 15:08 | WG1962038 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/18/2022 15:08 | WG1962038 |
| Bromomethane | U | C3 | 0.148 | 0.500 | 1 | 11/18/2022 15:08 | WG1962038 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/18/2022 15:08 | WG1962038 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/18/2022 15:08 | WG1962038 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/18/2022 15:08 | WG1962038 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/18/2022 15:08 | WG1962038 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| Chloroethane | U | C3 | 0.0432 | 0.200 | 1 | 11/18/2022 15:08 | WG1962038 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| Chloromethane | U | C3 | 0.0556 | 0.500 | 1 | 11/18/2022 15:08 | WG1962038 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/18/2022 15:08 | WG1962038 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/18/2022 15:08 | WG1962038 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/18/2022 15:08 | WG1962038 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/18/2022 15:08 | WG1962038 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/18/2022 15:08 | WG1962038 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/18/2022 15:08 | WG1962038 |
| Dichlorodifluoromethane | U | C3 | 0.0327 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/18/2022 15:08 | WG1962038 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/18/2022 15:08 | WG1962038 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/18/2022 15:08 | WG1962038 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/18/2022 15:08 | WG1962038 |
| 2,2-Dichloropropane | U | C3 | 0.0317 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/18/2022 15:08 | WG1962038 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/18/2022 15:08 | WG1962038 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/18/2022 15:08 | WG1962038 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/18/2022 15:08 | WG1962038 |
| Methylene Chloride | U | C3 | 0.265 | 1.00 | 1 | 11/18/2022 15:08 | WG1962038 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/18/2022 15:08 | WG1962038 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/18/2022 15:08 | WG1962038 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/18/2022 15:08 | WG1962038 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/18/2022 15:08 | WG1962038 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/18/2022 15:08 | WG1962038 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/23/2022 00:47 | WG1963353 |
| Toluene | 0.0990 | J | 0.0500 | 0.200 | 1 | 11/18/2022 15:08 | WG1962038 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 11/18/2022 15:08 | WG1962038 |
| 1,2,4-Trichlorobenzene | U | J4 | 0.193 | 0.500 | 1 | 11/18/2022 15:08 | WG1962038 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/18/2022 15:08 | WG1962038 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/18/2022 15:08 | WG1962038 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/18/2022 15:08 | WG1962038 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/18/2022 15:08 | WG1962038 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/18/2022 15:08 | WG1962038 |
| Vinyl chloride | U | C3 | 0.0273 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/18/2022 15:08 | WG1962038 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/18/2022 15:08 | WG1962038 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/18/2022 15:08 | WG1962038 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/18/2022 15:08 | WG1962038 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/18/2022 15:08 | WG1962038 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/18/2022 15:08 | WG1962038 |
| *(S) Toluene-d8* | *102* | | | *75.0-131* | | *11/18/2022 15:08* | WG1962038 |
| *(S) Toluene-d8* | *100* | | | *75.0-131* | | *11/23/2022 00:47* | WG1963353 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/18/2022 15:08* | WG1962038 |
| *(S) 4-Bromofluorobenzene* | *107* | | | *67.0-138* | | *11/23/2022 00:47* | WG1963353 |
| *(S) 1,2-Dichloroethane-d4* | *85.5* | | | *70.0-130* | | *11/18/2022 15:08* | WG1962038 |
| *(S) 1,2-Dichloroethane-d4* | *102* | | | *70.0-130* | | *11/23/2022 00:47* | WG1963353 |

## Method Blank (MB)

(MB) R3862834-2 11/18/22 10:58

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1557298-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1557298-06 11/18/22 11:33 • (DUP) R3862834-3 11/18/22 11:37

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 503000 | 505000 | 1 | 0.508 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

## L1558363-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1558363-03 11/18/22 13:42 • (DUP) R3862834-4 11/18/22 13:47

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 846000 | 860000 | 1 | 1.64 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3862834-1 11/18/22 10:52

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 99700 | 99.7 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3861380-1 11/12/22 09:53

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1557187-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1557187-04 11/12/22 22:05 • (DUP) R3861380-11 11/12/22 22:47

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Chloride | 455000 | 459000 | 1 | 0.907 | E | 15 |
| Nitrate | U | U | 1 | 0.000 | | 15 |
| Sulfate | 1340 | 1290 | 1 | 3.67 | J | 15 |

## L1557102-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1557102-03 11/12/22 19:21 • (DUP) R3861380-6 11/12/22 20:02

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Nitrate | 5520 | 5570 | 1 | 0.874 | | 15 |
| Sulfate | 198000 | 198000 | 1 | 0.0215 | | 15 |

## L1557102-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1557102-03 11/12/22 20:57 • (DUP) R3861380-8 11/12/22 20:16

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Chloride | 270000 | 273000 | 5 | 0.973 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3861380-2 11/12/22 10:06

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | ug/l | ug/l | % | % | |
| Chloride | 40000 | 39800 | 99.6 | 80.0-120 | |
| Nitrate | 8000 | 7750 | 96.8 | 80.0-120 | |
| Sulfate | 40000 | 38900 | 97.3 | 80.0-120 | |

## L1557187-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1557187-04 11/12/22 22:05 • (MS) R3861380-12 11/12/22 23:00

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 455000 | 487000 | 63.0 | 1 | 80.0-120 | E V |
| Nitrate | 5000 | U | 4700 | 93.9 | 1 | 80.0-120 | |
| Sulfate | 50000 | 1340 | 49600 | 96.5 | 1 | 80.0-120 | |

## L1557102-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1557102-03 11/12/22 19:21 • (MS) R3861380-9 11/12/22 20:30 • (MSD) R3861380-10 11/12/22 20:43

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 270000 | 306000 | 307000 | 73.7 | 74.6 | 1 | 80.0-120 | E V | E V | 0.143 | 15 |
| Nitrate | 5000 | 5520 | 10100 | 10100 | 92.4 | 92.3 | 1 | 80.0-120 | | | 0.0385 | 15 |
| Sulfate | 50000 | 198000 | 237000 | 237000 | 76.9 | 78.0 | 1 | 80.0-120 | E J6 | E J6 | 0.232 | 15 |

## Method Blank (MB)

(MB) R3865171-2 11/25/22 07:11

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 406 | J | 102 | 1000 |

## L1556913-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1556913-01 11/25/22 18:07 • (DUP) R3865171-8 11/25/22 18:31

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 36300 | 34900 | 1 | 3.71 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3865171-1 11/25/22 06:55

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 72000 | 96.0 | 85.0-115 | |

## L1548617-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1548617-01 11/25/22 12:49 • (MS) R3865171-3 11/25/22 13:13 • (MSD) R3865171-4 11/25/22 13:37

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1000000 | 1420000 | 2490000 | 2470000 | 107 | 105 | 20 | 80.0-120 | E | E | 0.808 | 20 |

## L1556886-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1556886-01 11/25/22 15:12 • (MS) R3865171-5 11/25/22 15:33 • (MSD) R3865171-6 11/25/22 16:36

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 1470 | 58900 | 65500 | 115 | 128 | 1 | 80.0-120 | | J5 | 10.6 | 20 |

## Method Blank (MB)

(MB) R3864186-1 11/22/22 18:06

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3864186-2 11/22/22 18:09

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Iron | 5000 | 5100 | 102 | 80.0-120 | |
| Manganese | 50.0 | 47.9 | 95.8 | 80.0-120 | |

## L1556871-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1556871-01 11/22/22 18:13 • (MS) R3864186-4 11/22/22 18:19 • (MSD) R3864186-5 11/22/22 18:22

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iron | 5000 | 6180 | 10800 | 10600 | 92.1 | 88.7 | 1 | 75.0-125 | | | 1.59 | 20 |
| Manganese | 50.0 | 1360 | 1390 | 1360 | 65.0 | 8.27 | 1 | 75.0-125 | V | V | 2.06 | 20 |

## Method Blank (MB)

(MB) R3862181-2 11/17/22 11:37

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1557102-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1557102-10 11/17/22 11:57 • (DUP) R3862181-3 11/17/22 12:14

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1557255-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1557255-01 11/17/22 12:46 • (DUP) R3862181-4 11/17/22 12:48

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3862181-1 11/17/22 11:34 • (LCSD) R3862181-5 11/17/22 12:50

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 64.1 | 66.0 | 94.5 | 97.3 | 85.0-115 | | | 2.92 | 20 |
| Ethane | 129 | 116 | 115 | 89.9 | 89.1 | 85.0-115 | | | 0.866 | 20 |
| Ethene | 127 | 117 | 116 | 92.1 | 91.3 | 85.0-115 | | | 0.858 | 20 |

## Method Blank (MB)

(MB) R3863627-2 11/18/22 12:22

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3863627-2 11/18/22 12:22

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *101* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *104* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *90.4* | | | *70.0-130* |

## Laboratory Control Sample (LCS)

(LCS) R3863627-1 11/18/22 09:54

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Acetone | 25.0 | 22.8 | 91.2 | 10.0-160 | |
| Acrylonitrile | 25.0 | 21.2 | 84.8 | 45.0-153 | |
| Benzene | 5.00 | 5.26 | 105 | 70.0-123 | |
| Bromobenzene | 5.00 | 5.09 | 102 | 73.0-121 | |
| Bromodichloromethane | 5.00 | 5.19 | 104 | 73.0-121 | |
| Bromoform | 5.00 | 4.85 | 97.0 | 64.0-132 | |
| Bromomethane | 5.00 | 3.55 | 71.0 | 56.0-147 | |
| n-Butylbenzene | 5.00 | 4.85 | 97.0 | 68.0-135 | |
| sec-Butylbenzene | 5.00 | 4.62 | 92.4 | 74.0-130 | |
| tert-Butylbenzene | 5.00 | 4.71 | 94.2 | 75.0-127 | |
| Carbon tetrachloride | 5.00 | 5.10 | 102 | 66.0-128 | |
| Chlorobenzene | 5.00 | 5.14 | 103 | 76.0-128 | |
| Chlorodibromomethane | 5.00 | 4.83 | 96.6 | 74.0-127 | |
| Chloroethane | 5.00 | 3.62 | 72.4 | 61.0-134 | |
| Chloroform | 5.00 | 4.62 | 92.4 | 72.0-123 | |
| Chloromethane | 5.00 | 3.39 | 67.8 | 51.0-138 | |
| 2-Chlorotoluene | 5.00 | 4.16 | 83.2 | 75.0-124 | |
| 4-Chlorotoluene | 5.00 | 4.94 | 98.8 | 75.0-124 | |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.31 | 86.2 | 59.0-130 | |
| 1,2-Dibromoethane | 5.00 | 5.08 | 102 | 74.0-128 | |
| Dibromomethane | 5.00 | 5.07 | 101 | 75.0-122 | |
| 1,2-Dichlorobenzene | 5.00 | 5.13 | 103 | 76.0-124 | |
| 1,3-Dichlorobenzene | 5.00 | 5.07 | 101 | 76.0-125 | |
| 1,4-Dichlorobenzene | 5.00 | 5.09 | 102 | 77.0-121 | |
| Dichlorodifluoromethane | 5.00 | 3.84 | 76.8 | 43.0-156 | |
| 1,1-Dichloroethane | 5.00 | 4.74 | 94.8 | 70.0-127 | |
| 1,2-Dichloroethane | 5.00 | 4.60 | 92.0 | 65.0-131 | |
| 1,1-Dichloroethene | 5.00 | 4.79 | 95.8 | 65.0-131 | |
| cis-1,2-Dichloroethene | 5.00 | 4.96 | 99.2 | 73.0-125 | |
| trans-1,2-Dichloroethene | 5.00 | 4.95 | 99.0 | 71.0-125 | |
| 1,2-Dichloropropane | 5.00 | 5.28 | 106 | 74.0-125 | |
| 1,1-Dichloropropene | 5.00 | 5.19 | 104 | 73.0-125 | |
| 1,3-Dichloropropane | 5.00 | 5.28 | 106 | 80.0-125 | |
| cis-1,3-Dichloropropene | 5.00 | 5.27 | 105 | 76.0-127 | |
| trans-1,3-Dichloropropene | 5.00 | 4.94 | 98.8 | 73.0-127 | |
| 2,2-Dichloropropane | 5.00 | 3.79 | 75.8 | 59.0-135 | |
| Di-isopropyl ether | 5.00 | 4.95 | 99.0 | 60.0-136 | |
| Ethylbenzene | 5.00 | 4.98 | 99.6 | 74.0-126 | |
| Hexachloro-1,3-butadiene | 5.00 | 5.64 | 113 | 57.0-150 | |
| Isopropylbenzene | 5.00 | 5.00 | 100 | 72.0-127 | |

## Laboratory Control Sample (LCS)

(LCS) R3863627-1 11/18/22 09:54

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.01 | 100 | 72.0-133 | |
| 2-Butanone (MEK) | 25.0 | 23.0 | 92.0 | 30.0-160 | |
| Methylene Chloride | 5.00 | 3.52 | 70.4 | 68.0-123 | |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 24.2 | 96.8 | 56.0-143 | |
| Methyl tert-butyl ether | 5.00 | 4.12 | 82.4 | 66.0-132 | |
| Naphthalene | 5.00 | 5.76 | 115 | 59.0-130 | |
| n-Propylbenzene | 5.00 | 4.73 | 94.6 | 74.0-126 | |
| Styrene | 5.00 | 4.98 | 99.6 | 72.0-127 | |
| 1,1,1,2-Tetrachloroethane | 5.00 | 4.94 | 98.8 | 74.0-129 | |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.77 | 95.4 | 68.0-128 | |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 4.80 | 96.0 | 61.0-139 | |
| Tetrachloroethene | 5.00 | 5.29 | 106 | 70.0-136 | |
| Toluene | 5.00 | 5.11 | 102 | 75.0-121 | |
| 1,2,3-Trichlorobenzene | 5.00 | 6.88 | 138 | 59.0-139 | |
| 1,2,4-Trichlorobenzene | 5.00 | 6.95 | 139 | 62.0-137 | J4 |
| 1,1,1-Trichloroethane | 5.00 | 3.80 | 76.0 | 69.0-126 | |
| 1,1,2-Trichloroethane | 5.00 | 4.95 | 99.0 | 78.0-123 | |
| Trichloroethene | 5.00 | 5.28 | 106 | 76.0-126 | |
| Trichlorofluoromethane | 5.00 | 4.00 | 80.0 | 61.0-142 | |
| 1,2,3-Trichloropropane | 5.00 | 4.68 | 93.6 | 67.0-129 | |
| 1,2,4-Trimethylbenzene | 5.00 | 4.93 | 98.6 | 70.0-126 | |
| 1,2,3-Trimethylbenzene | 5.00 | 4.76 | 95.2 | 74.0-124 | |
| 1,3,5-Trimethylbenzene | 5.00 | 4.88 | 97.6 | 73.0-127 | |
| Vinyl chloride | 5.00 | 3.23 | 64.6 | 63.0-134 | |
| Xylenes, Total | 15.0 | 15.1 | 101 | 72.0-127 | |
| Ethyl ether | 5.00 | 4.89 | 97.8 | 64.0-137 | |
| Tetrahydrofuran | 5.00 | 4.16 | 83.2 | 37.0-146 | |
| Iodomethane | 25.0 | 22.6 | 90.4 | 74.0-134 | |
| Allyl chloride | 25.0 | 24.0 | 96.0 | 70.0-131 | |
| trans-1,4-Dichloro-2-butene | 5.00 | 4.33 | 86.6 | 45.0-143 | |
| *(S) Toluene-d8* | | | *100* | *75.0-131* | |
| *(S) 4-Bromofluorobenzene* | | | *102* | *67.0-138* | |
| *(S) 1,2-Dichloroethane-d4* | | | *92.1* | *70.0-130* | |

## Method Blank (MB)

(MB) R3864664-3 11/23/22 00:02

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *101* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3864664-1 11/22/22 22:29 • (LCSD) R3864664-2 11/22/22 23:04

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | 5.00 | 4.69 | 4.76 | 93.8 | 95.2 | 70.0-136 | | | 1.48 | 20 |
| *(S) Toluene-d8* | | | | *103* | *102* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *99.9* | *101* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *96.4* | *101* | *70.0-130* | | | | |

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| B | The same analyte is found in the associated blank. |
| C3 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable. |
| E | The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL). |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J4 | The associated batch QC was outside the established quality control range for accuracy. |
| J5 | The sample matrix interfered with the ability to make any accurate determination; spike value is high. |
| J6 | The sample matrix interfered with the ability to make any accurate determination; spike value is low. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Billing Information:
Attn: Accounts Payable
2101 4th Avenue, Suite 1310
Seattle, WA 98121

Pres Chk

Report to:
Brian O'Neal/Bill Haldeman

Email To:
Shannon.McKernan@nv5.com;brian.oneal@nv5

Project Description:
American Linen

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: 206-529-3980

Client Project #
1413.001.10.603.04

Lab Project #
PESENVSWA-ALP

Collected by (print):
NEW

Site/Facility ID #

P.O. # 1413001106003.04
~~443018-1413001.05.601~~

Collected by (signature):
NEW

Immediately Packed on Ice N___ Y✓

*Rush?* (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 | NITRATE,SULFATE 125mlHDPE-NoPres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | | | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FMW-129-111122 | Grab | GW | — | 11/11/22 | 1010 | 9 | X | X | X | X | | X | X | X | | | | -01 |
| MW-350-111122 | ↓ | GW | — | ↓ | 1151 | ↓ | X | X | X | X | | X | X | X | | | | -02 |
| EQ-111122 | ↓ | GW | — | ↓ | 1329 | ↓ | X | X | X | X | | X | X | X | | | | -03 |
| TB-111122 | ↓ | GW | — | ↓ | — | 1 | X | X | X | X | | X | X | X | | | TB V8260 ONLY (NEW) | -04 |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | NEW | | | | | | | | | |
| | | GW | | | | | | | 11/11/22 | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1557126

C071

Acctnum: PESENVSWA
Template: T218236
Prelogin: P957562
PM: 546 - Jared Starkey
PB: 10/17/22
Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 5300 4788 6985

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: ✓Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: ✓Y __N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / (No) HCL / MeoH TBR | Sample Receipt Checklist |
|---|---|---|---|---|---|
| Natalie Wisdom | 11/11/22 | 1710 | | / | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: 6.8 °C Bottles Received: 3+10=3.3 27 | If preservation required by Login: Date/Time |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: 11.12.22 Time: 0915 | Hold: / Condition: NCF / OK |

# ANALYTICAL REPORT

December 05, 2022



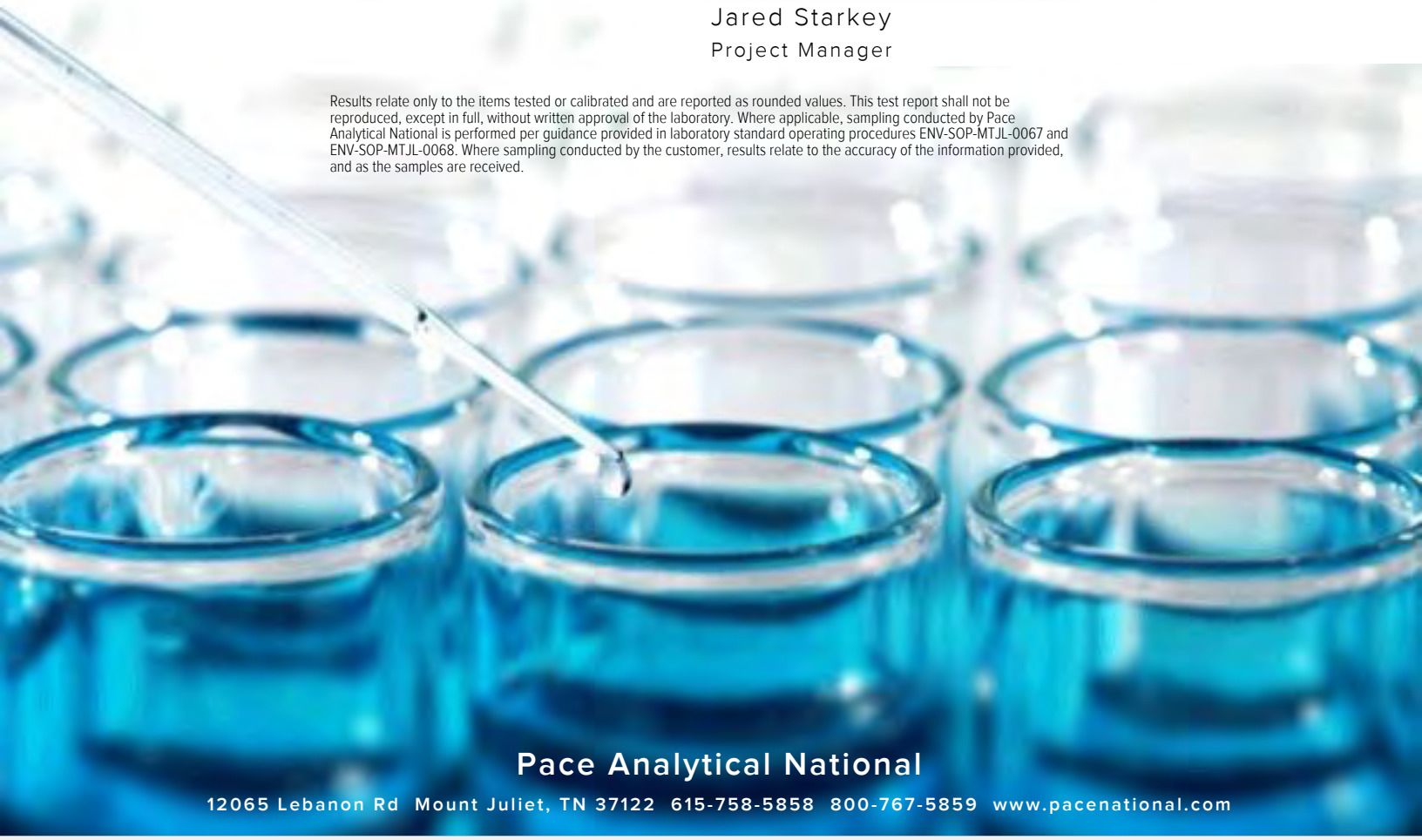
## PES Environmental, Inc.- WA

| | |
|---|---|
| Sample Delivery Group: | L1559917 |
| Samples Received: | 11/19/2022 |
| Project Number: | 1413.001.10.701.02 |
| Description: | American Linen |
| Report To: | Brian O'Neal/Bill Haldeman |
| | 2101 Fourth Ave., Suite 1310 |
| | Seattle, WA 98121 |

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## MW106-111822 L1559917-01 GW

Collected by: ARS | Collected date/time: 11/18/22 10:10 | Received date/time: 11/19/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1964239 | 1 | 11/23/22 13:31 | 11/23/22 13:31 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1962456 | 1 | 11/19/22 22:33 | 11/19/22 22:33 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1965434 | 1 | 11/28/22 11:16 | 11/28/22 11:16 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1965001 | 10 | 11/28/22 20:47 | 11/29/22 14:12 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1963329 | 1 | 11/22/22 11:34 | 11/22/22 11:34 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1965987 | 1 | 11/28/22 22:46 | 11/28/22 22:46 | JAH | Mt. Juliet, TN |

## MW-344-111822 L1559917-02 GW

Collected by: ARS | Collected date/time: 11/18/22 11:50 | Received date/time: 11/19/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1964239 | 1 | 11/23/22 13:37 | 11/23/22 13:37 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1962456 | 1 | 11/19/22 22:51 | 11/19/22 22:51 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1965434 | 1 | 11/28/22 11:32 | 11/28/22 11:32 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1965001 | 10 | 11/28/22 20:47 | 11/29/22 13:56 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1963329 | 1 | 11/22/22 11:37 | 11/22/22 11:37 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1964220 | 10 | 11/23/22 08:59 | 11/23/22 08:59 | CMS | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1965987 | 1 | 11/28/22 23:05 | 11/28/22 23:05 | JAH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1967734 | 25 | 12/02/22 01:08 | 12/02/22 01:08 | ADM | Mt. Juliet, TN |

## MW-345-111822 L1559917-03 GW

Collected by: ARS | Collected date/time: 11/18/22 13:10 | Received date/time: 11/19/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 2320 B-2011 | WG1964858 | 1 | 11/24/22 18:49 | 11/24/22 18:49 | ARD | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1962456 | 1 | 11/19/22 23:44 | 11/19/22 23:44 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG1965434 | 1 | 11/28/22 11:49 | 11/28/22 11:49 | LOH | Mt. Juliet, TN |
| Metals (ICPMS) by Method 6020B | WG1965001 | 1 | 11/28/22 20:47 | 11/29/22 00:26 | JPD | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG1963329 | 1 | 11/22/22 11:40 | 11/22/22 11:40 | JAP | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1965987 | 1 | 11/28/22 23:24 | 11/28/22 23:24 | JAH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1967734 | 1 | 12/02/22 00:49 | 12/02/22 00:49 | ADM | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 225000 | | 8450 | 20000 | 1 | 11/23/2022 13:31 | WG1964239 |

Sample Narrative:

L1559917-01 WG1964239: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 16000 | | 379 | 1000 | 1 | 11/19/2022 22:33 | WG1962456 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/19/2022 22:33 | WG1962456 |
| Sulfate | 14300 | | 594 | 5000 | 1 | 11/19/2022 22:33 | WG1962456 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1180 | B | 102 | 1000 | 1 | 11/28/2022 11:16 | WG1965434 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 11500 | | 281 | 1000 | 10 | 11/29/2022 14:12 | WG1965001 |
| Manganese | 1020 | | 7.04 | 50.0 | 10 | 11/29/2022 14:12 | WG1965001 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 50.1 | | 0.287 | 0.678 | 1 | 11/22/2022 11:34 | WG1963329 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/22/2022 11:34 | WG1963329 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/22/2022 11:34 | WG1963329 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/28/2022 22:46 | WG1965987 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/28/2022 22:46 | WG1965987 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| Bromodichloromethane | U | J4 | 0.0315 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/28/2022 22:46 | WG1965987 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| 2,2-Dichloropropane | U | J4 | 0.0317 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/28/2022 22:46 | WG1965987 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/28/2022 22:46 | WG1965987 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/28/2022 22:46 | WG1965987 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/28/2022 22:46 | WG1965987 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/28/2022 22:46 | WG1965987 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/28/2022 22:46 | WG1965987 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/28/2022 22:46 | WG1965987 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/28/2022 22:46 | WG1965987 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/28/2022 22:46 | WG1965987 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| *(S) Toluene-d8* | *102* | | | *75.0-131* | | *11/28/2022 22:46* | WG1965987 |
| *(S) 4-Bromofluorobenzene* | *106* | | | *67.0-138* | | *11/28/2022 22:46* | WG1965987 |
| *(S) 1,2-Dichloroethane-d4* | *96.1* | | | *70.0-130* | | *11/28/2022 22:46* | WG1965987 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 436000 | | 8450 | 20000 | 1 | 11/23/2022 13:37 | WG1964239 |

Sample Narrative:
L1559917-02 WG1964239: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 37700 | | 379 | 1000 | 1 | 11/19/2022 22:51 | WG1962456 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/19/2022 22:51 | WG1962456 |
| Sulfate | 8430 | | 594 | 5000 | 1 | 11/19/2022 22:51 | WG1962456 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 2990 | B | 102 | 1000 | 1 | 11/28/2022 11:32 | WG1965434 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 2810 | | 281 | 1000 | 10 | 11/29/2022 13:56 | WG1965001 |
| Manganese | 1750 | | 7.04 | 50.0 | 10 | 11/29/2022 13:56 | WG1965001 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 12500 | | 2.87 | 6.78 | 10 | 11/23/2022 08:59 | WG1964220 |
| Ethane | 660 | | 0.296 | 1.29 | 1 | 11/22/2022 11:37 | WG1963329 |
| Ethene | 1520 | | 0.422 | 1.27 | 1 | 11/22/2022 11:37 | WG1963329 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/28/2022 23:05 | WG1965987 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| Benzene | 0.0370 | J | 0.0160 | 0.0400 | 1 | 11/28/2022 23:05 | WG1965987 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| Bromodichloromethane | U | J4 | 0.0315 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/28/2022 23:05 | WG1965987 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,1-Dichloroethene | 0.895 | | 0.0200 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| cis-1,2-Dichloroethene | 620 | | 0.690 | 2.50 | 25 | 12/02/2022 01:08 | WG1967734 |
| trans-1,2-Dichloroethene | 7.92 | | 0.0572 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| 2,2-Dichloropropane | U | J4 | 0.0317 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/28/2022 23:05 | WG1965987 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/28/2022 23:05 | WG1965987 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/28/2022 23:05 | WG1965987 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/28/2022 23:05 | WG1965987 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/28/2022 23:05 | WG1965987 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/28/2022 23:05 | WG1965987 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| Trichloroethene | 0.700 | | 0.0160 | 0.0400 | 1 | 11/28/2022 23:05 | WG1965987 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| Vinyl chloride | 942 | J3 | 0.682 | 2.50 | 25 | 12/02/2022 01:08 | WG1967734 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/28/2022 23:05 | WG1965987 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| Tetrahydrofuran | 4.81 | | 0.0900 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/28/2022 23:05 | WG1965987 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| *(S) Toluene-d8* | *103* | | | *75.0-131* | | *11/28/2022 23:05* | WG1965987 |
| *(S) Toluene-d8* | *94.0* | | | *75.0-131* | | *12/02/2022 01:08* | WG1967734 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *11/28/2022 23:05* | WG1965987 |
| *(S) 4-Bromofluorobenzene* | *88.0* | | | *67.0-138* | | *12/02/2022 01:08* | WG1967734 |
| *(S) 1,2-Dichloroethane-d4* | *93.2* | | | *70.0-130* | | *11/28/2022 23:05* | WG1965987 |
| *(S) 1,2-Dichloroethane-d4* | *85.4* | | | *70.0-130* | | *12/02/2022 01:08* | WG1967734 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 289000 | | 8450 | 20000 | 1 | 11/24/2022 18:49 | WG1964858 |

Sample Narrative:

L1559917-03 WG1964858: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 44300 | | 379 | 1000 | 1 | 11/19/2022 23:44 | WG1962456 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/19/2022 23:44 | WG1962456 |
| Sulfate | 41000 | | 594 | 5000 | 1 | 11/19/2022 23:44 | WG1962456 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1810 | B | 102 | 1000 | 1 | 11/28/2022 11:49 | WG1965434 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1400 | | 28.1 | 100 | 1 | 11/29/2022 00:26 | WG1965001 |
| Manganese | 215 | | 0.704 | 5.00 | 1 | 11/29/2022 00:26 | WG1965001 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 1710 | | 0.287 | 0.678 | 1 | 11/22/2022 11:40 | WG1963329 |
| Ethane | 20.3 | | 0.296 | 1.29 | 1 | 11/22/2022 11:40 | WG1963329 |
| Ethene | 289 | | 0.422 | 1.27 | 1 | 11/22/2022 11:40 | WG1963329 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/28/2022 23:24 | WG1965987 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/28/2022 23:24 | WG1965987 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 |
| Bromodichloromethane | U | J4 | 0.0315 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/28/2022 23:24 | WG1965987 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| Chloroethane | 0.155 | J | 0.0432 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| cis-1,2-Dichloroethene | 2.12 | | 0.0276 | 0.100 | 1 | 12/02/2022 00:49 | WG1967734 |
| trans-1,2-Dichloroethene | 0.0650 | J | 0.0572 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| 2,2-Dichloropropane | U | J4 | 0.0317 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/28/2022 23:24 | WG1965987 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/28/2022 23:24 | WG1965987 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/28/2022 23:24 | WG1965987 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/28/2022 23:24 | WG1965987 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/28/2022 23:24 | WG1965987 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/28/2022 23:24 | WG1965987 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| Trichloroethene | 0.0770 | | 0.0160 | 0.0400 | 1 | 11/28/2022 23:24 | WG1965987 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| Vinyl chloride | 18.3 | J3 | 0.0273 | 0.100 | 1 | 12/02/2022 00:49 | WG1967734 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/28/2022 23:24 | WG1965987 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| Tetrahydrofuran | 0.492 | J | 0.0900 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/28/2022 23:24 | WG1965987 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| *(S) Toluene-d8* | *101* | | | *75.0-131* | | *11/28/2022 23:24* | WG1965987 |
| *(S) Toluene-d8* | *95.8* | | | *75.0-131* | | *12/02/2022 00:49* | WG1967734 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/28/2022 23:24* | WG1965987 |
| *(S) 4-Bromofluorobenzene* | *87.1* | | | *67.0-138* | | *12/02/2022 00:49* | WG1967734 |
| *(S) 1,2-Dichloroethane-d4* | *92.8* | | | *70.0-130* | | *11/28/2022 23:24* | WG1965987 |
| *(S) 1,2-Dichloroethane-d4* | *88.2* | | | *70.0-130* | | *12/02/2022 00:49* | WG1967734 |

## Method Blank (MB)

(MB) R3864565-2 11/23/22 11:13

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1559572-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1559572-01 11/23/22 11:57 • (DUP) R3864565-3 11/23/22 12:03

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 176000 | 179000 | 1 | 1.68 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

## L1559658-19 Original Sample (OS) • Duplicate (DUP)

(OS) L1559658-19 11/23/22 13:21 • (DUP) R3864565-4 11/23/22 13:26

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 52500 | 52300 | 1 | 0.384 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3864565-1 11/23/22 11:06

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 101000 | 101 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

## Method Blank (MB)

(MB) R3864891-2 11/24/22 18:08

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Alkalinity | U | | 8450 | 20000 |

Sample Narrative:

BLANK: Endpoint pH 4.5

## L1557509-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1557509-05 11/24/22 18:16 • (DUP) R3864891-4 11/24/22 18:20

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 586000 | 587000 | 1 | 0.191 | | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

## L1560038-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1560038-01 11/24/22 19:56 • (DUP) R3864891-5 11/24/22 19:59

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Alkalinity | 18800 | 18800 | 1 | 0.254 | J | 20 |

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

## Laboratory Control Sample (LCS)

(LCS) R3864891-1 11/24/22 18:03

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Alkalinity | 100000 | 100000 | 100 | 90.0-110 | |

Sample Narrative:

LCS: Endpoint pH 4.5

# QUALITY CONTROL SUMMARY

L1559917-01,02,03

## Method Blank (MB)

(MB) R3863168-1 11/19/22 10:09

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1559914-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1559914-06 11/19/22 21:21 • (DUP) R3863168-3 11/19/22 21:39

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | U | U | 1 | 0.000 | | 15 |
| Nitrate | U | U | 1 | 0.000 | | 15 |
| Sulfate | U | U | 1 | 0.000 | | 15 |

## L1559918-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1559918-02 11/20/22 00:20 • (DUP) R3863168-6 11/20/22 00:38

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 8080 | 7560 | 1 | 6.68 | | 15 |
| Nitrate | 91.9 | 88.5 | 1 | 3.77 | J | 15 |
| Sulfate | 10100 | 9790 | 1 | 3.00 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3863168-2 11/19/22 10:27

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 40400 | 101 | 80.0-120 | |
| Nitrate | 8000 | 8360 | 104 | 80.0-120 | |
| Sulfate | 40000 | 41500 | 104 | 80.0-120 | |

## L1559914-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1559914-06 11/19/22 21:21 • (MS) R3863168-4 11/19/22 21:57 • (MSD) R3863168-5 11/19/22 22:15

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | U | 53100 | 50500 | 106 | 101 | 1 | 80.0-120 | | | 5.06 | 15 |
| Nitrate | 5000 | U | 5480 | 5290 | 110 | 106 | 1 | 80.0-120 | | | 3.44 | 15 |
| Sulfate | 50000 | U | 54500 | 52800 | 109 | 106 | 1 | 80.0-120 | | | 3.24 | 15 |

## L1559918-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1559918-02 11/20/22 00:20 • (MS) R3863168-7 11/20/22 00:56 • (MSD) R3863168-8 11/20/22 01:14

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 8080 | 60200 | 61000 | 104 | 106 | 1 | 80.0-120 | | | 1.30 | 15 |
| Nitrate | 5000 | 91.9 | 5550 | 5600 | 109 | 110 | 1 | 80.0-120 | | | 0.743 | 15 |
| Sulfate | 50000 | 10100 | 65000 | 64600 | 110 | 109 | 1 | 80.0-120 | | | 0.525 | 15 |

## Method Blank (MB)

(MB) R3865831-2 11/28/22 06:58

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 631 | J | 102 | 1000 |

## L1559917-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1559917-03 11/28/22 11:49 • (DUP) R3865831-7 11/28/22 12:03

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1810 | 1790 | 1 | 1.22 | | 20 |

## L1559963-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1559963-01 11/28/22 12:16 • (DUP) R3865831-8 11/28/22 12:32

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2590 | 2760 | 1 | 6.47 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3865831-1 11/28/22 06:42

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 78300 | 104 | 85.0-115 | |

## L1559215-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1559215-10 11/28/22 07:36 • (MS) R3865831-3 11/28/22 08:01 • (MSD) R3865831-4 11/28/22 08:26

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 354 | 62600 | 62500 | 124 | 124 | 1 | 80.0-120 | J5 | J5 | 0.0960 | 20 |

## L1559304-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1559304-01 11/28/22 08:41 • (MS) R3865831-5 11/28/22 09:04 • (MSD) R3865831-6 11/28/22 09:28

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 554 | 62300 | 62800 | 123 | 125 | 1 | 80.0-120 | J5 | J5 | 0.863 | 20 |

## Method Blank (MB)

(MB) R3865962-1 11/28/22 23:56

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Iron | U | | 28.1 | 100 |
| Manganese | U | | 0.704 | 5.00 |

## Laboratory Control Sample (LCS)

(LCS) R3865962-2 11/29/22 00:00

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Iron | 5000 | 5070 | 101 | 80.0-120 | |
| Manganese | 50.0 | 47.9 | 95.8 | 80.0-120 | |

## L1560445-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1560445-02 11/29/22 00:03 • (MS) R3865962-4 11/29/22 00:10 • (MSD) R3865962-5 11/29/22 00:13

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iron | 5000 | 548 | 5400 | 5500 | 97.1 | 99.1 | 1 | 75.0-125 | | | 1.82 | 20 |
| Manganese | 50.0 | 2530 | 2620 | 2560 | 180 | 43.4 | 1 | 75.0-125 | V | V | 2.63 | 20 |

## Method Blank (MB)

(MB) R3863938-2 11/22/22 10:27

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1559430-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1559430-01 11/22/22 11:00 • (DUP) R3863938-3 11/22/22 11:17

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1560110-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1560110-01 11/22/22 11:49 • (DUP) R3863938-4 11/22/22 11:51

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | U | U | 1 | 0.000 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3863938-1 11/22/22 10:09 • (LCSD) R3863938-9 11/22/22 12:03

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 63.1 | 63.6 | 93.1 | 93.8 | 85.0-115 | | | 0.789 | 20 |
| Ethane | 129 | 116 | 117 | 89.9 | 90.7 | 85.0-115 | | | 0.858 | 20 |
| Ethene | 127 | 117 | 119 | 92.1 | 93.7 | 85.0-115 | | | 1.69 | 20 |

## L1559216-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1559216-03 11/22/22 10:44 • (MS) R3863938-5 11/22/22 11:53 • (MSD) R3863938-6 11/22/22 11:56

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 30.0 | 97.5 | 98.9 | 99.6 | 102 | 1 | 85.0-115 | | | 1.43 | 20 |
| Ethane | 129 | U | 126 | 127 | 97.7 | 98.4 | 1 | 85.0-115 | | | 0.791 | 20 |
| Ethene | 127 | U | 127 | 128 | 100 | 101 | 1 | 85.0-115 | | | 0.784 | 20 |

## L1559458-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1559458-03 11/22/22 11:22 • (MS) R3863938-7 11/22/22 11:58 • (MSD) R3863938-8 11/22/22 12:00

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | U | 79.8 | 85.0 | 118 | 125 | 1 | 85.0-115 | J5 | J5 | 6.31 | 20 |
| Ethane | 129 | U | 124 | 133 | 96.1 | 103 | 1 | 85.0-115 | | | 7.00 | 20 |
| Ethene | 127 | U | 125 | 134 | 98.4 | 106 | 1 | 85.0-115 | | | 6.95 | 20 |

## Method Blank (MB)

(MB) R3864473-2 11/23/22 08:53

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |

## L1559963-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1559963-09 11/23/22 09:33 • (DUP) R3864473-3 11/23/22 09:36

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |

## L1560274-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1560274-12 11/23/22 11:44 • (DUP) R3864473-4 11/23/22 11:47

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 425 | 425 | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3864473-1 11/23/22 08:47 • (LCSD) R3864473-7 11/23/22 11:58

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 61.5 | 60.9 | 90.7 | 89.8 | 85.0-115 | | | 0.980 | 20 |

## L1560274-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1560274-04 11/23/22 10:01 • (MS) R3864473-5 11/23/22 11:51 • (MSD) R3864473-6 11/23/22 11:55

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Methane | 67.8 | 289 | 314 | 368 | 36.9 | 117 | 1 | 85.0-115 | V | V | 15.8 | 20 |

## Method Blank (MB)

(MB) R3867041-3 11/28/22 21:29

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3867041-3 11/28/22 21:29

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *100* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *95.5* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3867041-1 11/28/22 20:12 • (LCSD) R3867041-2 11/28/22 20:31

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 27.0 | 28.8 | 108 | 115 | 10.0-160 | | | 6.45 | 31 |
| Acrylonitrile | 25.0 | 28.4 | 30.1 | 114 | 120 | 45.0-153 | | | 5.81 | 22 |
| Benzene | 5.00 | 5.59 | 5.92 | 112 | 118 | 70.0-123 | | | 5.73 | 20 |
| Bromobenzene | 5.00 | 5.00 | 5.05 | 100 | 101 | 73.0-121 | | | 0.995 | 20 |
| Bromodichloromethane | 5.00 | 5.95 | 6.12 | 119 | 122 | 73.0-121 | | J4 | 2.82 | 20 |
| Bromoform | 5.00 | 5.10 | 5.24 | 102 | 105 | 64.0-132 | | | 2.71 | 20 |
| Bromomethane | 5.00 | 4.84 | 5.20 | 96.8 | 104 | 56.0-147 | | | 7.17 | 20 |
| n-Butylbenzene | 5.00 | 5.23 | 5.34 | 105 | 107 | 68.0-135 | | | 2.08 | 20 |
| sec-Butylbenzene | 5.00 | 5.31 | 5.68 | 106 | 114 | 74.0-130 | | | 6.73 | 20 |
| tert-Butylbenzene | 5.00 | 5.13 | 5.27 | 103 | 105 | 75.0-127 | | | 2.69 | 20 |
| Carbon tetrachloride | 5.00 | 5.77 | 6.06 | 115 | 121 | 66.0-128 | | | 4.90 | 20 |
| Chlorobenzene | 5.00 | 5.15 | 5.12 | 103 | 102 | 76.0-128 | | | 0.584 | 20 |
| Chlorodibromomethane | 5.00 | 5.42 | 5.47 | 108 | 109 | 74.0-127 | | | 0.918 | 20 |
| Chloroethane | 5.00 | 5.33 | 5.10 | 107 | 102 | 61.0-134 | | | 4.41 | 20 |
| Chloroform | 5.00 | 5.38 | 5.77 | 108 | 115 | 72.0-123 | | | 7.00 | 20 |
| Chloromethane | 5.00 | 4.35 | 4.63 | 87.0 | 92.6 | 51.0-138 | | | 6.24 | 20 |
| 2-Chlorotoluene | 5.00 | 5.16 | 4.54 | 103 | 90.8 | 75.0-124 | | | 12.8 | 20 |
| 4-Chlorotoluene | 5.00 | 5.42 | 5.07 | 108 | 101 | 75.0-124 | | | 6.67 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.24 | 4.59 | 84.8 | 91.8 | 59.0-130 | | | 7.93 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.03 | 5.06 | 101 | 101 | 74.0-128 | | | 0.595 | 20 |
| Dibromomethane | 5.00 | 5.81 | 6.06 | 116 | 121 | 75.0-122 | | | 4.21 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 5.02 | 4.99 | 100 | 99.8 | 76.0-124 | | | 0.599 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 5.10 | 5.14 | 102 | 103 | 76.0-125 | | | 0.781 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 4.82 | 4.89 | 96.4 | 97.8 | 77.0-121 | | | 1.44 | 20 |
| Dichlorodifluoromethane | 5.00 | 5.73 | 5.92 | 115 | 118 | 43.0-156 | | | 3.26 | 20 |
| 1,1-Dichloroethane | 5.00 | 5.42 | 5.68 | 108 | 114 | 70.0-127 | | | 4.68 | 20 |
| 1,2-Dichloroethane | 5.00 | 5.21 | 5.23 | 104 | 105 | 65.0-131 | | | 0.383 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.77 | 5.89 | 115 | 118 | 65.0-131 | | | 2.06 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.52 | 5.82 | 110 | 116 | 73.0-125 | | | 5.29 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.62 | 5.74 | 112 | 115 | 71.0-125 | | | 2.11 | 20 |
| 1,2-Dichloropropane | 5.00 | 5.50 | 5.78 | 110 | 116 | 74.0-125 | | | 4.96 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.72 | 5.96 | 114 | 119 | 73.0-125 | | | 4.11 | 20 |
| 1,3-Dichloropropane | 5.00 | 4.95 | 5.03 | 99.0 | 101 | 80.0-125 | | | 1.60 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 5.72 | 5.95 | 114 | 119 | 76.0-127 | | | 3.94 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 5.14 | 5.14 | 103 | 103 | 73.0-127 | | | 0.000 | 20 |
| 2,2-Dichloropropane | 5.00 | 6.19 | 6.93 | 124 | 139 | 59.0-135 | | J4 | 11.3 | 20 |
| Di-isopropyl ether | 5.00 | 5.29 | 5.64 | 106 | 113 | 60.0-136 | | | 6.40 | 20 |
| Ethylbenzene | 5.00 | 5.17 | 5.17 | 103 | 103 | 74.0-126 | | | 0.000 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 4.98 | 5.22 | 99.6 | 104 | 57.0-150 | | | 4.71 | 20 |
| Isopropylbenzene | 5.00 | 5.87 | 5.89 | 117 | 118 | 72.0-127 | | | 0.340 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3867041-1 11/28/22 20:12 • (LCSD) R3867041-2 11/28/22 20:31

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.50 | 5.60 | 110 | 112 | 72.0-133 | | | 1.80 | 20 |
| 2-Butanone (MEK) | 25.0 | 28.9 | 36.2 | 116 | 145 | 30.0-160 | | | 22.4 | 24 |
| Methylene Chloride | 5.00 | 5.26 | 5.35 | 105 | 107 | 68.0-123 | | | 1.70 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 28.1 | 28.9 | 112 | 116 | 56.0-143 | | | 2.81 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.76 | 6.17 | 115 | 123 | 66.0-132 | | | 6.87 | 20 |
| Naphthalene | 5.00 | 4.24 | 4.68 | 84.8 | 93.6 | 59.0-130 | | | 9.87 | 20 |
| n-Propylbenzene | 5.00 | 5.55 | 5.61 | 111 | 112 | 74.0-126 | | | 1.08 | 20 |
| Styrene | 5.00 | 5.45 | 5.48 | 109 | 110 | 72.0-127 | | | 0.549 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.39 | 5.52 | 108 | 110 | 74.0-129 | | | 2.38 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.76 | 4.79 | 95.2 | 95.8 | 68.0-128 | | | 0.628 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.78 | 6.09 | 116 | 122 | 61.0-139 | | | 5.22 | 20 |
| Tetrachloroethene | 5.00 | 5.54 | 5.47 | 111 | 109 | 70.0-136 | | | 1.27 | 20 |
| Toluene | 5.00 | 5.16 | 5.15 | 103 | 103 | 75.0-121 | | | 0.194 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.58 | 5.07 | 91.6 | 101 | 59.0-139 | | | 10.2 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.82 | 5.10 | 96.4 | 102 | 62.0-137 | | | 5.65 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.78 | 5.99 | 116 | 120 | 69.0-126 | | | 3.57 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.12 | 5.18 | 102 | 104 | 78.0-123 | | | 1.17 | 20 |
| Trichloroethene | 5.00 | 5.56 | 5.72 | 111 | 114 | 76.0-126 | | | 2.84 | 20 |
| Trichlorofluoromethane | 5.00 | 6.29 | 6.18 | 126 | 124 | 61.0-142 | | | 1.76 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 4.84 | 4.91 | 96.8 | 98.2 | 67.0-129 | | | 1.44 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.12 | 5.34 | 102 | 107 | 70.0-126 | | | 4.21 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.17 | 5.18 | 103 | 104 | 74.0-124 | | | 0.193 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.28 | 5.50 | 106 | 110 | 73.0-127 | | | 4.08 | 20 |
| Vinyl chloride | 5.00 | 4.56 | 4.78 | 91.2 | 95.6 | 63.0-134 | | | 4.71 | 20 |
| Xylenes, Total | 15.0 | 14.6 | 16.2 | 97.3 | 108 | 72.0-127 | | | 10.4 | 20 |
| Ethyl ether | 5.00 | 5.34 | 5.60 | 107 | 112 | 64.0-137 | | | 4.75 | 20 |
| Tetrahydrofuran | 5.00 | 5.31 | 5.90 | 106 | 118 | 37.0-146 | | | 10.5 | 24 |
| Iodomethane | 25.0 | 28.5 | 29.8 | 114 | 119 | 74.0-134 | | | 4.46 | 20 |
| Allyl chloride | 25.0 | 28.8 | 29.8 | 115 | 119 | 70.0-131 | | | 3.41 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 4.65 | 4.71 | 93.0 | 94.2 | 45.0-143 | | | 1.28 | 20 |
| *(S) Toluene-d8* | | | | *97.5* | *99.1* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *103* | *105* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *95.6* | *98.3* | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R3867830-3 12/01/22 23:23

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| *(S) Toluene-d8* | *91.0* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *86.1* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *89.4* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3867830-1 12/01/22 21:53 • (LCSD) R3867830-2 12/01/22 22:12

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 5.00 | 4.82 | 4.63 | 96.4 | 92.6 | 73.0-125 | | | 4.02 | 20 |
| Vinyl chloride | 5.00 | 5.02 | 3.64 | 100 | 72.8 | 63.0-134 | | J3 | 31.9 | 20 |
| *(S) Toluene-d8* | | | | *88.4* | *92.2* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *95.2* | *96.5* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *90.1* | *86.9* | *70.0-130* | | | | |

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| B | The same analyte is found in the associated blank. |
| C4 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result. |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J3 | The associated batch QC was outside the established quality control range for precision. |
| J4 | The associated batch QC was outside the established quality control range for accuracy. |
| J5 | The sample matrix interfered with the ability to make any accurate determination; spike value is high. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LAO000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Billing Information:
Attn: Accounts Payable
2101 4th Avenue, Suite 1310
Seattle, WA 98121

Report to:
Brian O'Neal/Bill Haldeman

Email To:
Shannon.McKernan@nv5.com;brian.oneal

Project Description:
American Linen

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: 206-529-3980

Client Project #
1413.001.10.701.02

Lab Project #
PESENVSWA-ALP

Collected by (print):
ARS

Site/Facility ID #

P.O. # 1413.001.10.701.02
443018-1413001.05.601

Collected by (signature):

Immediately Packed on Ice N ___ Y /

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | ALK 125mlHDPE-NoPres | CHLORIDE 125mlHDPE-NoPres | FEG,MNG 250mlHDPE-HNO3 | NITRATE,SULFATE 125mlHDPE-No Pres | NWTPHGX 40mlAmb HCl | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | V8260ULLC 40mlAmb-HCl | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW106-111822 | Grab | GW | — | 11-18-22 | 10:10 | 9 | X | X | X | X | | X | X | X | | -01 |
| MW-344-111822 | " | GW | — | " | 11:50 | " | X | X | X | X | | X | X | X | | -02 |
| MW-345-111822 | " | GW | — | " | 13:10 | " | X | X | X | X | | X | X | X | | -03 |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | |

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-

SDG # L1559417

F198

Acctnum: PESENVSWA
Template: T218236
Prelogin: P957562
PM: 546 - Jared Starkey
PB:
Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 6094 5459 7402

Sample Receipt Checklist
COC Seal Present/Intact: ___NP ___Y ___N
COC Signed/Accurate: ___Y ___N
Bottles arrive intact: ___Y ___N
Correct bottles used: ___Y ___N
Sufficient volume sent: ___Y ___N
If Applicable
VOA Zero Headspace: ___Y ___N
Preservation Correct/Checked: ___Y ___N
RAD Screen <0.5 mR/hr: ___Y ___N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) |
|---|---|---|---|
| | 11-18-22 | 15:40 | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) |
| | | | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) |
| | | | |

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: mmm °C Bottles Received:
5.1 to 5.1 27

If preservation required by Login: Date/Time

Date: 11-19-22 Time: 0900

Hold:

Condition: NCF / OK

# ANALYTICAL REPORT

November 16, 2022



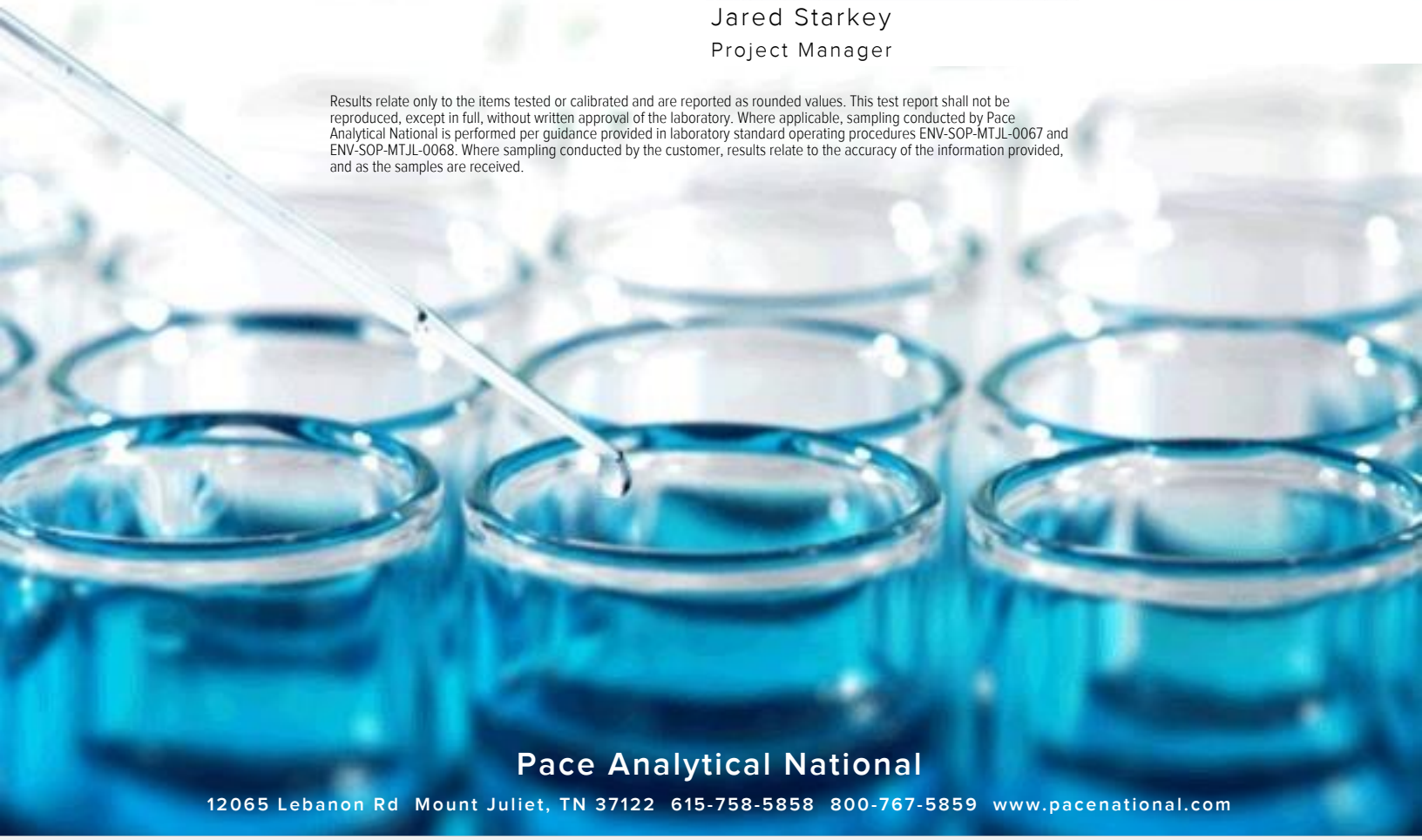
## PES Environmental, Inc.- WA

| | |
|---|---|
| Sample Delivery Group: | L1556709 |
| Samples Received: | 11/11/2022 |
| Project Number: | |
| Description: | American Linen |
| Report To: | Brian O'Neal/Bill Haldeman<br>2101 Fourth Ave., Suite 1310<br>Seattle, WA 98121 |

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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# SAMPLE SUMMARY

## SV-18-110922 L1556709-01 Air

Collected by: SEM
Collected date/time: 11/09/22 14:09
Received date/time: 11/11/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG1959910 | 1 | 11/15/22 23:32 | 11/15/22 23:32 | FKG | Mt. Juliet, TN |

## SV01-111022 L1556709-02 Air

Collected by: SEM
Collected date/time: 11/10/22 12:53
Received date/time: 11/11/22 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG1959910 | 1 | 11/16/22 00:16 | 11/16/22 00:16 | FKG | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | 58.10 | 1.25 | 2.97 | ND | ND | | 1 | WG1959910 |
| Allyl chloride | 107-05-1 | 76.53 | 0.200 | 0.626 | ND | ND | | 1 | WG1959910 |
| Benzene | 71-43-2 | 78.10 | 0.200 | 0.639 | 0.413 | 1.32 | | 1 | WG1959910 |
| Benzyl Chloride | 100-44-7 | 127 | 0.200 | 1.04 | ND | ND | | 1 | WG1959910 |
| Bromodichloromethane | 75-27-4 | 164 | 0.200 | 1.34 | ND | ND | | 1 | WG1959910 |
| Bromoform | 75-25-2 | 253 | 0.600 | 6.21 | ND | ND | | 1 | WG1959910 |
| Bromomethane | 74-83-9 | 94.90 | 0.200 | 0.776 | ND | ND | | 1 | WG1959910 |
| 1,3-Butadiene | 106-99-0 | 54.10 | 2.00 | 4.43 | ND | ND | | 1 | WG1959910 |
| Carbon disulfide | 75-15-0 | 76.10 | 0.200 | 0.622 | 1.07 | 3.33 | | 1 | WG1959910 |
| Carbon tetrachloride | 56-23-5 | 154 | 0.200 | 1.26 | 0.662 | 4.17 | | 1 | WG1959910 |
| Chlorobenzene | 108-90-7 | 113 | 0.200 | 0.924 | ND | ND | | 1 | WG1959910 |
| Chloroethane | 75-00-3 | 64.50 | 0.200 | 0.528 | 1.09 | 2.88 | | 1 | WG1959910 |
| Chloroform | 67-66-3 | 119 | 0.200 | 0.973 | ND | ND | | 1 | WG1959910 |
| Chloromethane | 74-87-3 | 50.50 | 0.200 | 0.413 | ND | ND | | 1 | WG1959910 |
| 2-Chlorotoluene | 95-49-8 | 126 | 0.200 | 1.03 | ND | ND | | 1 | WG1959910 |
| Cyclohexane | 110-82-7 | 84.20 | 0.200 | 0.689 | ND | ND | | 1 | WG1959910 |
| Dibromochloromethane | 124-48-1 | 208 | 0.200 | 1.70 | ND | ND | | 1 | WG1959910 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.200 | 1.54 | ND | ND | | 1 | WG1959910 |
| 1,2-Dichlorobenzene | 95-50-1 | 147 | 0.200 | 1.20 | ND | ND | | 1 | WG1959910 |
| 1,3-Dichlorobenzene | 541-73-1 | 147 | 0.200 | 1.20 | ND | ND | | 1 | WG1959910 |
| 1,4-Dichlorobenzene | 106-46-7 | 147 | 0.200 | 1.20 | ND | ND | | 1 | WG1959910 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.200 | 0.810 | ND | ND | | 1 | WG1959910 |
| 1,1-Dichloroethane | 75-34-3 | 98 | 0.200 | 0.802 | 14.6 | 58.5 | | 1 | WG1959910 |
| 1,1-Dichloroethene | 75-35-4 | 96.90 | 0.200 | 0.793 | ND | ND | | 1 | WG1959910 |
| cis-1,2-Dichloroethene | 156-59-2 | 96.90 | 0.200 | 0.793 | ND | ND | | 1 | WG1959910 |
| trans-1,2-Dichloroethene | 156-60-5 | 96.90 | 0.200 | 0.793 | ND | ND | | 1 | WG1959910 |
| 1,2-Dichloropropane | 78-87-5 | 113 | 0.200 | 0.924 | ND | ND | | 1 | WG1959910 |
| cis-1,3-Dichloropropene | 10061-01-5 | 111 | 0.200 | 0.908 | ND | ND | | 1 | WG1959910 |
| trans-1,3-Dichloropropene | 10061-02-6 | 111 | 0.200 | 0.908 | ND | ND | | 1 | WG1959910 |
| 1,4-Dioxane | 123-91-1 | 88.10 | 0.200 | 0.721 | ND | ND | | 1 | WG1959910 |
| Ethanol | 64-17-5 | 46.10 | 1.25 | 2.36 | 3.90 | 7.35 | | 1 | WG1959910 |
| Ethylbenzene | 100-41-4 | 106 | 0.200 | 0.867 | ND | ND | | 1 | WG1959910 |
| 4-Ethyltoluene | 622-96-8 | 120 | 0.200 | 0.982 | ND | ND | | 1 | WG1959910 |
| Trichlorofluoromethane | 75-69-4 | 137.40 | 0.200 | 1.12 | ND | ND | | 1 | WG1959910 |
| Dichlorodifluoromethane | 75-71-8 | 120.92 | 0.200 | 0.989 | 0.220 | 1.09 | | 1 | WG1959910 |
| 1,1,2-Trichlorotrifluoroethane | 76-13-1 | 187.40 | 0.200 | 1.53 | ND | ND | | 1 | WG1959910 |
| 1,2-Dichlorotetrafluoroethane | 76-14-2 | 171 | 0.200 | 1.40 | ND | ND | | 1 | WG1959910 |
| Heptane | 142-82-5 | 100 | 0.200 | 0.818 | ND | ND | | 1 | WG1959910 |
| Hexachloro-1,3-butadiene | 87-68-3 | 261 | 0.630 | 6.73 | ND | ND | | 1 | WG1959910 |
| n-Hexane | 110-54-3 | 86.20 | 0.630 | 2.22 | ND | ND | | 1 | WG1959910 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.200 | 0.983 | ND | ND | | 1 | WG1959910 |
| Methylene Chloride | 75-09-2 | 84.90 | 0.200 | 0.694 | 0.544 | 1.89 | | 1 | WG1959910 |
| Methyl Butyl Ketone | 591-78-6 | 100 | 1.25 | 5.11 | ND | ND | | 1 | WG1959910 |
| 2-Butanone (MEK) | 78-93-3 | 72.10 | 1.25 | 3.69 | ND | ND | | 1 | WG1959910 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 100.10 | 1.25 | 5.12 | ND | ND | | 1 | WG1959910 |
| Methyl methacrylate | 80-62-6 | 100.12 | 0.200 | 0.819 | ND | ND | | 1 | WG1959910 |
| MTBE | 1634-04-4 | 88.10 | 0.200 | 0.721 | ND | ND | | 1 | WG1959910 |
| Naphthalene | 91-20-3 | 128 | 0.630 | 3.30 | ND | ND | | 1 | WG1959910 |
| 2-Propanol | 67-63-0 | 60.10 | 1.25 | 3.07 | ND | ND | | 1 | WG1959910 |
| Propene | 115-07-1 | 42.10 | 1.25 | 2.15 | ND | ND | | 1 | WG1959910 |
| Styrene | 100-42-5 | 104 | 0.200 | 0.851 | ND | ND | | 1 | WG1959910 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 168 | 0.200 | 1.37 | ND | ND | | 1 | WG1959910 |
| Tetrachloroethylene | 127-18-4 | 166 | 0.200 | 1.36 | ND | ND | | 1 | WG1959910 |
| Tetrahydrofuran | 109-99-9 | 72.10 | 0.200 | 0.590 | ND | ND | | 1 | WG1959910 |
| Toluene | 108-88-3 | 92.10 | 0.500 | 1.88 | ND | ND | | 1 | WG1959910 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 181 | 0.630 | 4.66 | ND | ND | | 1 | WG1959910 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 71-55-6 | 133 | 0.200 | 1.09 | 4.92 | 26.8 | | 1 | WG1959910 |
| 1,1,2-Trichloroethane | 79-00-5 | 133 | 0.200 | 1.09 | ND | ND | | 1 | WG1959910 |
| Trichloroethylene | 79-01-6 | 131 | 0.200 | 1.07 | ND | ND | | 1 | WG1959910 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.200 | 0.982 | ND | ND | | 1 | WG1959910 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.200 | 0.982 | ND | ND | | 1 | WG1959910 |
| 2,2,4-Trimethylpentane | 540-84-1 | 114.22 | 0.200 | 0.934 | 11.4 | 53.3 | | 1 | WG1959910 |
| Vinyl chloride | 75-01-4 | 62.50 | 0.200 | 0.511 | 33.6 | 85.9 | | 1 | WG1959910 |
| Vinyl Bromide | 593-60-2 | 106.95 | 0.200 | 0.875 | ND | ND | | 1 | WG1959910 |
| Vinyl acetate | 108-05-4 | 86.10 | 0.200 | 0.704 | ND | ND | | 1 | WG1959910 |
| Xylenes, Total | 1330-20-7 | 106.16 | 0.600 | 2.61 | ND | ND | | 1 | WG1959910 |
| m&p-Xylene | 1330-20-7 | 106 | 0.400 | 1.73 | 0.411 | 1.78 | | 1 | WG1959910 |
| o-Xylene | 95-47-6 | 106 | 0.200 | 0.867 | ND | ND | | 1 | WG1959910 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | *60.0-140* | | *99.7* | | | | WG1959910 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | 58.10 | 1.25 | 2.97 | ND | ND | | 1 | WG1959910 |
| Allyl chloride | 107-05-1 | 76.53 | 0.200 | 0.626 | ND | ND | | 1 | WG1959910 |
| Benzene | 71-43-2 | 78.10 | 0.200 | 0.639 | 5.18 | 16.5 | | 1 | WG1959910 |
| Benzyl Chloride | 100-44-7 | 127 | 0.200 | 1.04 | ND | ND | | 1 | WG1959910 |
| Bromodichloromethane | 75-27-4 | 164 | 0.200 | 1.34 | ND | ND | | 1 | WG1959910 |
| Bromoform | 75-25-2 | 253 | 0.600 | 6.21 | ND | ND | | 1 | WG1959910 |
| Bromomethane | 74-83-9 | 94.90 | 0.200 | 0.776 | ND | ND | | 1 | WG1959910 |
| 1,3-Butadiene | 106-99-0 | 54.10 | 2.00 | 4.43 | ND | ND | | 1 | WG1959910 |
| Carbon disulfide | 75-15-0 | 76.10 | 0.200 | 0.622 | ND | ND | | 1 | WG1959910 |
| Carbon tetrachloride | 56-23-5 | 154 | 0.200 | 1.26 | ND | ND | | 1 | WG1959910 |
| Chlorobenzene | 108-90-7 | 113 | 0.200 | 0.924 | ND | ND | | 1 | WG1959910 |
| Chloroethane | 75-00-3 | 64.50 | 0.200 | 0.528 | 1.03 | 2.72 | | 1 | WG1959910 |
| Chloroform | 67-66-3 | 119 | 0.200 | 0.973 | ND | ND | | 1 | WG1959910 |
| Chloromethane | 74-87-3 | 50.50 | 0.200 | 0.413 | ND | ND | | 1 | WG1959910 |
| 2-Chlorotoluene | 95-49-8 | 126 | 0.200 | 1.03 | ND | ND | | 1 | WG1959910 |
| Cyclohexane | 110-82-7 | 84.20 | 0.200 | 0.689 | 0.910 | 3.13 | | 1 | WG1959910 |
| Dibromochloromethane | 124-48-1 | 208 | 0.200 | 1.70 | ND | ND | | 1 | WG1959910 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.200 | 1.54 | ND | ND | | 1 | WG1959910 |
| 1,2-Dichlorobenzene | 95-50-1 | 147 | 0.200 | 1.20 | ND | ND | | 1 | WG1959910 |
| 1,3-Dichlorobenzene | 541-73-1 | 147 | 0.200 | 1.20 | ND | ND | | 1 | WG1959910 |
| 1,4-Dichlorobenzene | 106-46-7 | 147 | 0.200 | 1.20 | ND | ND | | 1 | WG1959910 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.200 | 0.810 | ND | ND | | 1 | WG1959910 |
| 1,1-Dichloroethane | 75-34-3 | 98 | 0.200 | 0.802 | 5.91 | 23.7 | | 1 | WG1959910 |
| 1,1-Dichloroethene | 75-35-4 | 96.90 | 0.200 | 0.793 | ND | ND | | 1 | WG1959910 |
| cis-1,2-Dichloroethene | 156-59-2 | 96.90 | 0.200 | 0.793 | 5.51 | 21.8 | | 1 | WG1959910 |
| trans-1,2-Dichloroethene | 156-60-5 | 96.90 | 0.200 | 0.793 | 0.433 | 1.72 | | 1 | WG1959910 |
| 1,2-Dichloropropane | 78-87-5 | 113 | 0.200 | 0.924 | ND | ND | | 1 | WG1959910 |
| cis-1,3-Dichloropropene | 10061-01-5 | 111 | 0.200 | 0.908 | ND | ND | | 1 | WG1959910 |
| trans-1,3-Dichloropropene | 10061-02-6 | 111 | 0.200 | 0.908 | ND | ND | | 1 | WG1959910 |
| 1,4-Dioxane | 123-91-1 | 88.10 | 0.200 | 0.721 | ND | ND | | 1 | WG1959910 |
| Ethanol | 64-17-5 | 46.10 | 1.25 | 2.36 | 4.19 | 7.90 | | 1 | WG1959910 |
| Ethylbenzene | 100-41-4 | 106 | 0.200 | 0.867 | ND | ND | | 1 | WG1959910 |
| 4-Ethyltoluene | 622-96-8 | 120 | 0.200 | 0.982 | ND | ND | | 1 | WG1959910 |
| Trichlorofluoromethane | 75-69-4 | 137.40 | 0.200 | 1.12 | ND | ND | | 1 | WG1959910 |
| Dichlorodifluoromethane | 75-71-8 | 120.92 | 0.200 | 0.989 | 0.204 | 1.01 | | 1 | WG1959910 |
| 1,1,2-Trichlorotrifluoroethane | 76-13-1 | 187.40 | 0.200 | 1.53 | ND | ND | | 1 | WG1959910 |
| 1,2-Dichlorotetrafluoroethane | 76-14-2 | 171 | 0.200 | 1.40 | ND | ND | | 1 | WG1959910 |
| Heptane | 142-82-5 | 100 | 0.200 | 0.818 | ND | ND | | 1 | WG1959910 |
| Hexachloro-1,3-butadiene | 87-68-3 | 261 | 0.630 | 6.73 | ND | ND | | 1 | WG1959910 |
| n-Hexane | 110-54-3 | 86.20 | 0.630 | 2.22 | ND | ND | | 1 | WG1959910 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.200 | 0.983 | ND | ND | | 1 | WG1959910 |
| Methylene Chloride | 75-09-2 | 84.90 | 0.200 | 0.694 | ND | ND | | 1 | WG1959910 |
| Methyl Butyl Ketone | 591-78-6 | 100 | 1.25 | 5.11 | ND | ND | | 1 | WG1959910 |
| 2-Butanone (MEK) | 78-93-3 | 72.10 | 1.25 | 3.69 | ND | ND | | 1 | WG1959910 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 100.10 | 1.25 | 5.12 | ND | ND | | 1 | WG1959910 |
| Methyl methacrylate | 80-62-6 | 100.12 | 0.200 | 0.819 | ND | ND | | 1 | WG1959910 |
| MTBE | 1634-04-4 | 88.10 | 0.200 | 0.721 | ND | ND | | 1 | WG1959910 |
| Naphthalene | 91-20-3 | 128 | 0.630 | 3.30 | ND | ND | | 1 | WG1959910 |
| 2-Propanol | 67-63-0 | 60.10 | 1.25 | 3.07 | ND | ND | | 1 | WG1959910 |
| Propene | 115-07-1 | 42.10 | 1.25 | 2.15 | ND | ND | | 1 | WG1959910 |
| Styrene | 100-42-5 | 104 | 0.200 | 0.851 | ND | ND | | 1 | WG1959910 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 168 | 0.200 | 1.37 | ND | ND | | 1 | WG1959910 |
| Tetrachloroethylene | 127-18-4 | 166 | 0.200 | 1.36 | 0.869 | 5.90 | | 1 | WG1959910 |
| Tetrahydrofuran | 109-99-9 | 72.10 | 0.200 | 0.590 | ND | ND | | 1 | WG1959910 |
| Toluene | 108-88-3 | 92.10 | 0.500 | 1.88 | ND | ND | | 1 | WG1959910 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 181 | 0.630 | 4.66 | ND | ND | | 1 | WG1959910 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 71-55-6 | 133 | 0.200 | 1.09 | 0.269 | 1.46 | | 1 | WG1959910 |
| 1,1,2-Trichloroethane | 79-00-5 | 133 | 0.200 | 1.09 | ND | ND | | 1 | WG1959910 |
| Trichloroethylene | 79-01-6 | 131 | 0.200 | 1.07 | ND | ND | | 1 | WG1959910 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.200 | 0.982 | ND | ND | | 1 | WG1959910 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.200 | 0.982 | ND | ND | | 1 | WG1959910 |
| 2,2,4-Trimethylpentane | 540-84-1 | 114.22 | 0.200 | 0.934 | 22.3 | 104 | | 1 | WG1959910 |
| Vinyl chloride | 75-01-4 | 62.50 | 0.200 | 0.511 | 11.2 | 28.6 | | 1 | WG1959910 |
| Vinyl Bromide | 593-60-2 | 106.95 | 0.200 | 0.875 | ND | ND | | 1 | WG1959910 |
| Vinyl acetate | 108-05-4 | 86.10 | 0.200 | 0.704 | ND | ND | | 1 | WG1959910 |
| Xylenes, Total | 1330-20-7 | 106.16 | 0.600 | 2.61 | 0.604 | 2.62 | | 1 | WG1959910 |
| m&p-Xylene | 1330-20-7 | 106 | 0.400 | 1.73 | ND | ND | | 1 | WG1959910 |
| o-Xylene | 95-47-6 | 106 | 0.200 | 0.867 | 0.209 | 0.906 | | 1 | WG1959910 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | *60.0-140* | | *111* | | | | WG1959910 |

## Method Blank (MB)

(MB) R3861484-2 11/15/22 10:46

| Analyte | MB Result ppbv | MB Qualifier | MB MDL ppbv | MB RDL ppbv |
|---|---|---|---|---|
| Acetone | U | | 0.584 | 1.25 |
| Allyl Chloride | U | | 0.114 | 0.200 |
| Benzene | U | | 0.0715 | 0.200 |
| Benzyl Chloride | 0.0736 | J | 0.0598 | 0.200 |
| Bromodichloromethane | U | | 0.0702 | 0.200 |
| Bromoform | U | | 0.0732 | 0.600 |
| Bromomethane | U | | 0.0982 | 0.200 |
| 1,3-Butadiene | U | | 0.104 | 2.00 |
| Carbon disulfide | U | | 0.102 | 0.200 |
| Carbon tetrachloride | U | | 0.0732 | 0.200 |
| Chlorobenzene | U | | 0.0832 | 0.200 |
| Chloroethane | U | | 0.0996 | 0.200 |
| Chloroform | U | | 0.0717 | 0.200 |
| Chloromethane | U | | 0.103 | 0.200 |
| 2-Chlorotoluene | U | | 0.0828 | 0.200 |
| Cyclohexane | U | | 0.0753 | 0.200 |
| Dibromochloromethane | U | | 0.0727 | 0.200 |
| 1,2-Dibromoethane | U | | 0.0721 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.128 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.182 | 0.200 |
| 1,4-Dichlorobenzene | 0.0802 | J | 0.0557 | 0.200 |
| 1,2-Dichloroethane | U | | 0.0700 | 0.200 |
| 1,1-Dichloroethane | U | | 0.0723 | 0.200 |
| 1,1-Dichloroethene | U | | 0.0762 | 0.200 |
| cis-1,2-Dichloroethene | U | | 0.0784 | 0.200 |
| trans-1,2-Dichloroethene | U | | 0.0673 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0760 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0689 | 0.200 |
| trans-1,3-Dichloropropene | U | | 0.0728 | 0.200 |
| 1,4-Dioxane | U | | 0.0833 | 0.200 |
| Ethanol | U | | 0.265 | 1.25 |
| Ethylbenzene | U | | 0.0835 | 0.200 |
| 4-Ethyltoluene | U | | 0.0783 | 0.200 |
| Trichlorofluoromethane | U | | 0.0819 | 0.200 |
| Dichlorodifluoromethane | U | | 0.137 | 0.200 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0793 | 0.200 |
| 1,2-Dichlorotetrafluoroethane | U | | 0.0890 | 0.200 |
| Heptane | U | | 0.104 | 0.200 |
| Hexachloro-1,3-butadiene | U | | 0.105 | 0.630 |
| n-Hexane | U | | 0.206 | 0.630 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Method Blank (MB)

(MB) R3861484-2 11/15/22 10:46

| Analyte | MB Result ppbv | MB Qualifier | MB MDL ppbv | MB RDL ppbv |
|---|---|---|---|---|
| Isopropylbenzene | U | | 0.0777 | 0.200 |
| Methylene Chloride | U | | 0.0979 | 0.200 |
| Methyl Butyl Ketone | U | | 0.133 | 1.25 |
| 2-Butanone (MEK) | U | | 0.0814 | 1.25 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.0765 | 1.25 |
| Methyl Methacrylate | U | | 0.0876 | 0.200 |
| MTBE | U | | 0.0647 | 0.200 |
| Naphthalene | U | | 0.350 | 0.630 |
| 2-Propanol | U | | 0.264 | 1.25 |
| Propene | U | | 0.0932 | 1.25 |
| Styrene | U | | 0.0788 | 0.200 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0743 | 0.200 |
| Tetrachloroethylene | U | | 0.0814 | 0.200 |
| Tetrahydrofuran | U | | 0.0734 | 0.200 |
| Toluene | U | | 0.0870 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.148 | 0.630 |
| 1,1,1-Trichloroethane | U | | 0.0736 | 0.200 |
| 1,1,2-Trichloroethane | U | | 0.0775 | 0.200 |
| Trichloroethylene | U | | 0.0680 | 0.200 |
| 1,2,4-Trimethylbenzene | U | | 0.0764 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0779 | 0.200 |
| 2,2,4-Trimethylpentane | U | | 0.133 | 0.200 |
| Vinyl chloride | U | | 0.0949 | 0.200 |
| Vinyl Bromide | U | | 0.0852 | 0.200 |
| Vinyl acetate | U | | 0.116 | 0.200 |
| Xylenes, Total | U | | 0.135 | 0.600 |
| m&p-Xylene | U | | 0.135 | 0.400 |
| o-Xylene | U | | 0.0828 | 0.200 |
| *(S) 1,4-Bromofluorobenzene* | *95.3* | | | *60.0-140* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3861484-1 11/15/22 10:03 • (LCSD) R3861484-3 11/15/22 11:29

| Analyte | Spike Amount ppbv | LCS Result ppbv | LCSD Result ppbv | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 3.75 | 3.48 | 3.55 | 92.8 | 94.7 | 70.0-130 | | | 1.99 | 25 |
| Allyl Chloride | 3.75 | 3.66 | 3.80 | 97.6 | 101 | 70.0-130 | | | 3.75 | 25 |
| Benzene | 3.75 | 3.79 | 3.76 | 101 | 100 | 70.0-130 | | | 0.795 | 25 |
| Benzyl Chloride | 3.75 | 3.59 | 3.65 | 95.7 | 97.3 | 70.0-152 | | | 1.66 | 25 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3861484-1 11/15/22 10:03 • (LCSD) R3861484-3 11/15/22 11:29

| Analyte | Spike Amount ppbv | LCS Result ppbv | LCSD Result ppbv | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Bromodichloromethane | 3.75 | 3.79 | 3.90 | 101 | 104 | 70.0-130 | | | 2.86 | 25 |
| Bromoform | 3.75 | 3.77 | 3.77 | 101 | 101 | 70.0-130 | | | 0.000 | 25 |
| Bromomethane | 3.75 | 3.76 | 3.67 | 100 | 97.9 | 70.0-130 | | | 2.42 | 25 |
| 1,3-Butadiene | 3.75 | 3.56 | 3.49 | 94.9 | 93.1 | 70.0-130 | | | 1.99 | 25 |
| Carbon disulfide | 3.75 | 3.43 | 3.45 | 91.5 | 92.0 | 70.0-130 | | | 0.581 | 25 |
| Carbon tetrachloride | 3.75 | 3.83 | 3.90 | 102 | 104 | 70.0-130 | | | 1.81 | 25 |
| Chlorobenzene | 3.75 | 3.97 | 4.06 | 106 | 108 | 70.0-130 | | | 2.24 | 25 |
| Chloroethane | 3.75 | 4.00 | 3.74 | 107 | 99.7 | 70.0-130 | | | 6.72 | 25 |
| Chloroform | 3.75 | 3.74 | 3.85 | 99.7 | 103 | 70.0-130 | | | 2.90 | 25 |
| Chloromethane | 3.75 | 3.48 | 3.35 | 92.8 | 89.3 | 70.0-130 | | | 3.81 | 25 |
| 2-Chlorotoluene | 3.75 | 3.84 | 3.88 | 102 | 103 | 70.0-130 | | | 1.04 | 25 |
| Cyclohexane | 3.75 | 3.63 | 3.57 | 96.8 | 95.2 | 70.0-130 | | | 1.67 | 25 |
| Dibromochloromethane | 3.75 | 3.92 | 4.03 | 105 | 107 | 70.0-130 | | | 2.77 | 25 |
| 1,2-Dibromoethane | 3.75 | 3.85 | 3.83 | 103 | 102 | 70.0-130 | | | 0.521 | 25 |
| 1,2-Dichlorobenzene | 3.75 | 3.82 | 3.98 | 102 | 106 | 70.0-130 | | | 4.10 | 25 |
| 1,3-Dichlorobenzene | 3.75 | 3.88 | 3.94 | 103 | 105 | 70.0-130 | | | 1.53 | 25 |
| 1,4-Dichlorobenzene | 3.75 | 3.95 | 4.09 | 105 | 109 | 70.0-130 | | | 3.48 | 25 |
| 1,2-Dichloroethane | 3.75 | 4.04 | 4.05 | 108 | 108 | 70.0-130 | | | 0.247 | 25 |
| 1,1-Dichloroethane | 3.75 | 3.58 | 3.69 | 95.5 | 98.4 | 70.0-130 | | | 3.03 | 25 |
| 1,1-Dichloroethene | 3.75 | 3.57 | 3.65 | 95.2 | 97.3 | 70.0-130 | | | 2.22 | 25 |
| cis-1,2-Dichloroethene | 3.75 | 3.62 | 3.67 | 96.5 | 97.9 | 70.0-130 | | | 1.37 | 25 |
| trans-1,2-Dichloroethene | 3.75 | 3.55 | 3.69 | 94.7 | 98.4 | 70.0-130 | | | 3.87 | 25 |
| 1,2-Dichloropropane | 3.75 | 3.69 | 3.66 | 98.4 | 97.6 | 70.0-130 | | | 0.816 | 25 |
| cis-1,3-Dichloropropene | 3.75 | 3.59 | 3.62 | 95.7 | 96.5 | 70.0-130 | | | 0.832 | 25 |
| trans-1,3-Dichloropropene | 3.75 | 3.62 | 3.67 | 96.5 | 97.9 | 70.0-130 | | | 1.37 | 25 |
| 1,4-Dioxane | 3.75 | 3.63 | 3.54 | 96.8 | 94.4 | 70.0-140 | | | 2.51 | 25 |
| Ethanol | 3.75 | 3.23 | 3.12 | 86.1 | 83.2 | 55.0-148 | | | 3.46 | 25 |
| Ethylbenzene | 3.75 | 3.69 | 3.69 | 98.4 | 98.4 | 70.0-130 | | | 0.000 | 25 |
| 4-Ethyltoluene | 3.75 | 3.62 | 3.71 | 96.5 | 98.9 | 70.0-130 | | | 2.46 | 25 |
| Trichlorofluoromethane | 3.75 | 4.00 | 4.08 | 107 | 109 | 70.0-130 | | | 1.98 | 25 |
| Dichlorodifluoromethane | 3.75 | 3.77 | 3.84 | 101 | 102 | 64.0-139 | | | 1.84 | 25 |
| 1,1,2-Trichlorotrifluoroethane | 3.75 | 3.72 | 3.76 | 99.2 | 100 | 70.0-130 | | | 1.07 | 25 |
| 1,2-Dichlorotetrafluoroethane | 3.75 | 3.73 | 3.69 | 99.5 | 98.4 | 70.0-130 | | | 1.08 | 25 |
| Heptane | 3.75 | 3.71 | 3.58 | 98.9 | 95.5 | 70.0-130 | | | 3.57 | 25 |
| Hexachloro-1,3-butadiene | 3.75 | 4.01 | 4.06 | 107 | 108 | 70.0-151 | | | 1.24 | 25 |
| n-Hexane | 3.75 | 3.39 | 3.36 | 90.4 | 89.6 | 70.0-130 | | | 0.889 | 25 |
| Isopropylbenzene | 3.75 | 3.66 | 3.67 | 97.6 | 97.9 | 70.0-130 | | | 0.273 | 25 |
| Methylene Chloride | 3.75 | 3.42 | 3.49 | 91.2 | 93.1 | 70.0-130 | | | 2.03 | 25 |
| Methyl Butyl Ketone | 3.75 | 3.75 | 3.78 | 100 | 101 | 70.0-149 | | | 0.797 | 25 |
| Methyl Ethyl Ketone | 3.75 | 3.57 | 3.67 | 95.2 | 97.9 | 70.0-130 | | | 2.76 | 25 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3861484-1 11/15/22 10:03 • (LCSD) R3861484-3 11/15/22 11:29

| Analyte | Spike Amount ppbv | LCS Result ppbv | LCSD Result ppbv | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone (MIBK) | 3.75 | 3.52 | 3.39 | 93.9 | 90.4 | 70.0-139 | | | 3.76 | 25 |
| Methyl Methacrylate | 3.75 | 3.53 | 3.54 | 94.1 | 94.4 | 70.0-130 | | | 0.283 | 25 |
| MTBE | 3.75 | 3.62 | 3.59 | 96.5 | 95.7 | 70.0-130 | | | 0.832 | 25 |
| Naphthalene | 3.75 | 3.71 | 3.78 | 98.9 | 101 | 70.0-159 | | | 1.87 | 25 |
| 2-Propanol | 3.75 | 3.48 | 3.42 | 92.8 | 91.2 | 70.0-139 | | | 1.74 | 25 |
| Propene | 3.75 | 2.97 | 2.79 | 79.2 | 74.4 | 64.0-144 | | | 6.25 | 25 |
| Styrene | 3.75 | 3.68 | 3.69 | 98.1 | 98.4 | 70.0-130 | | | 0.271 | 25 |
| 1,1,2,2-Tetrachloroethane | 3.75 | 3.58 | 3.55 | 95.5 | 94.7 | 70.0-130 | | | 0.842 | 25 |
| Tetrachloroethylene | 3.75 | 4.04 | 4.11 | 108 | 110 | 70.0-130 | | | 1.72 | 25 |
| Tetrahydrofuran | 3.75 | 3.29 | 3.36 | 87.7 | 89.6 | 70.0-137 | | | 2.11 | 25 |
| Toluene | 3.75 | 3.64 | 3.70 | 97.1 | 98.7 | 70.0-130 | | | 1.63 | 25 |
| 1,2,4-Trichlorobenzene | 3.75 | 3.66 | 3.65 | 97.6 | 97.3 | 70.0-160 | | | 0.274 | 25 |
| 1,1,1-Trichloroethane | 3.75 | 3.76 | 3.77 | 100 | 101 | 70.0-130 | | | 0.266 | 25 |
| 1,1,2-Trichloroethane | 3.75 | 3.76 | 3.79 | 100 | 101 | 70.0-130 | | | 0.795 | 25 |
| Trichloroethylene | 3.75 | 3.76 | 3.80 | 100 | 101 | 70.0-130 | | | 1.06 | 25 |
| 1,2,4-Trimethylbenzene | 3.75 | 3.67 | 3.69 | 97.9 | 98.4 | 70.0-130 | | | 0.543 | 25 |
| 1,3,5-Trimethylbenzene | 3.75 | 3.88 | 3.87 | 103 | 103 | 70.0-130 | | | 0.258 | 25 |
| 2,2,4-Trimethylpentane | 3.75 | 3.48 | 3.46 | 92.8 | 92.3 | 70.0-130 | | | 0.576 | 25 |
| Vinyl chloride | 3.75 | 3.67 | 3.65 | 97.9 | 97.3 | 70.0-130 | | | 0.546 | 25 |
| Vinyl Bromide | 3.75 | 3.73 | 3.85 | 99.5 | 103 | 70.0-130 | | | 3.17 | 25 |
| Vinyl acetate | 3.75 | 3.25 | 3.26 | 86.7 | 86.9 | 70.0-130 | | | 0.307 | 25 |
| Xylenes, Total | 11.3 | 10.8 | 10.9 | 95.6 | 96.5 | 70.0-130 | | | 0.922 | 25 |
| m&p-Xylene | 7.50 | 7.28 | 7.35 | 97.1 | 98.0 | 70.0-130 | | | 0.957 | 25 |
| o-Xylene | 3.75 | 3.55 | 3.53 | 94.7 | 94.1 | 70.0-130 | | | 0.565 | 25 |
| *(S) 1,4-Bromofluorobenzene* | | | | *98.8* | *98.8* | *60.0-140* | | | | |

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| ND | Not detected at the Reporting Limit (or MDL where applicable). |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| J | The identification of the analyte is acceptable; the reported value is an estimate. |

# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LAO000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Billing Information:
Attn: Accounts Payable
2101 4th Avenue, Suite 1310
Seattle, WA 98121

Report To:
**Brian O'Neal/Bill Haldeman**

Email To:
Shannon.McKernan@nv5.com;brian.oneal@nv5.com;bill.haldeman@nv5.com;karsten.springstead@nv5.com

Project Description: **American Linen**

City/State Collected: SEATTLE, WA

Please Circle: PT MT CT ET

Phone: **206-529-3980**

Client Project # 443022-1413001-10-701-03

Lab Project # **PESENVSWA-ALP**

Collected by (print): SEM

Site/Facility ID #

P.O. # 443022-1413001-10-701-03
~~443018-1413001.05.601~~

Collected by (signature):

*Rush?* (Lab MUST Be Notified)
___ Same Day ___ Three Day
___ Next Day ___ Five Day
___ Two Day

Date Results Needed

| Sample ID | Can # | Flow Cont. # | Collection Date | Collection Time | Canister Pressure/Vacuum Initial | Canister Pressure/Vacuum Final |
|---|---|---|---|---|---|---|
| SV-18-110922 | 020615 | 20798 | 11/09/22 | 1409 | -28 | -2 |
| SV01-111022 | 020271 | 021804 | 11/10/22 | 1253 | -29 | -5 |

Analysis: TO-15 Summa

Remarks:

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE
MT JULIET, TN
12065 Lebanon Road Mt Juliet, TN 37122
Phone: 615-758-5858 Alt: 800-767-5859
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1556709

L-009

Acctnum: PESENVSWA
Template: T219216
Prelogin: P960997
PM: 546 - Jared Starkey
PB: DK 11/4/22

Shipped Via:

| Rem./Contaminant | Sample # (lab only) |
|---|---|
| | -01 |
| | -02 |

| Relinquished by: (Signature) | Date: | Time: |
|---|---|---|
| | 11/10/22 | 1450 |
| Relinquished by: (Signature) | | |
| Relinquished by: (Signature) | | |

Samples returned via: __ UPS __ FedEx __ Courier __ _____

Tracking #

Hold #

Received by: (Signature) — Date: Time:

Received by: (Signature) — Date: Time:

Received for lab by: (Signature) — Date: 11/11/22 Time: 0900

Condition: (lab use only)

COC Seal Intact: ___Y ___N ___NA

NCF:

# ANALYTICAL REPORT

March 03, 2023



## PES Environmental, Inc.- WA

| | |
|---|---|
| Sample Delivery Group: | L1589016 |
| Samples Received: | 02/24/2023 |
| Project Number: | 1413.001.10.603.04 |
| Description: | American Linen |

Report To: Brian O'Neal/Bill Haldeman
2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Entire Report Reviewed By:

Kelly Mercer
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## HMW-9IB-022323 L1589016-01 GW

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| NW / OM | 02/23/23 14:14 | 02/24/23 08:45 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 9056A | WG2012507 | 1 | 02/24/23 19:54 | 02/24/23 19:54 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG2012977 | 5 | 02/26/23 07:25 | 02/26/23 07:25 | LOH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG2012497 | 1 | 02/24/23 16:04 | 02/24/23 16:04 | BAW | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG2012957 | 10 | 02/25/23 14:26 | 02/25/23 14:26 | BAW | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2016402 | 5 | 03/03/23 14:33 | 03/03/23 14:33 | ACG | Mt. Juliet, TN |

## MW107-022323 L1589016-02 GW

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| NW / OM | 02/23/23 15:51 | 02/24/23 08:45 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2015641 | 1 | 03/02/23 11:03 | 03/02/23 11:03 | DWR | Mt. Juliet, TN |

## MW-349-022323 L1589016-03 GW

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| NW / OM | 02/23/23 11:58 | 02/24/23 08:45 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 9056A | WG2012507 | 1 | 02/24/23 20:06 | 02/24/23 20:06 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG2012501 | 1 | 02/25/23 06:24 | 02/25/23 06:24 | SJF | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG2012497 | 1 | 02/24/23 16:11 | 02/24/23 16:11 | BAW | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG2012957 | 10 | 02/25/23 14:56 | 02/25/23 14:56 | BAW | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2015641 | 1 | 03/02/23 11:22 | 03/02/23 11:22 | DWR | Mt. Juliet, TN |

## MW-347-022323 L1589016-04 GW

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| NW / OM | 02/23/23 14:01 | 02/24/23 08:45 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 9056A | WG2012507 | 1 | 02/24/23 20:19 | 02/24/23 20:19 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG2012501 | 1 | 02/25/23 06:43 | 02/25/23 06:43 | SJF | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG2012497 | 1 | 02/24/23 16:17 | 02/24/23 16:17 | BAW | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2015641 | 1 | 03/02/23 11:41 | 03/02/23 11:41 | DWR | Mt. Juliet, TN |

## MW-346-022323 L1589016-05 GW

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| NW / OM | 02/23/23 15:33 | 02/24/23 08:45 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 9056A | WG2012507 | 1 | 02/24/23 20:31 | 02/24/23 20:31 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG2012501 | 1 | 02/25/23 07:04 | 02/25/23 07:04 | SJF | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG2012497 | 1 | 02/24/23 16:21 | 02/24/23 16:21 | BAW | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2015641 | 1 | 03/02/23 12:00 | 03/02/23 12:00 | DWR | Mt. Juliet, TN |

## MW-985-022323 L1589016-06 GW

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| NW / OM | 02/23/23 15:52 | 02/24/23 08:45 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 9056A | WG2012507 | 1 | 02/24/23 20:44 | 02/24/23 20:44 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG2012501 | 1 | 02/25/23 07:17 | 02/25/23 07:17 | SJF | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG2012497 | 1 | 02/24/23 16:24 | 02/24/23 16:24 | BAW | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2015641 | 1 | 03/02/23 12:18 | 03/02/23 12:18 | DWR | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Kelly Mercer
Project Manager

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 37800 | | 379 | 1000 | 1 | 02/24/2023 19:54 | WG2012507 |
| Nitrate | 54.3 | J | 48.0 | 100 | 1 | 02/24/2023 19:54 | WG2012507 |
| Sulfate | 698 | J | 594 | 5000 | 1 | 02/24/2023 19:54 | WG2012507 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 247000 | | 510 | 5000 | 5 | 02/26/2023 07:25 | WG2012977 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 32500 | | 2.87 | 6.78 | 10 | 02/25/2023 14:26 | WG2012957 |
| Ethane | 1.85 | | 0.296 | 1.29 | 1 | 02/24/2023 16:04 | WG2012497 |
| Ethene | 471 | | 0.422 | 1.27 | 1 | 02/24/2023 16:04 | WG2012497 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 21.8 | | 2.74 | 5.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Acrylonitrile | U | | 0.380 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| Benzene | 0.105 | J | 0.0800 | 0.200 | 5 | 03/03/2023 14:33 | WG2016402 |
| Bromobenzene | U | | 0.210 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| Bromodichloromethane | U | | 0.158 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Bromoform | U | | 1.20 | 5.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Bromomethane | U | | 0.740 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| n-Butylbenzene | U | | 0.765 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| sec-Butylbenzene | U | | 0.505 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| tert-Butylbenzene | U | | 0.310 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Carbon tetrachloride | U | | 0.216 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Chlorobenzene | U | | 0.115 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Chlorodibromomethane | U | | 0.0900 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Chloroethane | U | | 0.216 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Chloroform | U | | 0.0830 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Chloromethane | U | | 0.278 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| 2-Chlorotoluene | U | | 0.184 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| 4-Chlorotoluene | U | | 0.226 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,2-Dibromo-3-Chloropropane | U | | 1.02 | 5.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,2-Dibromoethane | U | | 0.105 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Dibromomethane | U | | 0.200 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,2-Dichlorobenzene | U | | 0.290 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,3-Dichlorobenzene | U | | 0.340 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,4-Dichlorobenzene | U | | 0.394 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Dichlorodifluoromethane | U | | 0.164 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,1-Dichloroethane | U | | 0.115 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,2-Dichloroethane | U | | 0.0950 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,1-Dichloroethene | U | | 0.100 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| cis-1,2-Dichloroethene | 36.7 | | 0.138 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| trans-1,2-Dichloroethene | 3.49 | | 0.286 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,2-Dichloropropane | U | | 0.254 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,1-Dichloropropene | U | | 0.140 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,3-Dichloropropane | U | | 0.350 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| cis-1,3-Dichloropropene | U | | 0.136 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| trans-1,3-Dichloropropene | U | | 0.306 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| 2,2-Dichloropropane | U | | 0.159 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Di-isopropyl ether | U | | 0.0700 | 0.200 | 5 | 03/03/2023 14:33 | WG2016402 |
| Ethylbenzene | 0.665 | | 0.106 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Hexachloro-1,3-butadiene | U | | 2.54 | 5.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Isopropylbenzene | U | | 0.173 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| p-Isopropyltoluene | U | | 0.466 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 2-Butanone (MEK) | 53.0 | | 2.50 | 5.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Methylene Chloride | U | | 1.33 | 5.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 4-Methyl-2-pentanone (MIBK) | U | | 2.00 | 5.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Methyl tert-butyl ether | U | | 0.0590 | 0.200 | 5 | 03/03/2023 14:33 | WG2016402 |
| Naphthalene | U | | 0.620 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| n-Propylbenzene | 0.250 | J | 0.236 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Styrene | U | | 0.545 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,1,1,2-Tetrachloroethane | U | | 0.100 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0780 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.135 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Tetrachloroethene | U | | 0.140 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Toluene | 0.735 | J | 0.250 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,2,3-Trichlorobenzene | U | | 0.125 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,2,4-Trichlorobenzene | U | | 0.965 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,1,1-Trichloroethane | U | | 0.0550 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,1,2-Trichloroethane | U | | 0.177 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Trichloroethene | U | | 0.0800 | 0.200 | 5 | 03/03/2023 14:33 | WG2016402 |
| Trichlorofluoromethane | U | | 0.100 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,2,3-Trichloropropane | U | | 1.02 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,2,4-Trimethylbenzene | 0.365 | J | 0.232 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,2,3-Trimethylbenzene | U | | 0.230 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,3,5-Trimethylbenzene | U | | 0.216 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Vinyl chloride | 116 | | 0.137 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Xylenes, Total | 2.51 | | 0.955 | 1.30 | 5 | 03/03/2023 14:33 | WG2016402 |
| Ethyl Ether | U | | 0.0850 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Tetrahydrofuran | 29.8 | | 0.450 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| Iodomethane | U | | 1.21 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| Allyl chloride | U | | 2.90 | 5.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Trans-1,4-Dichloro-2-butene | U | | 0.280 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| *(S) Toluene-d8* | *103* | | | *75.0-131* | | *03/03/2023 14:33* | WG2016402 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *03/03/2023 14:33* | WG2016402 |
| *(S) 1,2-Dichloroethane-d4* | *93.5* | | | *70.0-130* | | *03/03/2023 14:33* | WG2016402 |

**Sample Narrative:**

L1589016-01 WG2016402: Lowest possible dilution due to sample foaming.

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 2.24 | C3 | 0.548 | 1.00 | 1 | 03/02/2023 11:03 | WG2015641 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| Benzene | 0.0820 | | 0.0160 | 0.0400 | 1 | 03/02/2023 11:03 | WG2015641 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 03/02/2023 11:03 | WG2015641 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| cis-1,2-Dichloroethene | 4.84 | | 0.0276 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| trans-1,2-Dichloroethene | 2.70 | | 0.0572 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 03/02/2023 11:03 | WG2015641 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 03/02/2023 11:03 | WG2015641 |
| Isopropylbenzene | 0.118 | | 0.0345 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| 2-Butanone (MEK) | 0.934 | J J3 | 0.500 | 1.00 | 1 | 03/02/2023 11:03 | WG2015641 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 03/02/2023 11:03 | WG2015641 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 03/02/2023 11:03 | WG2015641 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 03/02/2023 11:03 | WG2015641 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| Styrene | U | | 0.109 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Toluene | 0.549 | | 0.0500 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 11:03 | WG2015641 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,2,4-Trimethylbenzene | 0.156 | J | 0.0464 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| Vinyl chloride | 2.13 | | 0.0273 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Xylenes, Total | 1.13 | | 0.191 | 0.260 | 1 | 03/02/2023 11:03 | WG2015641 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Tetrahydrofuran | 7.68 | | 0.0900 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 03/02/2023 11:03 | WG2015641 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *03/02/2023 11:03* | WG2015641 |
| *(S) 4-Bromofluorobenzene* | *104* | | | *67.0-138* | | *03/02/2023 11:03* | WG2015641 |
| *(S) 1,2-Dichloroethane-d4* | *99.6* | | | *70.0-130* | | *03/02/2023 11:03* | WG2015641 |

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 42500 | | 379 | 1000 | 1 | 02/24/2023 20:06 | WG2012507 |
| Nitrate | U | | 48.0 | 100 | 1 | 02/24/2023 20:06 | WG2012507 |
| Sulfate | 2270 | J | 594 | 5000 | 1 | 02/24/2023 20:06 | WG2012507 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 9580 | | 102 | 1000 | 1 | 02/25/2023 06:24 | WG2012501 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 33700 | | 2.87 | 6.78 | 10 | 02/25/2023 14:56 | WG2012957 |
| Ethane | U | | 0.296 | 1.29 | 1 | 02/24/2023 16:11 | WG2012497 |
| Ethene | 5.85 | | 0.422 | 1.27 | 1 | 02/24/2023 16:11 | WG2012497 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 4.75 | C3 | 0.548 | 1.00 | 1 | 03/02/2023 11:22 | WG2015641 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 11:22 | WG2015641 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 03/02/2023 11:22 | WG2015641 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| cis-1,2-Dichloroethene | 2.57 | | 0.0276 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 03/02/2023 11:22 | WG2015641 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 03/02/2023 11:22 | WG2015641 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| 2-Butanone (MEK) | 7.81 | J3 | 0.500 | 1.00 | 1 | 03/02/2023 11:22 | WG2015641 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 03/02/2023 11:22 | WG2015641 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 03/02/2023 11:22 | WG2015641 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 03/02/2023 11:22 | WG2015641 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| Styrene | U | | 0.109 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Toluene | 0.623 | | 0.0500 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 11:22 | WG2015641 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| Vinyl chloride | 8.66 | | 0.0273 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 03/02/2023 11:22 | WG2015641 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Tetrahydrofuran | 3.68 | | 0.0900 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 03/02/2023 11:22 | WG2015641 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| *(S) Toluene-d8* | *102* | | | *75.0-131* | | *03/02/2023 11:22* | WG2015641 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *03/02/2023 11:22* | WG2015641 |
| *(S) 1,2-Dichloroethane-d4* | *100* | | | *70.0-130* | | *03/02/2023 11:22* | WG2015641 |

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 32100 | | 379 | 1000 | 1 | 02/24/2023 20:19 | WG2012507 |
| Nitrate | 114 | | 48.0 | 100 | 1 | 02/24/2023 20:19 | WG2012507 |
| Sulfate | 13900 | | 594 | 5000 | 1 | 02/24/2023 20:19 | WG2012507 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 2250 | B | 102 | 1000 | 1 | 02/25/2023 06:43 | WG2012501 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 4590 | | 0.287 | 0.678 | 1 | 02/24/2023 16:17 | WG2012497 |
| Ethane | 1.64 | | 0.296 | 1.29 | 1 | 02/24/2023 16:17 | WG2012497 |
| Ethene | 7.09 | | 0.422 | 1.27 | 1 | 02/24/2023 16:17 | WG2012497 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 2.19 | C3 | 0.548 | 1.00 | 1 | 03/02/2023 11:41 | WG2015641 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 11:41 | WG2015641 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 03/02/2023 11:41 | WG2015641 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| cis-1,2-Dichloroethene | 3.78 | | 0.0276 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 03/02/2023 11:41 | WG2015641 |
| Ethylbenzene | 0.183 | | 0.0212 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 03/02/2023 11:41 | WG2015641 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| 2-Butanone (MEK) | 1.03 | J3 | 0.500 | 1.00 | 1 | 03/02/2023 11:41 | WG2015641 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 03/02/2023 11:41 | WG2015641 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 03/02/2023 11:41 | WG2015641 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 03/02/2023 11:41 | WG2015641 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| Styrene | U | | 0.109 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Toluene | 0.327 | | 0.0500 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 11:41 | WG2015641 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,2,4-Trimethylbenzene | 0.111 | J | 0.0464 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| Vinyl chloride | 9.64 | | 0.0273 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Xylenes, Total | 1.05 | | 0.191 | 0.260 | 1 | 03/02/2023 11:41 | WG2015641 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Tetrahydrofuran | 25.2 | | 0.0900 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 03/02/2023 11:41 | WG2015641 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *03/02/2023 11:41* | WG2015641 |
| *(S) 4-Bromofluorobenzene* | *104* | | | *67.0-138* | | *03/02/2023 11:41* | WG2015641 |
| *(S) 1,2-Dichloroethane-d4* | *98.4* | | | *70.0-130* | | *03/02/2023 11:41* | WG2015641 |

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 35100 | | 379 | 1000 | 1 | 02/24/2023 20:31 | WG2012507 |
| Nitrate | 133 | | 48.0 | 100 | 1 | 02/24/2023 20:31 | WG2012507 |
| Sulfate | 73300 | | 594 | 5000 | 1 | 02/24/2023 20:31 | WG2012507 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 1760 | B | 102 | 1000 | 1 | 02/25/2023 07:04 | WG2012501 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 86.3 | | 0.287 | 0.678 | 1 | 02/24/2023 16:21 | WG2012497 |
| Ethane | U | | 0.296 | 1.29 | 1 | 02/24/2023 16:21 | WG2012497 |
| Ethene | 3.83 | | 0.422 | 1.27 | 1 | 02/24/2023 16:21 | WG2012497 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 1.19 | C3 | 0.548 | 1.00 | 1 | 03/02/2023 12:00 | WG2015641 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 12:00 | WG2015641 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 03/02/2023 12:00 | WG2015641 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| cis-1,2-Dichloroethene | 3.10 | | 0.0276 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 03/02/2023 12:00 | WG2015641 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 03/02/2023 12:00 | WG2015641 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| 2-Butanone (MEK) | U | J3 | 0.500 | 1.00 | 1 | 03/02/2023 12:00 | WG2015641 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 03/02/2023 12:00 | WG2015641 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 03/02/2023 12:00 | WG2015641 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 03/02/2023 12:00 | WG2015641 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| Styrene | U | | 0.109 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Toluene | 0.0820 | J | 0.0500 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Trichloroethene | 0.624 | | 0.0160 | 0.0400 | 1 | 03/02/2023 12:00 | WG2015641 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,2,4-Trimethylbenzene | 0.0850 | J | 0.0464 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| Vinyl chloride | 2.04 | | 0.0273 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 03/02/2023 12:00 | WG2015641 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Tetrahydrofuran | 1.01 | | 0.0900 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 03/02/2023 12:00 | WG2015641 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *03/02/2023 12:00* | WG2015641 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *03/02/2023 12:00* | WG2015641 |
| *(S) 1,2-Dichloroethane-d4* | *96.9* | | | *70.0-130* | | *03/02/2023 12:00* | WG2015641 |

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 35300 | | 379 | 1000 | 1 | 02/24/2023 20:44 | WG2012507 |
| Nitrate | 138 | | 48.0 | 100 | 1 | 02/24/2023 20:44 | WG2012507 |
| Sulfate | 73900 | | 594 | 5000 | 1 | 02/24/2023 20:44 | WG2012507 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 1600 | B | 102 | 1000 | 1 | 02/25/2023 07:17 | WG2012501 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 88.8 | | 0.287 | 0.678 | 1 | 02/24/2023 16:24 | WG2012497 |
| Ethane | U | | 0.296 | 1.29 | 1 | 02/24/2023 16:24 | WG2012497 |
| Ethene | 4.24 | | 0.422 | 1.27 | 1 | 02/24/2023 16:24 | WG2012497 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | C3 | 0.548 | 1.00 | 1 | 03/02/2023 12:18 | WG2015641 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 12:18 | WG2015641 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 03/02/2023 12:18 | WG2015641 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| cis-1,2-Dichloroethene | 3.25 | | 0.0276 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 03/02/2023 12:18 | WG2015641 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 03/02/2023 12:18 | WG2015641 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| 2-Butanone (MEK) | U | J3 | 0.500 | 1.00 | 1 | 03/02/2023 12:18 | WG2015641 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 03/02/2023 12:18 | WG2015641 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 03/02/2023 12:18 | WG2015641 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 03/02/2023 12:18 | WG2015641 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| Styrene | U | | 0.109 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Trichloroethene | 0.794 | | 0.0160 | 0.0400 | 1 | 03/02/2023 12:18 | WG2015641 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| Vinyl chloride | 2.12 | | 0.0273 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 03/02/2023 12:18 | WG2015641 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 03/02/2023 12:18 | WG2015641 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| *(S) Toluene-d8* | *102* | | | *75.0-131* | | *03/02/2023 12:18* | WG2015641 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *03/02/2023 12:18* | WG2015641 |
| *(S) 1,2-Dichloroethane-d4* | *101* | | | *70.0-130* | | *03/02/2023 12:18* | WG2015641 |

## Method Blank (MB)

(MB) R3894951-2 02/24/23 11:00

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1588958-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1588958-03 02/24/23 17:24 • (DUP) R3894951-3 02/24/23 17:37

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 43200 | 43000 | 1 | 0.461 | | 15 |
| Nitrate | 14800 | 14700 | 1 | 0.405 | | 15 |
| Sulfate | 75700 | 75700 | 1 | 0.0496 | | 15 |

## L1589098-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1589098-02 02/24/23 22:23 • (DUP) R3894951-6 02/24/23 22:36

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 46100 | 45800 | 1 | 0.788 | | 15 |
| Nitrate | 1390 | 1380 | 1 | 0.896 | | 15 |
| Sulfate | 27700 | 27500 | 1 | 0.731 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3894951-1 02/24/23 09:57

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 40100 | 100 | 80.0-120 | |
| Nitrate | 8000 | 7670 | 95.8 | 80.0-120 | |
| Sulfate | 40000 | 40200 | 101 | 80.0-120 | |

## L1588958-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1588958-03 02/24/23 17:24 • (MS) R3894951-4 02/24/23 17:49 • (MSD) R3894951-5 02/24/23 18:02

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 43200 | 90800 | 90500 | 95.1 | 94.4 | 1 | 80.0-120 | | | 0.366 | 15 |
| Nitrate | 5000 | 14800 | 19000 | 18900 | 85.6 | 83.8 | 1 | 80.0-120 | | | 0.466 | 15 |
| Sulfate | 50000 | 75700 | 121000 | 121000 | 91.6 | 90.1 | 1 | 80.0-120 | | | 0.615 | 15 |

## L1589098-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1589098-02 02/24/23 22:23 • (MS) R3894951-7 02/24/23 22:48

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 46100 | 93200 | 94.2 | 1 | 80.0-120 | |
| Nitrate | 5000 | 1390 | 6270 | 97.6 | 1 | 80.0-120 | |
| Sulfate | 50000 | 27700 | 75500 | 95.6 | 1 | 80.0-120 | |

## Method Blank (MB)

(MB) R3894866-2 02/24/23 10:38

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 339 | J | 102 | 1000 |

## L1588915-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1588915-05 02/25/23 03:35 • (DUP) R3894866-5 02/25/23 03:59

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC | 38200 | 37600 | 1 | 1.58 | | 20 |

## L1589016-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1589016-06 02/25/23 07:17 • (DUP) R3894866-6 02/25/23 07:36

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC | 1600 | 1680 | 1 | 4.95 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3894866-1 02/24/23 10:19

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC | 75000 | 76800 | 102 | 85.0-115 | |

## L1588433-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1588433-01 02/25/23 01:07 • (MS) R3894866-3 02/25/23 01:30 • (MSD) R3894866-4 02/25/23 01:49

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC | 50000 | 1170 | 52200 | 50300 | 102 | 98.3 | 1 | 80.0-120 | | | 3.61 | 20 |

## L1589100-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1589100-02 02/25/23 10:25 • (MS) R3894866-7 02/25/23 10:50 • (MSD) R3894866-8 02/25/23 11:09

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC | 50000 | 3620 | 55000 | 55000 | 103 | 103 | 1 | 80.0-120 | | | 0.109 | 20 |

## Method Blank (MB)

(MB) R3894938-2 02/26/23 06:51

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 503 | J | 102 | 1000 |

## L1589370-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1589370-03 02/26/23 09:20 • (DUP) R3894938-5 02/26/23 09:39

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 450 | 431 | 1 | 4.33 | J | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3894938-1 02/26/23 06:33

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 75900 | 101 | 85.0-115 | |

## L1589370-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1589370-01 02/26/23 08:18 • (MS) R3894938-3 02/26/23 08:41 • (MSD) R3894938-4 02/26/23 09:02

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 1950 | 52700 | 52900 | 101 | 102 | 1 | 80.0-120 | | | 0.398 | 20 |

## Method Blank (MB)

(MB) R3894734-2 02/24/23 15:04

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1588908-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1588908-02 02/24/23 15:50 • (DUP) R3894734-3 02/24/23 15:58

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 428 | 423 | 1 | 1.18 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## L1589016-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1589016-05 02/24/23 16:21 • (DUP) R3894734-4 02/24/23 16:28

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | 86.3 | 88.0 | 1 | 1.95 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | 3.83 | 3.68 | 1 | 3.99 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3894734-1 02/24/23 15:01 • (LCSD) R3894734-5 02/24/23 16:30

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 68.4 | 66.7 | 101 | 98.4 | 85.0-115 | | | 2.52 | 20 |
| Ethane | 129 | 116 | 115 | 89.9 | 89.1 | 85.0-115 | | | 0.866 | 20 |
| Ethene | 127 | 116 | 115 | 91.3 | 90.6 | 85.0-115 | | | 0.866 | 20 |

## Method Blank (MB)

(MB) R3894882-2 02/25/23 14:13

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | ug/l | | ug/l | ug/l |
| Methane | U | | 0.287 | 0.678 |

## L1589080-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1589080-01 02/25/23 14:59 • (DUP) R3894882-3 02/25/23 15:01

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | ug/l | ug/l | | % | | % |
| Methane | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3894882-1 02/25/23 14:10 • (LCSD) R3894882-8 02/25/23 15:52

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | % | % | % | | | % | % |
| Methane | 67.8 | 67.0 | 66.4 | 98.8 | 97.9 | 85.0-115 | | | 0.900 | 20 |

## L1588816-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1588816-04 02/25/23 14:15 • (MS) R3894882-4 02/25/23 15:04 • (MSD) R3894882-5 02/25/23 15:09

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Methane | 1360 | 66400 | 85200 | 94800 | 1380 | 2090 | 20 | 85.0-115 | V | V | 10.7 | 20 |

## L1588908-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1588908-01 02/25/23 14:20 • (MS) R3894882-6 02/25/23 15:16 • (MSD) R3894882-7 02/25/23 15:42

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ug/l | ug/l | ug/l | ug/l | % | % | | % | | | % | % |
| Methane | 678 | 17600 | 16600 | 15000 | 0.000 | 0.000 | 10 | 85.0-115 | V | V | 10.1 | 20 |

## Method Blank (MB)

(MB) R3896887-3 03/02/23 09:31

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3896887-3 03/02/23 09:31

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | 0.182 | J | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *103* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *104* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *101* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3896887-1 03/02/23 08:14 • (LCSD) R3896887-2 03/02/23 08:33

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 16.5 | 17.9 | 66.0 | 71.6 | 10.0-160 | | | 8.14 | 31 |
| Acrylonitrile | 25.0 | 22.2 | 21.8 | 88.8 | 87.2 | 45.0-153 | | | 1.82 | 22 |
| Benzene | 5.00 | 4.72 | 4.68 | 94.4 | 93.6 | 70.0-123 | | | 0.851 | 20 |
| Bromobenzene | 5.00 | 5.15 | 4.92 | 103 | 98.4 | 73.0-121 | | | 4.57 | 20 |
| Bromodichloromethane | 5.00 | 5.04 | 5.00 | 101 | 100 | 73.0-121 | | | 0.797 | 20 |
| Bromoform | 5.00 | 5.15 | 5.02 | 103 | 100 | 64.0-132 | | | 2.56 | 20 |
| Bromomethane | 5.00 | 5.17 | 4.24 | 103 | 84.8 | 56.0-147 | | | 19.8 | 20 |
| n-Butylbenzene | 5.00 | 5.04 | 4.74 | 101 | 94.8 | 68.0-135 | | | 6.13 | 20 |
| sec-Butylbenzene | 5.00 | 5.10 | 5.08 | 102 | 102 | 74.0-130 | | | 0.393 | 20 |
| tert-Butylbenzene | 5.00 | 5.20 | 5.13 | 104 | 103 | 75.0-127 | | | 1.36 | 20 |
| Carbon tetrachloride | 5.00 | 4.93 | 5.09 | 98.6 | 102 | 66.0-128 | | | 3.19 | 20 |
| Chlorobenzene | 5.00 | 4.83 | 4.68 | 96.6 | 93.6 | 76.0-128 | | | 3.15 | 20 |
| Chlorodibromomethane | 5.00 | 4.91 | 4.51 | 98.2 | 90.2 | 74.0-127 | | | 8.49 | 20 |
| Chloroethane | 5.00 | 5.85 | 4.81 | 117 | 96.2 | 61.0-134 | | | 19.5 | 20 |
| Chloroform | 5.00 | 5.02 | 4.90 | 100 | 98.0 | 72.0-123 | | | 2.42 | 20 |
| Chloromethane | 5.00 | 4.32 | 4.10 | 86.4 | 82.0 | 51.0-138 | | | 5.23 | 20 |
| 2-Chlorotoluene | 5.00 | 5.17 | 4.96 | 103 | 99.2 | 75.0-124 | | | 4.15 | 20 |
| 4-Chlorotoluene | 5.00 | 4.88 | 4.82 | 97.6 | 96.4 | 75.0-124 | | | 1.24 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.44 | 4.35 | 88.8 | 87.0 | 59.0-130 | | | 2.05 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.08 | 4.99 | 102 | 99.8 | 74.0-128 | | | 1.79 | 20 |
| Dibromomethane | 5.00 | 4.94 | 4.85 | 98.8 | 97.0 | 75.0-122 | | | 1.84 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 4.66 | 4.66 | 93.2 | 93.2 | 76.0-124 | | | 0.000 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 4.83 | 4.73 | 96.6 | 94.6 | 76.0-125 | | | 2.09 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 4.91 | 4.85 | 98.2 | 97.0 | 77.0-121 | | | 1.23 | 20 |
| Dichlorodifluoromethane | 5.00 | 4.53 | 4.27 | 90.6 | 85.4 | 43.0-156 | | | 5.91 | 20 |
| 1,1-Dichloroethane | 5.00 | 4.72 | 4.63 | 94.4 | 92.6 | 70.0-127 | | | 1.93 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.72 | 4.55 | 94.4 | 91.0 | 65.0-131 | | | 3.67 | 20 |
| 1,1-Dichloroethene | 5.00 | 4.54 | 4.49 | 90.8 | 89.8 | 65.0-131 | | | 1.11 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.03 | 5.04 | 101 | 101 | 73.0-125 | | | 0.199 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.09 | 4.95 | 102 | 99.0 | 71.0-125 | | | 2.79 | 20 |
| 1,2-Dichloropropane | 5.00 | 4.98 | 4.85 | 99.6 | 97.0 | 74.0-125 | | | 2.64 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.07 | 4.89 | 101 | 97.8 | 73.0-125 | | | 3.61 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.16 | 4.94 | 103 | 98.8 | 80.0-125 | | | 4.36 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 5.18 | 5.03 | 104 | 101 | 76.0-127 | | | 2.94 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 5.15 | 4.78 | 103 | 95.6 | 73.0-127 | | | 7.45 | 20 |
| 2,2-Dichloropropane | 5.00 | 5.38 | 5.13 | 108 | 103 | 59.0-135 | | | 4.76 | 20 |
| Di-isopropyl ether | 5.00 | 5.08 | 4.86 | 102 | 97.2 | 60.0-136 | | | 4.43 | 20 |
| Ethylbenzene | 5.00 | 5.12 | 4.83 | 102 | 96.6 | 74.0-126 | | | 5.83 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 4.97 | 4.60 | 99.4 | 92.0 | 57.0-150 | | | 7.73 | 20 |
| Isopropylbenzene | 5.00 | 4.98 | 4.88 | 99.6 | 97.6 | 72.0-127 | | | 2.03 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3896887-1 03/02/23 08:14 • (LCSD) R3896887-2 03/02/23 08:33

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.16 | 5.03 | 103 | 101 | 72.0-133 | | | 2.55 | 20 |
| 2-Butanone (MEK) | 25.0 | 28.3 | 21.6 | 113 | 86.4 | 30.0-160 | | J3 | 26.9 | 24 |
| Methylene Chloride | 5.00 | 5.06 | 4.81 | 101 | 96.2 | 68.0-123 | | | 5.07 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 23.6 | 22.6 | 94.4 | 90.4 | 56.0-143 | | | 4.33 | 20 |
| Methyl tert-butyl ether | 5.00 | 4.61 | 4.59 | 92.2 | 91.8 | 66.0-132 | | | 0.435 | 20 |
| Naphthalene | 5.00 | 4.24 | 4.25 | 84.8 | 85.0 | 59.0-130 | | | 0.236 | 20 |
| n-Propylbenzene | 5.00 | 4.92 | 4.87 | 98.4 | 97.4 | 74.0-126 | | | 1.02 | 20 |
| Styrene | 5.00 | 4.84 | 4.78 | 96.8 | 95.6 | 72.0-127 | | | 1.25 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.43 | 5.32 | 109 | 106 | 74.0-129 | | | 2.05 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.99 | 4.87 | 99.8 | 97.4 | 68.0-128 | | | 2.43 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 4.24 | 4.65 | 84.8 | 93.0 | 61.0-139 | | | 9.22 | 20 |
| Tetrachloroethene | 5.00 | 5.37 | 5.06 | 107 | 101 | 70.0-136 | | | 5.94 | 20 |
| Toluene | 5.00 | 4.82 | 4.75 | 96.4 | 95.0 | 75.0-121 | | | 1.46 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.22 | 4.04 | 84.4 | 80.8 | 59.0-139 | | | 4.36 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.61 | 4.66 | 92.2 | 93.2 | 62.0-137 | | | 1.08 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 4.73 | 4.96 | 94.6 | 99.2 | 69.0-126 | | | 4.75 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.26 | 4.93 | 105 | 98.6 | 78.0-123 | | | 6.48 | 20 |
| Trichloroethene | 5.00 | 4.81 | 4.81 | 96.2 | 96.2 | 76.0-126 | | | 0.000 | 20 |
| Trichlorofluoromethane | 5.00 | 5.18 | 4.55 | 104 | 91.0 | 61.0-142 | | | 12.9 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 4.93 | 4.80 | 98.6 | 96.0 | 67.0-129 | | | 2.67 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 4.82 | 4.73 | 96.4 | 94.6 | 70.0-126 | | | 1.88 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 4.75 | 4.69 | 95.0 | 93.8 | 74.0-124 | | | 1.27 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 4.92 | 4.83 | 98.4 | 96.6 | 73.0-127 | | | 1.85 | 20 |
| Vinyl chloride | 5.00 | 4.51 | 4.44 | 90.2 | 88.8 | 63.0-134 | | | 1.56 | 20 |
| Xylenes, Total | 15.0 | 14.9 | 14.4 | 99.3 | 96.0 | 72.0-127 | | | 3.41 | 20 |
| Ethyl ether | 5.00 | 5.16 | 4.87 | 103 | 97.4 | 64.0-137 | | | 5.78 | 20 |
| Tetrahydrofuran | 5.00 | 4.23 | 4.03 | 84.6 | 80.6 | 37.0-146 | | | 4.84 | 24 |
| Iodomethane | 25.0 | 24.9 | 24.0 | 99.6 | 96.0 | 74.0-134 | | | 3.68 | 20 |
| Allyl chloride | 25.0 | 27.1 | 26.2 | 108 | 105 | 70.0-131 | | | 3.38 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 5.19 | 4.94 | 104 | 98.8 | 45.0-143 | | | 4.94 | 20 |
| *(S) Toluene-d8* | | | | *105* | *102* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *104* | *101* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *98.7* | *100* | *70.0-130* | | | | |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Method Blank (MB)

(MB) R3897091-3 03/03/23 13:49

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3897091-3 03/03/23 13:49

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *91.1* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3897091-1 03/03/23 12:10 • (LCSD) R3897091-2 03/03/23 12:30

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 21.9 | 21.8 | 87.6 | 87.2 | 10.0-160 | | | 0.458 | 31 |
| Acrylonitrile | 25.0 | 25.3 | 26.3 | 101 | 105 | 45.0-153 | | | 3.88 | 22 |
| Benzene | 5.00 | 5.44 | 5.41 | 109 | 108 | 70.0-123 | | | 0.553 | 20 |
| Bromobenzene | 5.00 | 5.51 | 5.24 | 110 | 105 | 73.0-121 | | | 5.02 | 20 |
| Bromodichloromethane | 5.00 | 5.07 | 5.14 | 101 | 103 | 73.0-121 | | | 1.37 | 20 |
| Bromoform | 5.00 | 5.41 | 5.38 | 108 | 108 | 64.0-132 | | | 0.556 | 20 |
| Bromomethane | 5.00 | 5.68 | 6.00 | 114 | 120 | 56.0-147 | | | 5.48 | 20 |
| n-Butylbenzene | 5.00 | 5.85 | 5.83 | 117 | 117 | 68.0-135 | | | 0.342 | 20 |
| sec-Butylbenzene | 5.00 | 5.75 | 5.47 | 115 | 109 | 74.0-130 | | | 4.99 | 20 |
| tert-Butylbenzene | 5.00 | 5.72 | 5.48 | 114 | 110 | 75.0-127 | | | 4.29 | 20 |
| Carbon tetrachloride | 5.00 | 6.11 | 5.76 | 122 | 115 | 66.0-128 | | | 5.90 | 20 |
| Chlorobenzene | 5.00 | 5.26 | 5.31 | 105 | 106 | 76.0-128 | | | 0.946 | 20 |
| Chlorodibromomethane | 5.00 | 5.56 | 5.47 | 111 | 109 | 74.0-127 | | | 1.63 | 20 |
| Chloroethane | 5.00 | 6.03 | 5.94 | 121 | 119 | 61.0-134 | | | 1.50 | 20 |
| Chloroform | 5.00 | 5.60 | 5.54 | 112 | 111 | 72.0-123 | | | 1.08 | 20 |
| Chloromethane | 5.00 | 6.35 | 5.90 | 127 | 118 | 51.0-138 | | | 7.35 | 20 |
| 2-Chlorotoluene | 5.00 | 5.71 | 5.47 | 114 | 109 | 75.0-124 | | | 4.29 | 20 |
| 4-Chlorotoluene | 5.00 | 5.32 | 5.43 | 106 | 109 | 75.0-124 | | | 2.05 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 5.16 | 5.03 | 103 | 101 | 59.0-130 | | | 2.55 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.06 | 5.04 | 101 | 101 | 74.0-128 | | | 0.396 | 20 |
| Dibromomethane | 5.00 | 5.64 | 5.43 | 113 | 109 | 75.0-122 | | | 3.79 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 5.72 | 5.63 | 114 | 113 | 76.0-124 | | | 1.59 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 5.69 | 5.59 | 114 | 112 | 76.0-125 | | | 1.77 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 5.49 | 5.39 | 110 | 108 | 77.0-121 | | | 1.84 | 20 |
| Dichlorodifluoromethane | 5.00 | 6.15 | 6.29 | 123 | 126 | 43.0-156 | | | 2.25 | 20 |
| 1,1-Dichloroethane | 5.00 | 5.61 | 5.53 | 112 | 111 | 70.0-127 | | | 1.44 | 20 |
| 1,2-Dichloroethane | 5.00 | 5.23 | 5.29 | 105 | 106 | 65.0-131 | | | 1.14 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.52 | 5.60 | 110 | 112 | 65.0-131 | | | 1.44 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.82 | 5.77 | 116 | 115 | 73.0-125 | | | 0.863 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.42 | 5.27 | 108 | 105 | 71.0-125 | | | 2.81 | 20 |
| 1,2-Dichloropropane | 5.00 | 5.20 | 5.24 | 104 | 105 | 74.0-125 | | | 0.766 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.82 | 5.52 | 116 | 110 | 73.0-125 | | | 5.29 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.39 | 5.18 | 108 | 104 | 80.0-125 | | | 3.97 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 5.49 | 5.66 | 110 | 113 | 76.0-127 | | | 3.05 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 5.26 | 5.05 | 105 | 101 | 73.0-127 | | | 4.07 | 20 |
| 2,2-Dichloropropane | 5.00 | 6.04 | 5.87 | 121 | 117 | 59.0-135 | | | 2.85 | 20 |
| Di-isopropyl ether | 5.00 | 5.50 | 5.45 | 110 | 109 | 60.0-136 | | | 0.913 | 20 |
| Ethylbenzene | 5.00 | 5.37 | 5.34 | 107 | 107 | 74.0-126 | | | 0.560 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 6.02 | 5.64 | 120 | 113 | 57.0-150 | | | 6.52 | 20 |
| Isopropylbenzene | 5.00 | 6.31 | 5.92 | 126 | 118 | 72.0-127 | | | 6.38 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3897091-1 03/03/23 12:10 • (LCSD) R3897091-2 03/03/23 12:30

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.75 | 5.86 | 115 | 117 | 72.0-133 | | | 1.89 | 20 |
| 2-Butanone (MEK) | 25.0 | 25.7 | 22.6 | 103 | 90.4 | 30.0-160 | | | 12.8 | 24 |
| Methylene Chloride | 5.00 | 5.49 | 5.45 | 110 | 109 | 68.0-123 | | | 0.731 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 25.7 | 25.8 | 103 | 103 | 56.0-143 | | | 0.388 | 20 |
| Methyl tert-butyl ether | 5.00 | 5.29 | 5.11 | 106 | 102 | 66.0-132 | | | 3.46 | 20 |
| Naphthalene | 5.00 | 5.45 | 5.56 | 109 | 111 | 59.0-130 | | | 2.00 | 20 |
| n-Propylbenzene | 5.00 | 5.99 | 5.38 | 120 | 108 | 74.0-126 | | | 10.7 | 20 |
| Styrene | 5.00 | 5.35 | 4.98 | 107 | 99.6 | 72.0-127 | | | 7.16 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.39 | 5.35 | 108 | 107 | 74.0-129 | | | 0.745 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 5.22 | 5.21 | 104 | 104 | 68.0-128 | | | 0.192 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 6.20 | 6.12 | 124 | 122 | 61.0-139 | | | 1.30 | 20 |
| Tetrachloroethene | 5.00 | 5.79 | 5.52 | 116 | 110 | 70.0-136 | | | 4.77 | 20 |
| Toluene | 5.00 | 5.52 | 5.38 | 110 | 108 | 75.0-121 | | | 2.57 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 5.02 | 5.32 | 100 | 106 | 59.0-139 | | | 5.80 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 5.55 | 5.61 | 111 | 112 | 62.0-137 | | | 1.08 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 6.00 | 5.62 | 120 | 112 | 69.0-126 | | | 6.54 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.29 | 5.15 | 106 | 103 | 78.0-123 | | | 2.68 | 20 |
| Trichloroethene | 5.00 | 5.64 | 5.64 | 113 | 113 | 76.0-126 | | | 0.000 | 20 |
| Trichlorofluoromethane | 5.00 | 5.67 | 5.69 | 113 | 114 | 61.0-142 | | | 0.352 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 4.85 | 5.01 | 97.0 | 100 | 67.0-129 | | | 3.25 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.56 | 5.50 | 111 | 110 | 70.0-126 | | | 1.08 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.48 | 5.41 | 110 | 108 | 74.0-124 | | | 1.29 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.60 | 5.51 | 112 | 110 | 73.0-127 | | | 1.62 | 20 |
| Vinyl chloride | 5.00 | 5.86 | 5.60 | 117 | 112 | 63.0-134 | | | 4.54 | 20 |
| Xylenes, Total | 15.0 | 17.4 | 16.4 | 116 | 109 | 72.0-127 | | | 5.92 | 20 |
| Ethyl ether | 5.00 | 5.34 | 5.27 | 107 | 105 | 64.0-137 | | | 1.32 | 20 |
| Tetrahydrofuran | 5.00 | 3.89 | 3.85 | 77.8 | 77.0 | 37.0-146 | | | 1.03 | 24 |
| Iodomethane | 25.0 | 29.0 | 28.2 | 116 | 113 | 74.0-134 | | | 2.80 | 20 |
| Allyl chloride | 25.0 | 31.3 | 31.1 | 125 | 124 | 70.0-131 | | | 0.641 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 5.85 | 6.07 | 117 | 121 | 45.0-143 | | | 3.69 | 20 |
| *(S) Toluene-d8* | | | | *101* | *101* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *99.9* | *100* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *94.5* | *94.3* | *70.0-130* | | | | |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| B | The same analyte is found in the associated blank. |
| C3 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable. |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J3 | The associated batch QC was outside the established quality control range for precision. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

**2101 Fourth Ave., Suite 1310**
**Seattle, WA 98121**

Billing Information:
**Attn: Accounts Payable**
**2101 4th Avenue, Suite 1310**
**Seattle, WA 98121**

Pres Chk

Report to:
**Brian O'Neal/Bill Haldeman**

Email To:
**Shannon.McKernan@nv5.com;brian.oneal@nv5**

Project Description:
**American Linen**

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: **206-529-3980**

Client Project #
~~1413.001.10.701.02~~
1413.001.10.603.04

Lab Project #
**PESENVSWA-ALP**

Collected by (print):
N. Wisdom + O. Monroy

Site/Facility ID #

P.O. # 1413001106030 4
~~443018-1413001.05.601~~

Collected by (signature):
Natalie Wisdom
Immediately
Packed on Ice N ___ Y ✓

***Rush?*** (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | CHLORIDE 250ml HDPE-NoPres | NITRATE,SULFATE 250ml HDPE-NoPres | RSK175LL 40ml Amb-HCl | TOC 250ml Amb-HCl | V8260ULLC 40ml Amb-HCl | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HMW-9IB-022323 | Grab | GW | — | 2/23/23 | 1414 | 7 | X | X | X | X | X | | 01 |
| MW-107-022323 | ↓ | GW | — | ↓ | 1551 | 3 | | | | | X | | 02 |
| MW-349-022323 | | GW | — | | 1158 | 7 | X | X | X | X | X | | 03 |
| MW-347-022323 | | GW | — | | 1401 | 7 | X | X | X | X | X | | 04 |
| MW-346-022323 | | GW | — | | 1533 | 7 | X | X | X | X | X | | 05 |
| MW-985-022323 | ↓ | GW | — | | 1552 | 7 | X | X | X | X | X | | 06 |
| TB-022323 | — | GW | — | ↓ | — | 1 | | | | | X | | 07 |
| | | GW | | | | | | | | | | | |
| | | GW | | | | | | | | | | | |
| | | | | | | | | | | | | | |

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1599016

**H231**

Acctnum: **PESENVSWA**
Template: **T224278**
Prelogin: **P979503**
PM: **546 - Jared Starkey**
PB: **LRZ-9-23**

Shipped Via:

* Matrix:
**SS** - Soil **AIR** - Air **F** - Filter
**GW** - Groundwater **B** - Bioassay
**WW** - WasteWater
**DW** - Drinking Water
**OT** - Other_____

**Remarks:**

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 6053 3810 5864

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) |
|---|---|---|---|
| Natalie Wisdom | 2/23/23 | 1645 | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) |

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: corr 0.0°C Bottles Received: 38
1.8+0=1.8

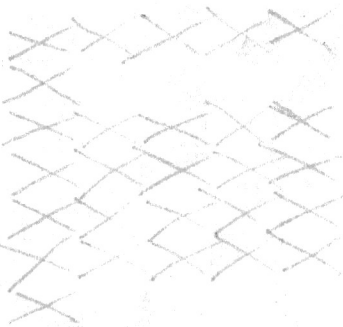
Date: 2-24-23 Time: 0845

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK



## 2/24/23 - NCF L1589016 PESENVSWA

R5

**Time estimate:** oh **Time spent:** oh

**Members**

Matthew Shacklock (responsible) JS Jared Starkey

- [ ] Parameter(s) past holding time
- [ ] Temperature not in range
- [ ] Improper container type
- [ ] pH not in range
- [ ] Insufficient sample volume
- [ ] Sample is biphasic
- [x] Vials received with headspace
- [ ] Broken container
- [ ] Sufficient sample remains
- [ ] If broken container: Insufficient packing material around container
- [ ] If broken container: Insufficient packing material inside cooler
- [ ] If broken container: Improper handling by carrier:_____
- [ ] If broken container: Sample was frozen
- [ ] If broken container: Container lid not intact
- [ ] Client informed by Call
- [ ] Client informed by Email
- [ ] Client informed by Voicemail
- [ ] Date/Time:_____
- [ ] PM initials:_____
- [ ] Client Contact:_____

**Comments**

*Matthew Shacklock* *24 February 2023 11:48 AM*

Trip blanks have headspace

*Jared Starkey* *24 February 2023 3:10 PM*

cancel TB analysis

*Matthew Shacklock* *24 February 2023 3:33 PM*

Done

# ANALYTICAL REPORT

March 03, 2023



## PES Environmental, Inc.- WA

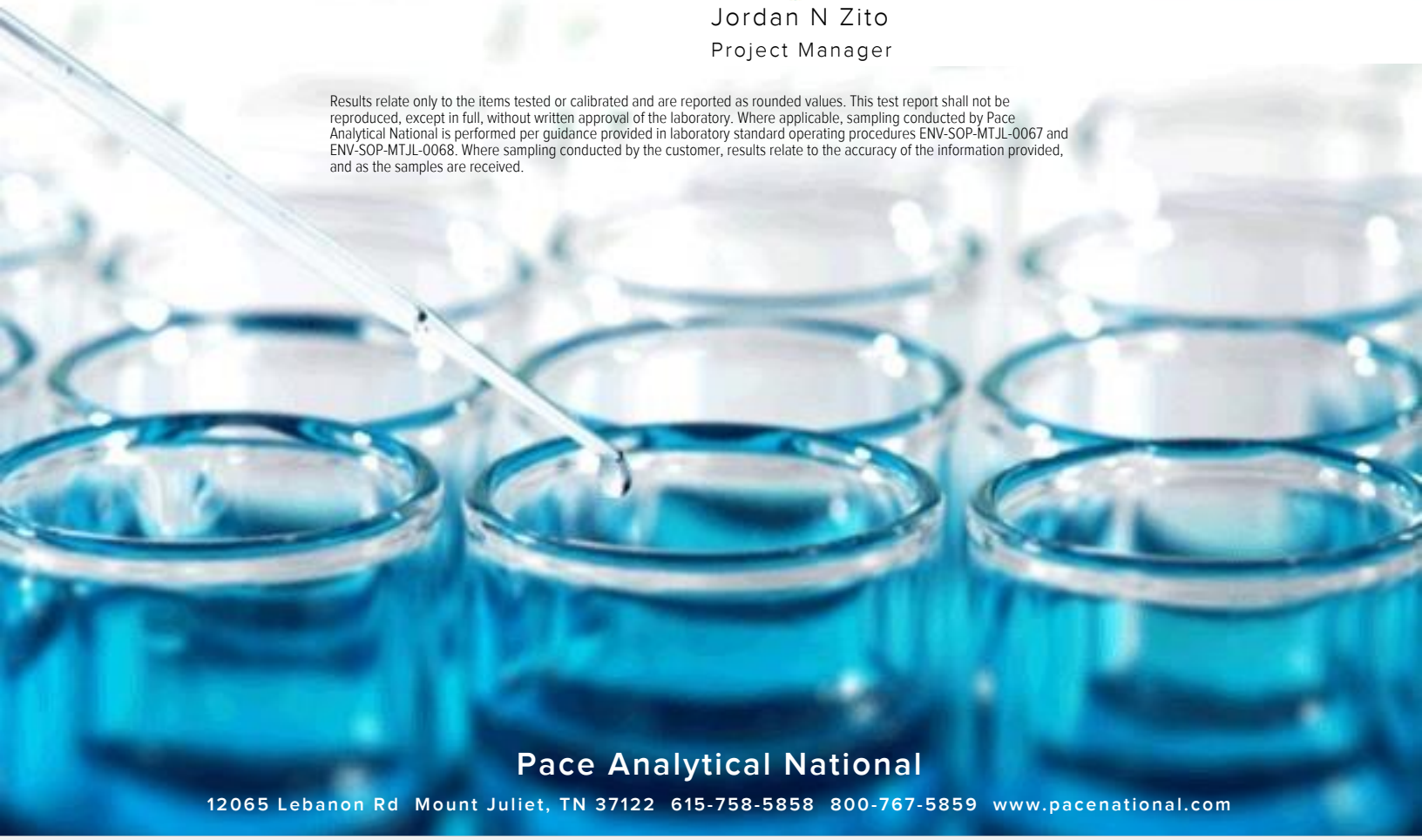
| | |
|---|---|
| Sample Delivery Group: | L1589370 |
| Samples Received: | 02/25/2023 |
| Project Number: | 1413.001.10.603.04 |
| Description: | American Linen |

Report To: Brian O'Neal/Bill Haldeman
2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Entire Report Reviewed By:

Jordan N Zito
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## MW-350-022423 L1589370-01 GW

Collected by: NW, SM
Collected date/time: 02/24/23 09:48
Received date/time: 02/25/23 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 9056A | WG2012897 | 1 | 02/25/23 18:11 | 02/25/23 18:11 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG2012977 | 1 | 02/26/23 08:18 | 02/26/23 08:18 | LOH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG2014773 | 1 | 02/28/23 10:58 | 02/28/23 10:58 | BAW | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2015641 | 1 | 03/02/23 12:37 | 03/02/23 12:37 | DWR | Mt. Juliet, TN |

## W-MW-01-022423 L1589370-02 GW

Collected by: NW, SM
Collected date/time: 02/24/23 10:34
Received date/time: 02/25/23 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2015641 | 1 | 03/02/23 12:56 | 03/02/23 12:56 | DWR | Mt. Juliet, TN |

## EQ-022423 L1589370-03 GW

Collected by: NW, SM
Collected date/time: 02/24/23 12:00
Received date/time: 02/25/23 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 9056A | WG2012897 | 1 | 02/25/23 18:24 | 02/25/23 18:24 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG2012977 | 1 | 02/26/23 09:20 | 02/26/23 09:20 | LOH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG2014773 | 1 | 02/28/23 11:05 | 02/28/23 11:05 | BAW | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2015641 | 1 | 03/02/23 13:15 | 03/02/23 13:15 | DWR | Mt. Juliet, TN |

## TB-022423 L1589370-04 GW

Collected by: NW, SM
Collected date/time: 02/24/23 00:00
Received date/time: 02/25/23 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2015641 | 1 | 03/02/23 10:24 | 03/02/23 10:24 | DWR | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jordan N Zito
Project Manager

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 15200 | | 379 | 1000 | 1 | 02/25/2023 18:11 | WG2012897 |
| Nitrate | U | | 48.0 | 100 | 1 | 02/25/2023 18:11 | WG2012897 |
| Sulfate | 41200 | | 594 | 5000 | 1 | 02/25/2023 18:11 | WG2012897 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 1950 | B | 102 | 1000 | 1 | 02/26/2023 08:18 | WG2012977 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 1370 | | 0.287 | 0.678 | 1 | 02/28/2023 10:58 | WG2014773 |
| Ethane | U | | 0.296 | 1.29 | 1 | 02/28/2023 10:58 | WG2014773 |
| Ethene | 5.23 | | 0.422 | 1.27 | 1 | 02/28/2023 10:58 | WG2014773 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 1.68 | C3 | 0.548 | 1.00 | 1 | 03/02/2023 12:37 | WG2015641 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 12:37 | WG2015641 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 03/02/2023 12:37 | WG2015641 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 03/02/2023 12:37 | WG2015641 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 03/02/2023 12:37 | WG2015641 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| 2-Butanone (MEK) | U | J3 | 0.500 | 1.00 | 1 | 03/02/2023 12:37 | WG2015641 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 03/02/2023 12:37 | WG2015641 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 03/02/2023 12:37 | WG2015641 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 03/02/2023 12:37 | WG2015641 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| Styrene | U | | 0.109 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Toluene | 0.0930 | J | 0.0500 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 12:37 | WG2015641 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,2,4-Trimethylbenzene | 0.170 | J | 0.0464 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,2,3-Trimethylbenzene | 0.0910 | J | 0.0460 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| Vinyl chloride | 1.06 | | 0.0273 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Xylenes, Total | 0.306 | | 0.191 | 0.260 | 1 | 03/02/2023 12:37 | WG2015641 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 03/02/2023 12:37 | WG2015641 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *03/02/2023 12:37* | WG2015641 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *03/02/2023 12:37* | WG2015641 |
| *(S) 1,2-Dichloroethane-d4* | *99.7* | | | *70.0-130* | | *03/02/2023 12:37* | WG2015641 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 6.10 | C3 | 0.548 | 1.00 | 1 | 03/02/2023 12:56 | WG2015641 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 12:56 | WG2015641 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 03/02/2023 12:56 | WG2015641 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 03/02/2023 12:56 | WG2015641 |
| Ethylbenzene | 0.315 | | 0.0212 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 03/02/2023 12:56 | WG2015641 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| 2-Butanone (MEK) | 3.15 | J3 | 0.500 | 1.00 | 1 | 03/02/2023 12:56 | WG2015641 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 03/02/2023 12:56 | WG2015641 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 03/02/2023 12:56 | WG2015641 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 03/02/2023 12:56 | WG2015641 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| Styrene | U | | 0.109 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Toluene | 0.711 | | 0.0500 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 12:56 | WG2015641 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,2,4-Trimethylbenzene | 0.111 | J | 0.0464 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| Vinyl chloride | 1.59 | | 0.0273 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Xylenes, Total | 1.51 | | 0.191 | 0.260 | 1 | 03/02/2023 12:56 | WG2015641 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Tetrahydrofuran | 1.81 | | 0.0900 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 03/02/2023 12:56 | WG2015641 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *03/02/2023 12:56* | WG2015641 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *03/02/2023 12:56* | WG2015641 |
| *(S) 1,2-Dichloroethane-d4* | *98.9* | | | *70.0-130* | | *03/02/2023 12:56* | WG2015641 |

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | U | | 379 | 1000 | 1 | 02/25/2023 18:24 | WG2012897 |
| Nitrate | U | | 48.0 | 100 | 1 | 02/25/2023 18:24 | WG2012897 |
| Sulfate | U | | 594 | 5000 | 1 | 02/25/2023 18:24 | WG2012897 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 450 | B J | 102 | 1000 | 1 | 02/26/2023 09:20 | WG2012977 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 1.39 | | 0.287 | 0.678 | 1 | 02/28/2023 11:05 | WG2014773 |
| Ethane | U | | 0.296 | 1.29 | 1 | 02/28/2023 11:05 | WG2014773 |
| Ethene | U | | 0.422 | 1.27 | 1 | 02/28/2023 11:05 | WG2014773 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 3.16 | C3 | 0.548 | 1.00 | 1 | 03/02/2023 13:15 | WG2015641 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 03/02/2023 13:15 | WG2015641 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 13:15 | WG2015641 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 03/02/2023 13:15 | WG2015641 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 03/02/2023 13:15 | WG2015641 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 03/02/2023 13:15 | WG2015641 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 03/02/2023 13:15 | WG2015641 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 03/02/2023 13:15 | WG2015641 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 03/02/2023 13:15 | WG2015641 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 03/02/2023 13:15 | WG2015641 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 03/02/2023 13:15 | WG2015641 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 03/02/2023 13:15 | WG2015641 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 03/02/2023 13:15 | WG2015641 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 03/02/2023 13:15 | WG2015641 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 03/02/2023 13:15 | WG2015641 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 03/02/2023 13:15 | WG2015641 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 03/02/2023 13:15 | WG2015641 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 03/02/2023 13:15 | WG2015641 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 03/02/2023 13:15 | WG2015641 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 03/02/2023 13:15 | WG2015641 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 03/02/2023 13:15 | WG2015641 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 03/02/2023 13:15 | WG2015641 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 03/02/2023 13:15 | WG2015641 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 03/02/2023 13:15 | WG2015641 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 03/02/2023 13:15 | WG2015641 |
| 2-Butanone (MEK) | 0.934 | J J3 | 0.500 | 1.00 | 1 | 03/02/2023 13:15 | WG2015641 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 03/02/2023 13:15 | WG2015641 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 03/02/2023 13:15 | WG2015641 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 03/02/2023 13:15 | WG2015641 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 03/02/2023 13:15 | WG2015641 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 03/02/2023 13:15 | WG2015641 |
| Styrene | U | | 0.109 | 0.500 | 1 | 03/02/2023 13:15 | WG2015641 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 03/02/2023 13:15 | WG2015641 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 03/02/2023 13:15 | WG2015641 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 03/02/2023 13:15 | WG2015641 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 13:15 | WG2015641 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 03/02/2023 13:15 | WG2015641 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 03/02/2023 13:15 | WG2015641 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 03/02/2023 13:15 | WG2015641 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 03/02/2023 13:15 | WG2015641 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 03/02/2023 13:15 | WG2015641 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 03/02/2023 13:15 | WG2015641 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 03/02/2023 13:15 | WG2015641 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 03/02/2023 13:15 | WG2015641 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 03/02/2023 13:15 | WG2015641 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 03/02/2023 13:15 | WG2015641 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *03/02/2023 13:15* | WG2015641 |
| *(S) 4-Bromofluorobenzene* | *97.5* | | | *67.0-138* | | *03/02/2023 13:15* | WG2015641 |
| *(S) 1,2-Dichloroethane-d4* | *97.9* | | | *70.0-130* | | *03/02/2023 13:15* | WG2015641 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 1.20 | C3 | 0.548 | 1.00 | 1 | 03/02/2023 10:24 | WG2015641 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 03/02/2023 10:24 | WG2015641 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 10:24 | WG2015641 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 03/02/2023 10:24 | WG2015641 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 03/02/2023 10:24 | WG2015641 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 03/02/2023 10:24 | WG2015641 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 03/02/2023 10:24 | WG2015641 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 03/02/2023 10:24 | WG2015641 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 03/02/2023 10:24 | WG2015641 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 03/02/2023 10:24 | WG2015641 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 03/02/2023 10:24 | WG2015641 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 03/02/2023 10:24 | WG2015641 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 03/02/2023 10:24 | WG2015641 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 03/02/2023 10:24 | WG2015641 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 03/02/2023 10:24 | WG2015641 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 03/02/2023 10:24 | WG2015641 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 03/02/2023 10:24 | WG2015641 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 03/02/2023 10:24 | WG2015641 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 03/02/2023 10:24 | WG2015641 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 03/02/2023 10:24 | WG2015641 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 03/02/2023 10:24 | WG2015641 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 03/02/2023 10:24 | WG2015641 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 03/02/2023 10:24 | WG2015641 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 03/02/2023 10:24 | WG2015641 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 03/02/2023 10:24 | WG2015641 |
| 2-Butanone (MEK) | U | J3 | 0.500 | 1.00 | 1 | 03/02/2023 10:24 | WG2015641 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 03/02/2023 10:24 | WG2015641 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 03/02/2023 10:24 | WG2015641 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 03/02/2023 10:24 | WG2015641 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 03/02/2023 10:24 | WG2015641 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 03/02/2023 10:24 | WG2015641 |
| Styrene | U | | 0.109 | 0.500 | 1 | 03/02/2023 10:24 | WG2015641 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 03/02/2023 10:24 | WG2015641 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 03/02/2023 10:24 | WG2015641 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 03/02/2023 10:24 | WG2015641 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 10:24 | WG2015641 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 03/02/2023 10:24 | WG2015641 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 03/02/2023 10:24 | WG2015641 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 03/02/2023 10:24 | WG2015641 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 03/02/2023 10:24 | WG2015641 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 03/02/2023 10:24 | WG2015641 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 03/02/2023 10:24 | WG2015641 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 03/02/2023 10:24 | WG2015641 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 03/02/2023 10:24 | WG2015641 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 03/02/2023 10:24 | WG2015641 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 03/02/2023 10:24 | WG2015641 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *03/02/2023 10:24* | WG2015641 |
| *(S) 4-Bromofluorobenzene* | *106* | | | *67.0-138* | | *03/02/2023 10:24* | WG2015641 |
| *(S) 1,2-Dichloroethane-d4* | *99.7* | | | *70.0-130* | | *03/02/2023 10:24* | WG2015641 |

## Method Blank (MB)

(MB) R3895695-1 02/25/23 10:35

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1589188-20 Original Sample (OS) • Duplicate (DUP)

(OS) L1589188-20 02/25/23 13:16 • (DUP) R3895695-3 02/25/23 13:29

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 39900 | 41300 | 1 | 3.29 | | 15 |
| Nitrate | 97.2 | 82.7 | 1 | 16.1 | J P1 | 15 |
| Sulfate | 88600 | 92300 | 1 | 4.07 | | 15 |

## L1589370-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1589370-03 02/25/23 18:24 • (DUP) R3895695-6 02/25/23 18:36

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | U | U | 1 | 0.000 | | 15 |
| Nitrate | U | U | 1 | 0.000 | | 15 |
| Sulfate | U | U | 1 | 0.000 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3895695-2 02/25/23 11:14

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 40900 | 102 | 80.0-120 | |
| Nitrate | 8000 | 8110 | 101 | 80.0-120 | |
| Sulfate | 40000 | 42300 | 106 | 80.0-120 | |

## L1589188-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1589188-20 02/25/23 13:16 • (MS) R3895695-4 02/25/23 13:41 • (MSD) R3895695-5 02/25/23 13:54

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 39900 | 88000 | 88600 | 96.2 | 97.3 | 1 | 80.0-120 | | | 0.606 | 15 |
| Nitrate | 5000 | 97.2 | 4910 | 4920 | 96.2 | 96.5 | 1 | 80.0-120 | | | 0.338 | 15 |
| Sulfate | 50000 | 88600 | 135000 | 136000 | 92.4 | 94.1 | 1 | 80.0-120 | | | 0.630 | 15 |

## L1589370-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1589370-03 02/25/23 18:24 • (MS) R3895695-7 02/25/23 18:49

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | U | 50700 | 101 | 1 | 80.0-120 | |
| Nitrate | 5000 | U | 5020 | 100 | 1 | 80.0-120 | |
| Sulfate | 50000 | U | 52000 | 104 | 1 | 80.0-120 | |

## Method Blank (MB)

(MB) R3894938-2 02/26/23 06:51

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 503 | J | 102 | 1000 |

## L1589370-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1589370-03 02/26/23 09:20 • (DUP) R3894938-5 02/26/23 09:39

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 450 | 431 | 1 | 4.33 | J | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3894938-1 02/26/23 06:33

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 75900 | 101 | 85.0-115 | |

## L1589370-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1589370-01 02/26/23 08:18 • (MS) R3894938-3 02/26/23 08:41 • (MSD) R3894938-4 02/26/23 09:02

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 1950 | 52700 | 52900 | 101 | 102 | 1 | 80.0-120 | | | 0.398 | 20 |

## Method Blank (MB)

(MB) R3895995-2 02/28/23 10:12

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3895995-1 02/28/23 10:07 • (LCSD) R3895995-3 02/28/23 12:10

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 72.8 | 69.2 | 107 | 102 | 85.0-115 | | | 5.07 | 20 |
| Ethane | 129 | 120 | 120 | 93.0 | 93.0 | 85.0-115 | | | 0.000 | 20 |
| Ethene | 127 | 120 | 121 | 94.5 | 95.3 | 85.0-115 | | | 0.830 | 20 |

## Method Blank (MB)

(MB) R3896887-3 03/02/23 09:31

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3896887-3 03/02/23 09:31

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | 0.182 | J | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *103* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *104* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *101* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3896887-1 03/02/23 08:14 • (LCSD) R3896887-2 03/02/23 08:33

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 16.5 | 17.9 | 66.0 | 71.6 | 10.0-160 | | | 8.14 | 31 |
| Acrylonitrile | 25.0 | 22.2 | 21.8 | 88.8 | 87.2 | 45.0-153 | | | 1.82 | 22 |
| Benzene | 5.00 | 4.72 | 4.68 | 94.4 | 93.6 | 70.0-123 | | | 0.851 | 20 |
| Bromobenzene | 5.00 | 5.15 | 4.92 | 103 | 98.4 | 73.0-121 | | | 4.57 | 20 |
| Bromodichloromethane | 5.00 | 5.04 | 5.00 | 101 | 100 | 73.0-121 | | | 0.797 | 20 |
| Bromoform | 5.00 | 5.15 | 5.02 | 103 | 100 | 64.0-132 | | | 2.56 | 20 |
| Bromomethane | 5.00 | 5.17 | 4.24 | 103 | 84.8 | 56.0-147 | | | 19.8 | 20 |
| n-Butylbenzene | 5.00 | 5.04 | 4.74 | 101 | 94.8 | 68.0-135 | | | 6.13 | 20 |
| sec-Butylbenzene | 5.00 | 5.10 | 5.08 | 102 | 102 | 74.0-130 | | | 0.393 | 20 |
| tert-Butylbenzene | 5.00 | 5.20 | 5.13 | 104 | 103 | 75.0-127 | | | 1.36 | 20 |
| Carbon tetrachloride | 5.00 | 4.93 | 5.09 | 98.6 | 102 | 66.0-128 | | | 3.19 | 20 |
| Chlorobenzene | 5.00 | 4.83 | 4.68 | 96.6 | 93.6 | 76.0-128 | | | 3.15 | 20 |
| Chlorodibromomethane | 5.00 | 4.91 | 4.51 | 98.2 | 90.2 | 74.0-127 | | | 8.49 | 20 |
| Chloroethane | 5.00 | 5.85 | 4.81 | 117 | 96.2 | 61.0-134 | | | 19.5 | 20 |
| Chloroform | 5.00 | 5.02 | 4.90 | 100 | 98.0 | 72.0-123 | | | 2.42 | 20 |
| Chloromethane | 5.00 | 4.32 | 4.10 | 86.4 | 82.0 | 51.0-138 | | | 5.23 | 20 |
| 2-Chlorotoluene | 5.00 | 5.17 | 4.96 | 103 | 99.2 | 75.0-124 | | | 4.15 | 20 |
| 4-Chlorotoluene | 5.00 | 4.88 | 4.82 | 97.6 | 96.4 | 75.0-124 | | | 1.24 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.44 | 4.35 | 88.8 | 87.0 | 59.0-130 | | | 2.05 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.08 | 4.99 | 102 | 99.8 | 74.0-128 | | | 1.79 | 20 |
| Dibromomethane | 5.00 | 4.94 | 4.85 | 98.8 | 97.0 | 75.0-122 | | | 1.84 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 4.66 | 4.66 | 93.2 | 93.2 | 76.0-124 | | | 0.000 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 4.83 | 4.73 | 96.6 | 94.6 | 76.0-125 | | | 2.09 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 4.91 | 4.85 | 98.2 | 97.0 | 77.0-121 | | | 1.23 | 20 |
| Dichlorodifluoromethane | 5.00 | 4.53 | 4.27 | 90.6 | 85.4 | 43.0-156 | | | 5.91 | 20 |
| 1,1-Dichloroethane | 5.00 | 4.72 | 4.63 | 94.4 | 92.6 | 70.0-127 | | | 1.93 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.72 | 4.55 | 94.4 | 91.0 | 65.0-131 | | | 3.67 | 20 |
| 1,1-Dichloroethene | 5.00 | 4.54 | 4.49 | 90.8 | 89.8 | 65.0-131 | | | 1.11 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.03 | 5.04 | 101 | 101 | 73.0-125 | | | 0.199 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.09 | 4.95 | 102 | 99.0 | 71.0-125 | | | 2.79 | 20 |
| 1,2-Dichloropropane | 5.00 | 4.98 | 4.85 | 99.6 | 97.0 | 74.0-125 | | | 2.64 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.07 | 4.89 | 101 | 97.8 | 73.0-125 | | | 3.61 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.16 | 4.94 | 103 | 98.8 | 80.0-125 | | | 4.36 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 5.18 | 5.03 | 104 | 101 | 76.0-127 | | | 2.94 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 5.15 | 4.78 | 103 | 95.6 | 73.0-127 | | | 7.45 | 20 |
| 2,2-Dichloropropane | 5.00 | 5.38 | 5.13 | 108 | 103 | 59.0-135 | | | 4.76 | 20 |
| Di-isopropyl ether | 5.00 | 5.08 | 4.86 | 102 | 97.2 | 60.0-136 | | | 4.43 | 20 |
| Ethylbenzene | 5.00 | 5.12 | 4.83 | 102 | 96.6 | 74.0-126 | | | 5.83 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 4.97 | 4.60 | 99.4 | 92.0 | 57.0-150 | | | 7.73 | 20 |
| Isopropylbenzene | 5.00 | 4.98 | 4.88 | 99.6 | 97.6 | 72.0-127 | | | 2.03 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3896887-1 03/02/23 08:14 • (LCSD) R3896887-2 03/02/23 08:33

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.16 | 5.03 | 103 | 101 | 72.0-133 | | | 2.55 | 20 |
| 2-Butanone (MEK) | 25.0 | 28.3 | 21.6 | 113 | 86.4 | 30.0-160 | | J3 | 26.9 | 24 |
| Methylene Chloride | 5.00 | 5.06 | 4.81 | 101 | 96.2 | 68.0-123 | | | 5.07 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 23.6 | 22.6 | 94.4 | 90.4 | 56.0-143 | | | 4.33 | 20 |
| Methyl tert-butyl ether | 5.00 | 4.61 | 4.59 | 92.2 | 91.8 | 66.0-132 | | | 0.435 | 20 |
| Naphthalene | 5.00 | 4.24 | 4.25 | 84.8 | 85.0 | 59.0-130 | | | 0.236 | 20 |
| n-Propylbenzene | 5.00 | 4.92 | 4.87 | 98.4 | 97.4 | 74.0-126 | | | 1.02 | 20 |
| Styrene | 5.00 | 4.84 | 4.78 | 96.8 | 95.6 | 72.0-127 | | | 1.25 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.43 | 5.32 | 109 | 106 | 74.0-129 | | | 2.05 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.99 | 4.87 | 99.8 | 97.4 | 68.0-128 | | | 2.43 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 4.24 | 4.65 | 84.8 | 93.0 | 61.0-139 | | | 9.22 | 20 |
| Tetrachloroethene | 5.00 | 5.37 | 5.06 | 107 | 101 | 70.0-136 | | | 5.94 | 20 |
| Toluene | 5.00 | 4.82 | 4.75 | 96.4 | 95.0 | 75.0-121 | | | 1.46 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.22 | 4.04 | 84.4 | 80.8 | 59.0-139 | | | 4.36 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.61 | 4.66 | 92.2 | 93.2 | 62.0-137 | | | 1.08 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 4.73 | 4.96 | 94.6 | 99.2 | 69.0-126 | | | 4.75 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.26 | 4.93 | 105 | 98.6 | 78.0-123 | | | 6.48 | 20 |
| Trichloroethene | 5.00 | 4.81 | 4.81 | 96.2 | 96.2 | 76.0-126 | | | 0.000 | 20 |
| Trichlorofluoromethane | 5.00 | 5.18 | 4.55 | 104 | 91.0 | 61.0-142 | | | 12.9 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 4.93 | 4.80 | 98.6 | 96.0 | 67.0-129 | | | 2.67 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 4.82 | 4.73 | 96.4 | 94.6 | 70.0-126 | | | 1.88 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 4.75 | 4.69 | 95.0 | 93.8 | 74.0-124 | | | 1.27 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 4.92 | 4.83 | 98.4 | 96.6 | 73.0-127 | | | 1.85 | 20 |
| Vinyl chloride | 5.00 | 4.51 | 4.44 | 90.2 | 88.8 | 63.0-134 | | | 1.56 | 20 |
| Xylenes, Total | 15.0 | 14.9 | 14.4 | 99.3 | 96.0 | 72.0-127 | | | 3.41 | 20 |
| Ethyl ether | 5.00 | 5.16 | 4.87 | 103 | 97.4 | 64.0-137 | | | 5.78 | 20 |
| Tetrahydrofuran | 5.00 | 4.23 | 4.03 | 84.6 | 80.6 | 37.0-146 | | | 4.84 | 24 |
| Iodomethane | 25.0 | 24.9 | 24.0 | 99.6 | 96.0 | 74.0-134 | | | 3.68 | 20 |
| Allyl chloride | 25.0 | 27.1 | 26.2 | 108 | 105 | 70.0-131 | | | 3.38 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 5.19 | 4.94 | 104 | 98.8 | 45.0-143 | | | 4.94 | 20 |
| *(S) Toluene-d8* | | | | *105* | *102* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *104* | *101* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *98.7* | *100* | *70.0-130* | | | | |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| B | The same analyte is found in the associated blank. |
| C3 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable. |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J3 | The associated batch QC was outside the established quality control range for precision. |
| P1 | RPD value not applicable for sample concentrations less than 5 times the reporting limit. |

# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LA000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Billing Information:
Attn: Accounts Payable
2101 4th Avenue, Suite 1310
Seattle, WA 98121

Pres Chk

Report to:
Brian O'Neal/Bill Haldeman

Email To:
Shannon.McKernan@nv5.com;brian.oneal@nv5

Project Description:
American Linen

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: 206-529-3980

Client Project #
~~1413.001.10.701.02~~
1413.001.10.603.04

Lab Project #
PESENVSWA-ALP

Collected by (print):
Natalie Wilson M.

Site/Facility ID #

P.O. # 1413.001.10.603.04
~~443018-1413001.05.601~~

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

*Rush?* (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | CHLORIDE 250mlHDPE-NoPres | NITRATE,SULFATE 250mlHDPE-NoPres | RSK175LL 40mlAmb-HCl | TOC 250mlAmb-HCl | V8260ULLC 40mlAmb-HCl | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-350-022423 | Grab | GW | — | 2/24/23 | 0948 | 7 | X | X | X | X | X | | -01 |
| W-MW-01-022423 | ↓ | GW | — | ↓ | 1034 | 3 | | | | | X | | -02 |
| EQ-022423 | ↓ | GW | — | ↓ | 1200 | 7 | X | X | X | X | X | | -03 |
| TB-022423 | — | GW | — | 2/24/23 | — | 1 | | | | | X | | -04 |
| | | GW | | | | | | | | | | | |
| | | GW | | | | | | | | | | | |
| | | GW | | | | | | | | | | | |
| | | GW | | | | | | | | | | | |
| | | GW | | | | | | | | | | | |
| | | GW | | | | | | | | | | | |

Chain of Custody Page ___ of ___

Pace
PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1589370
B172
Acctnum: PESENVSWA
Template: T224278
Prelogin: P979503
PM: 546 - Jared Starkey
PB LS 2-8-23

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: ✓Y __N
Preservation Correct/Checked: ✓Y __N
RAD Screen <0.5 mR/hr: ✓Y __N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / No HCL / MeoH TBR | If preservation required by Login: Date/Time |
|---|---|---|---|---|---|
| | 2/24/23 | 1340 | | | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: NEAT °C 1.8+0=-8 Bottles Received: 17 | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) P.Ramsey | Date: 02-25-23 Time: 0845 | Hold: Condition: NCF / OK |

# ANALYTICAL REPORT

March 23, 2023



## PES Environmental, Inc.- WA

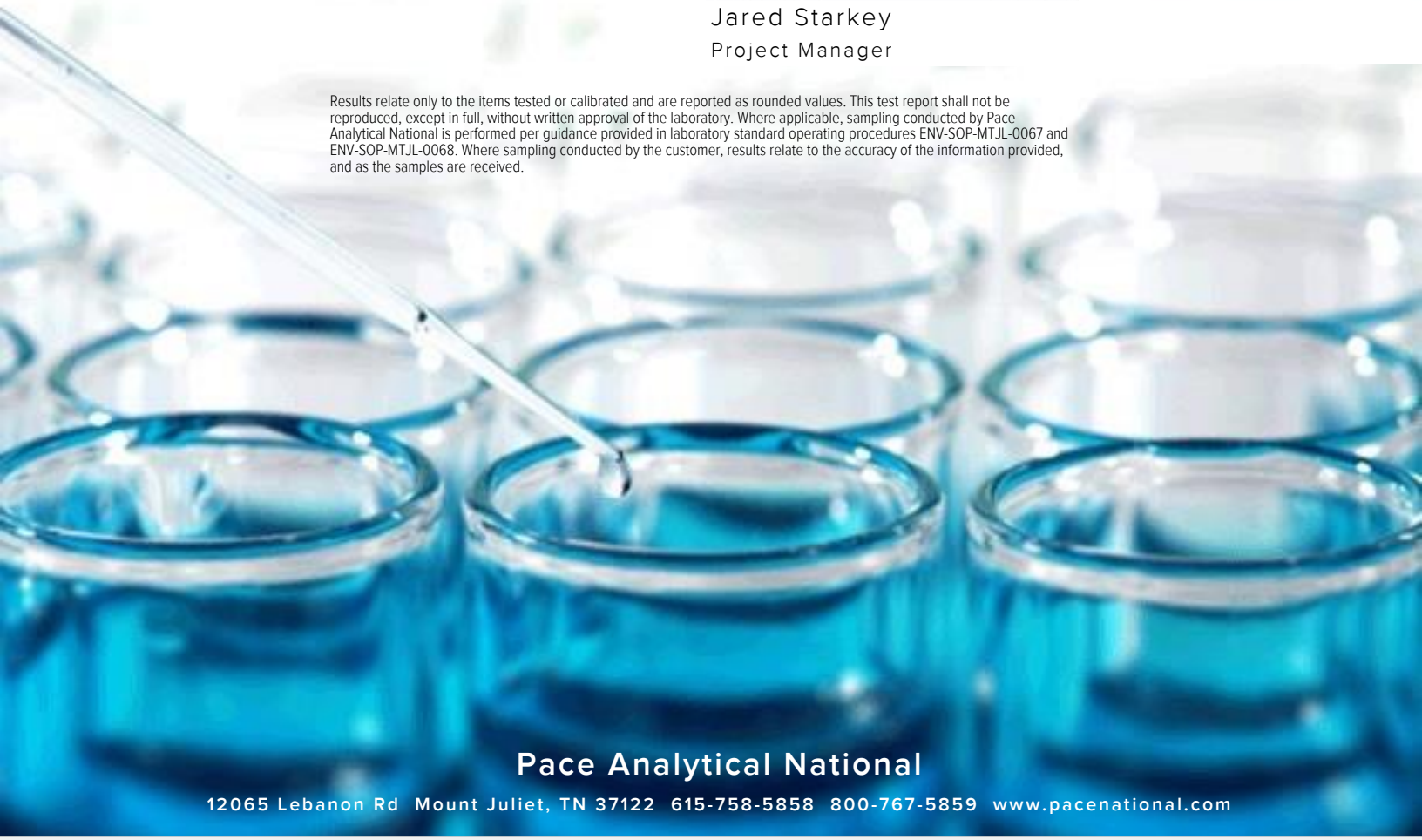
| | |
|---|---|
| Sample Delivery Group: | L1594468 |
| Samples Received: | 03/14/2023 |
| Project Number: | 1413.001.10.603.04 |
| Description: | American Linen |

Report To: Brian O'Neal/Bill Haldeman
2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Entire Report Reviewed By:

Jared Starkey
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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# SAMPLE SUMMARY

## MW-348-031323 L1594468-01 GW

Collected by: NEW
Collected date/time: 03/13/23 13:11
Received date/time: 03/14/23 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Wet Chemistry by Method 9056A | WG2022825 | 1 | 03/14/23 17:12 | 03/14/23 17:12 | GEB | Mt. Juliet, TN |
| Wet Chemistry by Method 9060A | WG2024515 | 1 | 03/17/23 01:01 | 03/17/23 01:01 | LOH | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method RSK175 | WG2023557 | 1 | 03/15/23 14:17 | 03/15/23 14:17 | BAW | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2027135 | 20 | 03/21/23 16:24 | 03/21/23 16:24 | ADM | Mt. Juliet, TN |

## TB-031323 L1594468-02 GW

Collected by: NEW
Collected date/time: 03/13/23 00:00
Received date/time: 03/14/23 09:00

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2027135 | 1 | 03/21/23 12:49 | 03/21/23 12:49 | ADM | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jared Starkey
Project Manager

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 41900 | | 379 | 1000 | 1 | 03/14/2023 17:12 | WG2022825 |
| Nitrate | U | | 48.0 | 100 | 1 | 03/14/2023 17:12 | WG2022825 |
| Sulfate | 32600 | | 594 | 5000 | 1 | 03/14/2023 17:12 | WG2022825 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4180 | B | 102 | 1000 | 1 | 03/17/2023 01:01 | WG2024515 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 237 | | 0.287 | 0.678 | 1 | 03/15/2023 14:17 | WG2023557 |
| Ethane | 1.71 | | 0.296 | 1.29 | 1 | 03/15/2023 14:17 | WG2023557 |
| Ethene | 23.4 | | 0.422 | 1.27 | 1 | 03/15/2023 14:17 | WG2023557 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 21.0 | C3 | 11.0 | 20.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| Acrylonitrile | U | | 1.52 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| Benzene | U | | 0.320 | 0.800 | 20 | 03/21/2023 16:24 | WG2027135 |
| Bromobenzene | U | J4 | 0.840 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| Bromodichloromethane | U | | 0.630 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Bromoform | U | | 4.78 | 20.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| Bromomethane | U | | 2.96 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| n-Butylbenzene | U | | 3.06 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| sec-Butylbenzene | U | | 2.02 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| tert-Butylbenzene | U | | 1.24 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Carbon tetrachloride | U | | 0.864 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Chlorobenzene | U | | 0.458 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Chlorodibromomethane | U | | 0.360 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Chloroethane | U | | 0.864 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Chloroform | U | | 0.332 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Chloromethane | U | | 1.11 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| 2-Chlorotoluene | U | | 0.736 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 4-Chlorotoluene | U | J4 | 0.904 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,2-Dibromo-3-Chloropropane | U | C3 | 4.08 | 20.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,2-Dibromoethane | U | | 0.420 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Dibromomethane | U | | 0.800 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,2-Dichlorobenzene | U | | 1.16 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,3-Dichlorobenzene | U | | 1.36 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,4-Dichlorobenzene | U | | 1.58 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Dichlorodifluoromethane | U | | 0.654 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,1-Dichloroethane | U | | 0.460 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,2-Dichloroethane | U | | 0.380 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,1-Dichloroethene | 1.42 | J | 0.400 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| cis-1,2-Dichloroethene | 166 | | 0.552 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| trans-1,2-Dichloroethene | U | | 1.14 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,2-Dichloropropane | U | | 1.02 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,1-Dichloropropene | U | J4 | 0.560 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,3-Dichloropropane | U | | 1.40 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| cis-1,3-Dichloropropene | U | | 0.542 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| trans-1,3-Dichloropropene | U | | 1.22 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| 2,2-Dichloropropane | U | | 0.634 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Di-isopropyl ether | U | | 0.280 | 0.800 | 20 | 03/21/2023 16:24 | WG2027135 |
| Ethylbenzene | U | | 0.424 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Hexachloro-1,3-butadiene | U | | 10.2 | 20.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| Isopropylbenzene | U | | 0.690 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| p-Isopropyltoluene | U | | 1.86 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 2-Butanone (MEK) | U | | 10.0 | 20.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| Methylene Chloride | U | | 5.30 | 20.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| 4-Methyl-2-pentanone (MIBK) | U | | 8.00 | 20.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| Methyl tert-butyl ether | U | | 0.236 | 0.800 | 20 | 03/21/2023 16:24 | WG2027135 |
| Naphthalene | U | C3 | 2.48 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| n-Propylbenzene | U | J4 | 0.944 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Styrene | U | | 2.18 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,1,1,2-Tetrachloroethane | U | | 0.400 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,1,2,2-Tetrachloroethane | U | | 0.312 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.540 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Tetrachloroethene | U | | 0.560 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Toluene | U | | 1.00 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,2,3-Trichlorobenzene | U | C3 J4 | 0.500 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,2,4-Trichlorobenzene | U | C3 | 3.86 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,1,1-Trichloroethane | U | | 0.220 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,1,2-Trichloroethane | U | | 0.706 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Trichloroethene | U | | 0.320 | 0.800 | 20 | 03/21/2023 16:24 | WG2027135 |
| Trichlorofluoromethane | U | | 0.400 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,2,3-Trichloropropane | U | | 4.08 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,2,4-Trimethylbenzene | U | | 0.928 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,2,3-Trimethylbenzene | U | | 0.920 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,3,5-Trimethylbenzene | U | | 0.864 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Vinyl chloride | 145 | | 0.546 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Xylenes, Total | U | | 3.82 | 5.20 | 20 | 03/21/2023 16:24 | WG2027135 |
| Ethyl Ether | U | | 0.340 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Tetrahydrofuran | 8.24 | J | 1.80 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| Iodomethane | U | | 4.84 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| Allyl chloride | U | | 11.6 | 20.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| Trans-1,4-Dichloro-2-butene | U | J4 | 1.12 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| *(S) Toluene-d8* | *101* | | | *75.0-131* | | *03/21/2023 16:24* | WG2027135 |
| *(S) 4-Bromofluorobenzene* | *91.8* | | | *67.0-138* | | *03/21/2023 16:24* | WG2027135 |
| *(S) 1,2-Dichloroethane-d4* | *112* | | | *70.0-130* | | *03/21/2023 16:24* | WG2027135 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 3.98 | C3 | 0.548 | 1.00 | 1 | 03/21/2023 12:49 | WG2027135 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 03/21/2023 12:49 | WG2027135 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 03/21/2023 12:49 | WG2027135 |
| Bromobenzene | U | J4 | 0.0420 | 0.500 | 1 | 03/21/2023 12:49 | WG2027135 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 03/21/2023 12:49 | WG2027135 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 03/21/2023 12:49 | WG2027135 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 03/21/2023 12:49 | WG2027135 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 03/21/2023 12:49 | WG2027135 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 03/21/2023 12:49 | WG2027135 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 03/21/2023 12:49 | WG2027135 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 03/21/2023 12:49 | WG2027135 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 03/21/2023 12:49 | WG2027135 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| 4-Chlorotoluene | U | J4 | 0.0452 | 0.200 | 1 | 03/21/2023 12:49 | WG2027135 |
| 1,2-Dibromo-3-Chloropropane | U | C3 | 0.204 | 1.00 | 1 | 03/21/2023 12:49 | WG2027135 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 03/21/2023 12:49 | WG2027135 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 03/21/2023 12:49 | WG2027135 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 03/21/2023 12:49 | WG2027135 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 03/21/2023 12:49 | WG2027135 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 03/21/2023 12:49 | WG2027135 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 03/21/2023 12:49 | WG2027135 |
| 1,1-Dichloropropene | U | J4 | 0.0280 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 03/21/2023 12:49 | WG2027135 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 03/21/2023 12:49 | WG2027135 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 03/21/2023 12:49 | WG2027135 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 03/21/2023 12:49 | WG2027135 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 03/21/2023 12:49 | WG2027135 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 03/21/2023 12:49 | WG2027135 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 03/21/2023 12:49 | WG2027135 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 03/21/2023 12:49 | WG2027135 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 03/21/2023 12:49 | WG2027135 |
| Naphthalene | U | C3 | 0.124 | 0.500 | 1 | 03/21/2023 12:49 | WG2027135 |
| n-Propylbenzene | U | J4 | 0.0472 | 0.200 | 1 | 03/21/2023 12:49 | WG2027135 |
| Styrene | U | | 0.109 | 0.500 | 1 | 03/21/2023 12:49 | WG2027135 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| Toluene | 0.0680 | J | 0.0500 | 0.200 | 1 | 03/21/2023 12:49 | WG2027135 |
| 1,2,3-Trichlorobenzene | U | C3 J4 | 0.0250 | 0.500 | 1 | 03/21/2023 12:49 | WG2027135 |
| 1,2,4-Trichlorobenzene | U | C3 | 0.193 | 0.500 | 1 | 03/21/2023 12:49 | WG2027135 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 03/21/2023 12:49 | WG2027135 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 03/21/2023 12:49 | WG2027135 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 03/21/2023 12:49 | WG2027135 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 03/21/2023 12:49 | WG2027135 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 03/21/2023 12:49 | WG2027135 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 03/21/2023 12:49 | WG2027135 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 03/21/2023 12:49 | WG2027135 |
| Tetrahydrofuran | 0.145 | J | 0.0900 | 0.500 | 1 | 03/21/2023 12:49 | WG2027135 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 03/21/2023 12:49 | WG2027135 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 03/21/2023 12:49 | WG2027135 |
| Trans-1,4-Dichloro-2-butene | U | J4 | 0.0560 | 0.200 | 1 | 03/21/2023 12:49 | WG2027135 |
| *(S) Toluene-d8* | *99.6* | | | *75.0-131* | | *03/21/2023 12:49* | WG2027135 |
| *(S) 4-Bromofluorobenzene* | *89.7* | | | *67.0-138* | | *03/21/2023 12:49* | WG2027135 |
| *(S) 1,2-Dichloroethane-d4* | *108* | | | *70.0-130* | | *03/21/2023 12:49* | WG2027135 |

## Method Blank (MB)

(MB) R3901799-1 03/14/23 12:57

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Chloride | U | | 379 | 1000 |
| Nitrate | U | | 48.0 | 100 |
| Sulfate | U | | 594 | 5000 |

## L1594445-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1594445-01 03/14/23 16:46 • (DUP) R3901799-3 03/14/23 20:24

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 39300 | 35400 | 1 | 10.4 | | 15 |
| Nitrate | 1380 | 1280 | 1 | 7.32 | | 15 |
| Sulfate | 32000 | 31700 | 1 | 0.943 | | 15 |

## L1594525-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1594525-04 03/14/23 22:19 • (DUP) R3901799-6 03/14/23 22:58

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 91900 | 86600 | 1 | 5.96 | | 15 |
| Nitrate | 57.3 | U | 1 | 200 | P1 | 15 |
| Sulfate | 24600 | 23800 | 1 | 3.15 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3901799-2 03/14/23 13:10

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 40000 | 40000 | 100 | 80.0-120 | |
| Nitrate | 8000 | 8000 | 100 | 80.0-120 | |
| Sulfate | 40000 | 39900 | 99.9 | 80.0-120 | |

## L1594445-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1594445-01 03/14/23 16:46 • (MS) R3901799-4 03/14/23 20:37 • (MSD) R3901799-5 03/14/23 20:50

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 39300 | 85000 | 88100 | 91.4 | 97.7 | 1 | 80.0-120 | | | 3.61 | 15 |
| Nitrate | 5000 | 1380 | 6290 | 6610 | 98.2 | 105 | 1 | 80.0-120 | | | 4.91 | 15 |
| Sulfate | 50000 | 32000 | 80600 | 83600 | 97.2 | 103 | 1 | 80.0-120 | | | 3.66 | 15 |

## L1594525-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1594525-04 03/14/23 22:19 • (MS) R3901799-7 03/14/23 23:11

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MS Rec. % | Dilution | Rec. Limits % | MS Qualifier |
|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 91900 | 134000 | 84.4 | 1 | 80.0-120 | |
| Nitrate | 5000 | 57.3 | 4790 | 94.6 | 1 | 80.0-120 | |
| Sulfate | 50000 | 24600 | 68000 | 86.8 | 1 | 80.0-120 | |

## L1594522-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1594522-01 03/14/23 17:50 • (MS) R3901799-8 03/15/23 00:02 • (MSD) R3901799-9 03/15/23 00:15

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 50000 | 2730000 | 2640000 | 2640000 | 0.000 | 0.000 | 10 | 80.0-120 | E V | E V | 0.0327 | 15 |
| Nitrate | 5000 | U | 4730 | 4840 | 94.6 | 96.8 | 10 | 80.0-120 | | | 2.27 | 15 |
| Sulfate | 50000 | 83200 | 130000 | 128000 | 94.3 | 89.1 | 10 | 80.0-120 | | | 2.01 | 15 |

## Method Blank (MB)

(MB) R3902132-2 03/16/23 13:44

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 662 | J | 102 | 1000 |

## Method Blank (MB)

(MB) R3904476-2 03/22/23 12:53

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| TOC (Total Organic Carbon) | 313 | J | 102 | 1000 |

## L1594735-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1594735-12 03/17/23 02:42 • (DUP) R3902132-5 03/17/23 02:57

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1660 | 1580 | 1 | 4.64 | | 20 |

## L1594978-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1594978-03 03/22/23 15:55 • (DUP) R3904476-3 03/22/23 16:09

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1730 | 1730 | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3902132-1 03/16/23 13:29

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 80600 | 107 | 85.0-115 | |

## Laboratory Control Sample (LCS)

(LCS) R3904476-1 03/22/23 12:33

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 75000 | 71700 | 95.6 | 85.0-115 | |

## L1594735-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1594735-11 03/17/23 01:40 • (MS) R3902132-3 03/17/23 02:03 • (MSD) R3902132-4 03/17/23 02:26

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 3580 | 58100 | 58000 | 109 | 109 | 1 | 80.0-120 | | | 0.224 | 20 |

## L1594994-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1594994-02 03/22/23 17:47 • (MS) R3904476-4 03/22/23 18:55 • (MSD) R3904476-5 03/22/23 19:13

| Analyte | Spike Amount ug/l | Original Result ug/l | MS Result ug/l | MSD Result ug/l | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 50000 | 4120 | 44500 | 46300 | 80.8 | 84.3 | 1 | 80.0-120 | | | 3.86 | 20 |

## Method Blank (MB)

(MB) R3901380-2 03/15/23 13:08

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Methane | U | | 0.287 | 0.678 |
| Ethane | U | | 0.296 | 1.29 |
| Ethene | U | | 0.422 | 1.27 |

## L1594387-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1594387-01 03/15/23 13:24 • (DUP) R3901380-3 03/15/23 14:26

| Analyte | Original Result ug/l | DUP Result ug/l | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Methane | 74.3 | 75.0 | 1 | 0.938 | | 20 |
| Ethane | U | U | 1 | 0.000 | | 20 |
| Ethene | U | U | 1 | 0.000 | | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3901380-1 03/15/23 13:03 • (LCSD) R3901380-4 03/15/23 14:29

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Methane | 67.8 | 68.4 | 69.1 | 101 | 102 | 85.0-115 | | | 1.02 | 20 |
| Ethane | 129 | 116 | 114 | 89.9 | 88.4 | 85.0-115 | | | 1.74 | 20 |
| Ethene | 127 | 116 | 114 | 91.3 | 89.8 | 85.0-115 | | | 1.74 | 20 |

## Method Blank (MB)

(MB) R3903952-3 03/21/23 12:09

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 |
| Acrylonitrile | U | | 0.0760 | 0.500 |
| Benzene | U | | 0.0160 | 0.0400 |
| Bromobenzene | U | | 0.0420 | 0.500 |
| Bromodichloromethane | U | | 0.0315 | 0.100 |
| Bromoform | U | | 0.239 | 1.00 |
| Bromomethane | U | | 0.148 | 0.500 |
| n-Butylbenzene | U | | 0.153 | 0.500 |
| sec-Butylbenzene | U | | 0.101 | 0.500 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 |
| Chlorobenzene | U | | 0.0229 | 0.100 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 |
| Chloroethane | U | | 0.0432 | 0.200 |
| Chloroform | U | | 0.0166 | 0.100 |
| Chloromethane | U | | 0.0556 | 0.500 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 |
| Dibromomethane | U | | 0.0400 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 |
| Ethylbenzene | U | | 0.0212 | 0.100 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 |
| Isopropylbenzene | U | | 0.0345 | 0.100 |

## Method Blank (MB)

(MB) R3903952-3 03/21/23 12:09

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| p-Isopropyltoluene | U | | 0.0932 | 0.200 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 |
| Methylene Chloride | U | | 0.265 | 1.00 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 |
| Naphthalene | U | | 0.124 | 0.500 |
| n-Propylbenzene | U | | 0.0472 | 0.200 |
| Styrene | U | | 0.109 | 0.500 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 |
| Tetrachloroethene | U | | 0.0280 | 0.100 |
| Toluene | U | | 0.0500 | 0.200 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 |
| Trichloroethene | U | | 0.0160 | 0.0400 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 |
| Vinyl chloride | U | | 0.0273 | 0.100 |
| Xylenes, Total | U | | 0.191 | 0.260 |
| Ethyl ether | U | | 0.0170 | 0.100 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 |
| Iodomethane | U | | 0.242 | 0.500 |
| Allyl Chloride | U | | 0.580 | 1.00 |
| trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 |
| *(S) Toluene-d8* | *96.3* | | | *75.0-131* |
| *(S) 4-Bromofluorobenzene* | *90.0* | | | *67.0-138* |
| *(S) 1,2-Dichloroethane-d4* | *108* | | | *70.0-130* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3903952-1 03/21/23 08:29 • (LCSD) R3903952-2 03/21/23 08:48

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 25.0 | 18.5 | 22.1 | 74.0 | 88.4 | 10.0-160 | | | 17.7 | 31 |
| Acrylonitrile | 25.0 | 22.1 | 24.4 | 88.4 | 97.6 | 45.0-153 | | | 9.89 | 22 |
| Benzene | 5.00 | 5.88 | 5.61 | 118 | 112 | 70.0-123 | | | 4.70 | 20 |
| Bromobenzene | 5.00 | 5.84 | 6.30 | 117 | 126 | 73.0-121 | | J4 | 7.58 | 20 |
| Bromodichloromethane | 5.00 | 5.55 | 5.16 | 111 | 103 | 73.0-121 | | | 7.28 | 20 |
| Bromoform | 5.00 | 4.14 | 4.02 | 82.8 | 80.4 | 64.0-132 | | | 2.94 | 20 |
| Bromomethane | 5.00 | 4.79 | 4.68 | 95.8 | 93.6 | 56.0-147 | | | 2.32 | 20 |
| n-Butylbenzene | 5.00 | 5.83 | 5.87 | 117 | 117 | 68.0-135 | | | 0.684 | 20 |
| sec-Butylbenzene | 5.00 | 5.86 | 6.22 | 117 | 124 | 74.0-130 | | | 5.96 | 20 |
| tert-Butylbenzene | 5.00 | 6.04 | 6.04 | 121 | 121 | 75.0-127 | | | 0.000 | 20 |
| Carbon tetrachloride | 5.00 | 6.04 | 5.40 | 121 | 108 | 66.0-128 | | | 11.2 | 20 |
| Chlorobenzene | 5.00 | 5.14 | 5.06 | 103 | 101 | 76.0-128 | | | 1.57 | 20 |
| Chlorodibromomethane | 5.00 | 4.66 | 4.48 | 93.2 | 89.6 | 74.0-127 | | | 3.94 | 20 |
| Chloroethane | 5.00 | 6.02 | 5.69 | 120 | 114 | 61.0-134 | | | 5.64 | 20 |
| Chloroform | 5.00 | 5.73 | 5.54 | 115 | 111 | 72.0-123 | | | 3.37 | 20 |
| Chloromethane | 5.00 | 5.90 | 5.08 | 118 | 102 | 51.0-138 | | | 14.9 | 20 |
| 2-Chlorotoluene | 5.00 | 5.86 | 6.02 | 117 | 120 | 75.0-124 | | | 2.69 | 20 |
| 4-Chlorotoluene | 5.00 | 6.47 | 6.83 | 129 | 137 | 75.0-124 | J4 | J4 | 5.41 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 3.36 | 3.63 | 67.2 | 72.6 | 59.0-130 | | | 7.73 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.15 | 4.83 | 103 | 96.6 | 74.0-128 | | | 6.41 | 20 |
| Dibromomethane | 5.00 | 5.79 | 5.45 | 116 | 109 | 75.0-122 | | | 6.05 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 5.60 | 5.19 | 112 | 104 | 76.0-124 | | | 7.60 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 5.57 | 5.14 | 111 | 103 | 76.0-125 | | | 8.03 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 5.20 | 5.30 | 104 | 106 | 77.0-121 | | | 1.90 | 20 |
| Dichlorodifluoromethane | 5.00 | 5.81 | 5.02 | 116 | 100 | 43.0-156 | | | 14.6 | 20 |
| 1,1-Dichloroethane | 5.00 | 5.64 | 5.11 | 113 | 102 | 70.0-127 | | | 9.86 | 20 |
| 1,2-Dichloroethane | 5.00 | 6.06 | 5.55 | 121 | 111 | 65.0-131 | | | 8.79 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.57 | 4.98 | 111 | 99.6 | 65.0-131 | | | 11.2 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 5.59 | 5.28 | 112 | 106 | 73.0-125 | | | 5.70 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 4.84 | 4.43 | 96.8 | 88.6 | 71.0-125 | | | 8.85 | 20 |
| 1,2-Dichloropropane | 5.00 | 5.32 | 5.32 | 106 | 106 | 74.0-125 | | | 0.000 | 20 |
| 1,1-Dichloropropene | 5.00 | 6.53 | 6.22 | 131 | 124 | 73.0-125 | J4 | | 4.86 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.92 | 5.54 | 118 | 111 | 80.0-125 | | | 6.63 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 6.20 | 5.94 | 124 | 119 | 76.0-127 | | | 4.28 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 5.76 | 5.61 | 115 | 112 | 73.0-127 | | | 2.64 | 20 |
| 2,2-Dichloropropane | 5.00 | 6.39 | 5.73 | 128 | 115 | 59.0-135 | | | 10.9 | 20 |
| Di-isopropyl ether | 5.00 | 5.29 | 4.94 | 106 | 98.8 | 60.0-136 | | | 6.84 | 20 |
| Ethylbenzene | 5.00 | 4.76 | 4.70 | 95.2 | 94.0 | 74.0-126 | | | 1.27 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 4.18 | 3.64 | 83.6 | 72.8 | 57.0-150 | | | 13.8 | 20 |
| Isopropylbenzene | 5.00 | 5.12 | 4.71 | 102 | 94.2 | 72.0-127 | | | 8.34 | 20 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3903952-1 03/21/23 08:29 • (LCSD) R3903952-2 03/21/23 08:48

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCSD Result ug/l | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| p-Isopropyltoluene | 5.00 | 5.37 | 5.68 | 107 | 114 | 72.0-133 | | | 5.61 | 20 |
| 2-Butanone (MEK) | 25.0 | 27.0 | 26.7 | 108 | 107 | 30.0-160 | | | 1.12 | 24 |
| Methylene Chloride | 5.00 | 5.46 | 4.83 | 109 | 96.6 | 68.0-123 | | | 12.2 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 23.9 | 24.9 | 95.6 | 99.6 | 56.0-143 | | | 4.10 | 20 |
| Methyl tert-butyl ether | 5.00 | 4.88 | 4.80 | 97.6 | 96.0 | 66.0-132 | | | 1.65 | 20 |
| Naphthalene | 5.00 | 3.34 | 3.10 | 66.8 | 62.0 | 59.0-130 | | | 7.45 | 20 |
| n-Propylbenzene | 5.00 | 6.09 | 6.68 | 122 | 134 | 74.0-126 | | J4 | 9.24 | 20 |
| Styrene | 5.00 | 4.35 | 4.27 | 87.0 | 85.4 | 72.0-127 | | | 1.86 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 4.50 | 4.17 | 90.0 | 83.4 | 74.0-129 | | | 7.61 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 6.05 | 6.31 | 121 | 126 | 68.0-128 | | | 4.21 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 6.27 | 5.63 | 125 | 113 | 61.0-139 | | | 10.8 | 20 |
| Tetrachloroethene | 5.00 | 4.84 | 4.89 | 96.8 | 97.8 | 70.0-136 | | | 1.03 | 20 |
| Toluene | 5.00 | 5.40 | 5.15 | 108 | 103 | 75.0-121 | | | 4.74 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 2.90 | 2.62 | 58.0 | 52.4 | 59.0-139 | J4 | J4 | 10.1 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 3.94 | 3.49 | 78.8 | 69.8 | 62.0-137 | | | 12.1 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.88 | 5.39 | 118 | 108 | 69.0-126 | | | 8.70 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.35 | 5.19 | 107 | 104 | 78.0-123 | | | 3.04 | 20 |
| Trichloroethene | 5.00 | 5.19 | 4.93 | 104 | 98.6 | 76.0-126 | | | 5.14 | 20 |
| Trichlorofluoromethane | 5.00 | 5.94 | 5.21 | 119 | 104 | 61.0-142 | | | 13.1 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 5.77 | 6.17 | 115 | 123 | 67.0-129 | | | 6.70 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.57 | 5.64 | 111 | 113 | 70.0-126 | | | 1.25 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.37 | 5.46 | 107 | 109 | 74.0-124 | | | 1.66 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.78 | 6.00 | 116 | 120 | 73.0-127 | | | 3.74 | 20 |
| Vinyl chloride | 5.00 | 5.73 | 5.28 | 115 | 106 | 63.0-134 | | | 8.17 | 20 |
| Xylenes, Total | 15.0 | 14.4 | 14.2 | 96.0 | 94.7 | 72.0-127 | | | 1.40 | 20 |
| Ethyl ether | 5.00 | 5.08 | 4.57 | 102 | 91.4 | 64.0-137 | | | 10.6 | 20 |
| Tetrahydrofuran | 5.00 | 3.78 | 4.15 | 75.6 | 83.0 | 37.0-146 | | | 9.33 | 24 |
| Iodomethane | 25.0 | 27.3 | 24.1 | 109 | 96.4 | 74.0-134 | | | 12.5 | 20 |
| Allyl chloride | 25.0 | 30.1 | 26.6 | 120 | 106 | 70.0-131 | | | 12.3 | 20 |
| trans-1,4-Dichloro-2-butene | 5.00 | 6.90 | 8.02 | 138 | 160 | 45.0-143 | | J4 | 15.0 | 20 |
| *(S) Toluene-d8* | | | | *95.7* | *96.0* | *75.0-131* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *88.5* | *85.8* | *67.0-138* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *105* | *103* | *70.0-130* | | | | |

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| B | The same analyte is found in the associated blank. |
| C3 | The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable. |
| E | The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL). |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| J4 | The associated batch QC was outside the established quality control range for accuracy. |
| P1 | RPD value not applicable for sample concentrations less than 5 times the reporting limit. |
| V | The sample concentration is too high to evaluate accurate spike recoveries. |

# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LAO000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

**PES Environmental, Inc.- WA**

1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Billing Information:
Attn: Accounts Payable
1215 Fourth Ave., Ste. 1350
Seattle, WA 98161

Pres Chk

Report to: Brian O'Neal/Bill Haldeman

Email To: boneal@pesenv.com;bhaldeman@pesenv.com;

Project Description: American Linen

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

Phone: 206-529-3980

Client Project # 1413.001.10.603.04

Lab Project # PESENVSWA-ALP

Collected by (print): NEW

Site/Facility ID #

P.O. # 141300110603 04

Collected by (signature): Natalie Winston

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | *NO3,Cl,SO4 125mlHDPE-NoPres | ALK 125mlHDPE-NoPres | RSK175LL 40mlAmb-HCl | TOC 250mlHDPE-HCl | Total Fe Mn 6020 250mlHDPE-HNO3 | V8260ULLC 40mlAmb HCl | Chloride 250ml HDPE-NoPres | Nitrate, Sulfate 250ml HDPE-NoPres | | | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | <2 | TO <2 | | | | | | | |
| MW-348-031323 | Grab | GW | — | 3/13/23 | 1311 | 7 | | | X | X | | X | X | X | | | | -01 |
| TB-031323 | — | GW | — | ↓ | — | 1 | | | X | X | | X | X | X | | | | -02 |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | NEW 3/13/23 | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |
| | | GW | | | | | | | | | | | | | | | | |

Chain of Custody Page 1 of 1

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1594468

G206

Table

Acctnum: PESENVSWA

Template: T170884

Prelogin: P788931

PM: 546 - Jared Starkey

PB:

Shipped Via: FedEX 2nd Day

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS ✓ FedEx __ Courier _____

Tracking # 5829 6697 9905

Sample Receipt Checklist

| | | |
|---|---|---|
| COC Seal Present/Intact: | NP | Y N |
| COC Signed/Accurate: | | ✓Y N |
| Bottles arrive intact: | | ✓Y N |
| Correct bottles used: | | ✓Y N |
| Sufficient volume sent: | | ✓Y N |
| If Applicable | | |
| VOA Zero Headspace: | | ✓Y N |
| Preservation Correct/Checked: | | ✓Y N |
| RAD Screen <0.5 mR/hr: | | ✓Y N |

| | | | | | |
|---|---|---|---|---|---|
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / No HCL / MeoH TBR | If preservation required by Login: Date/Time |
| Natalie Winston | 3/13/23 | 1533 | | 1 | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: 0.6 °C Bottles Received: 7 | |
| | | | | 0.6 TO=0.6 | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: 03.14.23 Time: 0700 | Hold: Condition: NCF / OK |
| | | | HAWA NWPCHIWA | | |

# ANALYTICAL REPORT

March 02, 2023



## PES Environmental, Inc.- WA

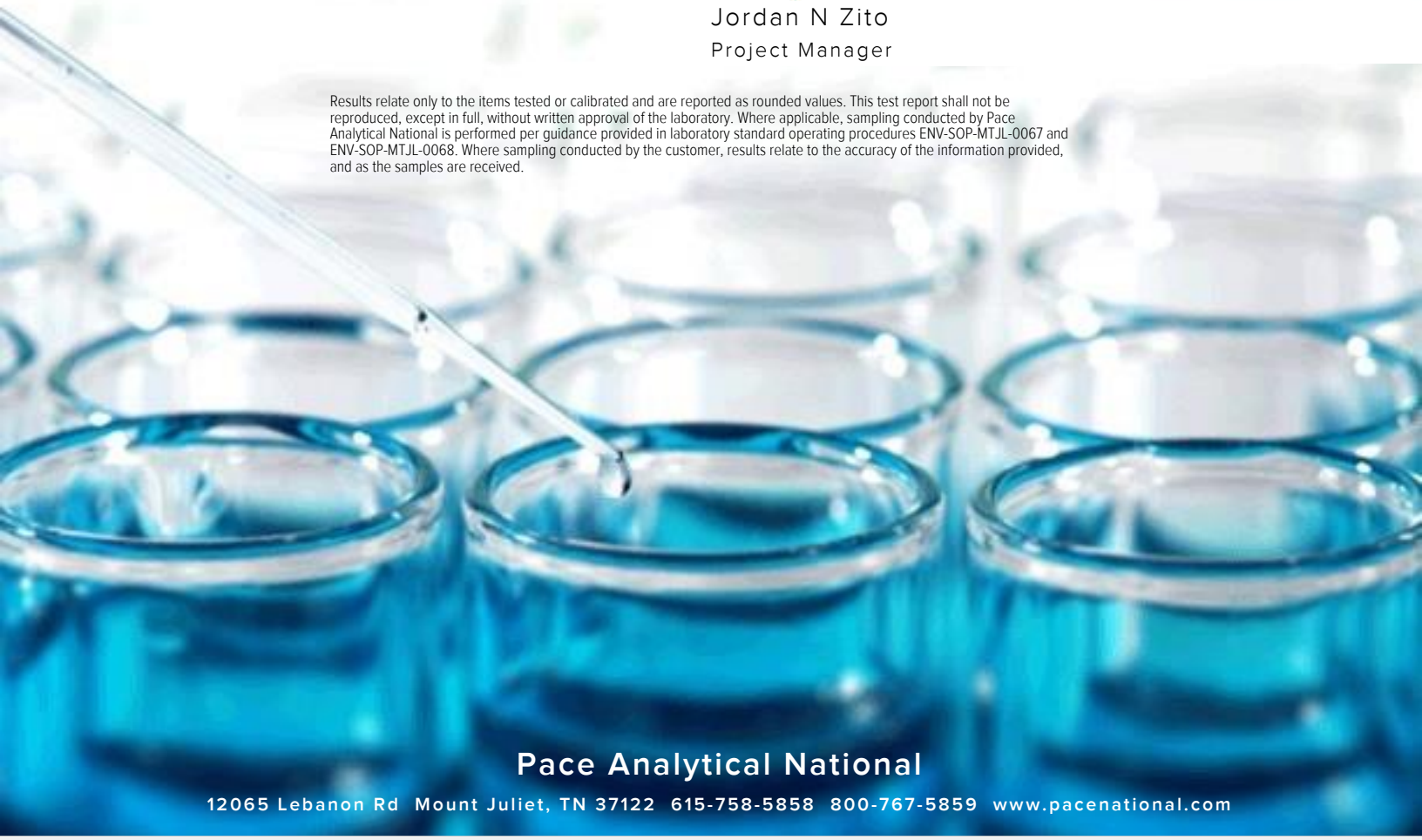
| | |
|---|---|
| Sample Delivery Group: | L1589070 |
| Samples Received: | 02/24/2023 |
| Project Number: | 1413001.10.701.03 |
| Description: | American Linen |

Report To: Brian O'Neal/Bill Haldeman
2101 Fourth Ave., Suite 1310
Seattle, WA 98121

Entire Report Reviewed By:

Jordan N Zito
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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## SV01-022323 L1589070-01 Air

Collected by: Anthony S.
Collected date/time: 02/23/23 11:12
Received date/time: 02/24/23 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG2012931 | 1 | 02/25/23 20:51 | 02/25/23 20:51 | DAH | Mt. Juliet, TN |
| Volatile Organic Compounds (MS) by Method TO-15 | WG2014096 | 1 | 02/28/23 19:01 | 02/28/23 19:01 | CEP | Mt. Juliet, TN |

## SV-18-022323 L1589070-02 Air

Collected by: Anthony S.
Collected date/time: 02/23/23 10:22
Received date/time: 02/24/23 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG2012931 | 1 | 02/25/23 21:30 | 02/25/23 21:30 | DAH | Mt. Juliet, TN |

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jordan N Zito
Project Manager

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | 58.10 | 1.25 | 2.97 | 4.31 | 10.2 | | 1 | WG2012931 |
| Allyl chloride | 107-05-1 | 76.53 | 0.200 | 0.626 | ND | ND | | 1 | WG2012931 |
| Benzene | 71-43-2 | 78.10 | 0.200 | 0.639 | ND | ND | | 1 | WG2012931 |
| Benzyl Chloride | 100-44-7 | 127 | 0.200 | 1.04 | ND | ND | | 1 | WG2012931 |
| Bromodichloromethane | 75-27-4 | 164 | 0.200 | 1.34 | ND | ND | | 1 | WG2012931 |
| Bromoform | 75-25-2 | 253 | 0.600 | 6.21 | ND | ND | | 1 | WG2012931 |
| Bromomethane | 74-83-9 | 94.90 | 0.200 | 0.776 | ND | ND | | 1 | WG2012931 |
| 1,3-Butadiene | 106-99-0 | 54.10 | 2.00 | 4.43 | ND | ND | | 1 | WG2012931 |
| Carbon disulfide | 75-15-0 | 76.10 | 0.200 | 0.622 | ND | ND | | 1 | WG2012931 |
| Carbon tetrachloride | 56-23-5 | 154 | 0.200 | 1.26 | ND | ND | | 1 | WG2012931 |
| Chlorobenzene | 108-90-7 | 113 | 0.200 | 0.924 | ND | ND | | 1 | WG2012931 |
| Chloroethane | 75-00-3 | 64.50 | 0.200 | 0.528 | ND | ND | | 1 | WG2012931 |
| Chloroform | 67-66-3 | 119 | 0.200 | 0.973 | ND | ND | | 1 | WG2012931 |
| Chloromethane | 74-87-3 | 50.50 | 0.200 | 0.413 | ND | ND | | 1 | WG2012931 |
| 2-Chlorotoluene | 95-49-8 | 126 | 0.200 | 1.03 | ND | ND | | 1 | WG2012931 |
| Cyclohexane | 110-82-7 | 84.20 | 0.200 | 0.689 | ND | ND | | 1 | WG2012931 |
| Dibromochloromethane | 124-48-1 | 208 | 0.200 | 1.70 | ND | ND | | 1 | WG2012931 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.200 | 1.54 | ND | ND | | 1 | WG2012931 |
| 1,2-Dichlorobenzene | 95-50-1 | 147 | 0.200 | 1.20 | ND | ND | | 1 | WG2012931 |
| 1,3-Dichlorobenzene | 541-73-1 | 147 | 0.200 | 1.20 | ND | ND | | 1 | WG2012931 |
| 1,4-Dichlorobenzene | 106-46-7 | 147 | 0.200 | 1.20 | ND | ND | | 1 | WG2012931 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.200 | 0.810 | ND | ND | | 1 | WG2012931 |
| 1,1-Dichloroethane | 75-34-3 | 98 | 0.200 | 0.802 | 1.44 | 5.77 | | 1 | WG2012931 |
| 1,1-Dichloroethene | 75-35-4 | 96.90 | 0.200 | 0.793 | ND | ND | | 1 | WG2012931 |
| cis-1,2-Dichloroethene | 156-59-2 | 96.90 | 0.200 | 0.793 | ND | ND | | 1 | WG2012931 |
| trans-1,2-Dichloroethene | 156-60-5 | 96.90 | 0.200 | 0.793 | ND | ND | | 1 | WG2012931 |
| 1,2-Dichloropropane | 78-87-5 | 113 | 0.200 | 0.924 | ND | ND | | 1 | WG2012931 |
| cis-1,3-Dichloropropene | 10061-01-5 | 111 | 0.200 | 0.908 | ND | ND | | 1 | WG2012931 |
| trans-1,3-Dichloropropene | 10061-02-6 | 111 | 0.200 | 0.908 | ND | ND | | 1 | WG2012931 |
| 1,4-Dioxane | 123-91-1 | 88.10 | 0.200 | 0.721 | ND | ND | | 1 | WG2012931 |
| Ethanol | 64-17-5 | 46.10 | 1.25 | 2.36 | 5.21 | 9.82 | | 1 | WG2012931 |
| Ethylbenzene | 100-41-4 | 106 | 0.200 | 0.867 | ND | ND | | 1 | WG2012931 |
| 4-Ethyltoluene | 622-96-8 | 120 | 0.200 | 0.982 | ND | ND | | 1 | WG2012931 |
| Trichlorofluoromethane | 75-69-4 | 137.40 | 0.200 | 1.12 | ND | ND | | 1 | WG2012931 |
| Dichlorodifluoromethane | 75-71-8 | 120.92 | 0.200 | 0.989 | 3.06 | 15.1 | | 1 | WG2014096 |
| 1,1,2-Trichlorotrifluoroethane | 76-13-1 | 187.40 | 0.200 | 1.53 | ND | ND | | 1 | WG2012931 |
| 1,2-Dichlorotetrafluoroethane | 76-14-2 | 171 | 0.200 | 1.40 | ND | ND | | 1 | WG2012931 |
| Heptane | 142-82-5 | 100 | 0.200 | 0.818 | ND | ND | | 1 | WG2012931 |
| Hexachloro-1,3-butadiene | 87-68-3 | 261 | 0.630 | 6.73 | ND | ND | | 1 | WG2012931 |
| n-Hexane | 110-54-3 | 86.20 | 0.630 | 2.22 | 2.38 | 8.39 | | 1 | WG2012931 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.200 | 0.983 | ND | ND | | 1 | WG2012931 |
| Methylene Chloride | 75-09-2 | 84.90 | 0.200 | 0.694 | ND | ND | | 1 | WG2012931 |
| Methyl Butyl Ketone | 591-78-6 | 100 | 1.25 | 5.11 | ND | ND | | 1 | WG2012931 |
| 2-Butanone (MEK) | 78-93-3 | 72.10 | 1.25 | 3.69 | 2.09 | 6.16 | | 1 | WG2012931 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 100.10 | 1.25 | 5.12 | ND | ND | | 1 | WG2012931 |
| Methyl methacrylate | 80-62-6 | 100.12 | 0.200 | 0.819 | ND | ND | | 1 | WG2012931 |
| MTBE | 1634-04-4 | 88.10 | 0.200 | 0.721 | ND | ND | | 1 | WG2012931 |
| Naphthalene | 91-20-3 | 128 | 0.630 | 3.30 | ND | ND | | 1 | WG2012931 |
| 2-Propanol | 67-63-0 | 60.10 | 1.25 | 3.07 | 3.16 | 7.77 | | 1 | WG2012931 |
| Propene | 115-07-1 | 42.10 | 1.25 | 2.15 | ND | ND | | 1 | WG2012931 |
| Styrene | 100-42-5 | 104 | 0.200 | 0.851 | ND | ND | | 1 | WG2012931 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 168 | 0.200 | 1.37 | ND | ND | | 1 | WG2012931 |
| Tetrachloroethylene | 127-18-4 | 166 | 0.200 | 1.36 | 0.475 | 3.22 | | 1 | WG2012931 |
| Tetrahydrofuran | 109-99-9 | 72.10 | 0.200 | 0.590 | ND | ND | | 1 | WG2012931 |
| Toluene | 108-88-3 | 92.10 | 0.500 | 1.88 | ND | ND | | 1 | WG2012931 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 181 | 0.630 | 4.66 | ND | ND | | 1 | WG2012931 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 71-55-6 | 133 | 0.200 | 1.09 | 1.13 | 6.15 | | 1 | WG2012931 |
| 1,1,2-Trichloroethane | 79-00-5 | 133 | 0.200 | 1.09 | ND | ND | | 1 | WG2012931 |
| Trichloroethylene | 79-01-6 | 131 | 0.200 | 1.07 | ND | ND | | 1 | WG2012931 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.200 | 0.982 | ND | ND | | 1 | WG2012931 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.200 | 0.982 | ND | ND | | 1 | WG2012931 |
| 2,2,4-Trimethylpentane | 540-84-1 | 114.22 | 0.200 | 0.934 | ND | ND | | 1 | WG2012931 |
| Vinyl chloride | 75-01-4 | 62.50 | 0.200 | 0.511 | ND | ND | | 1 | WG2012931 |
| Vinyl Bromide | 593-60-2 | 106.95 | 0.200 | 0.875 | ND | ND | | 1 | WG2012931 |
| Vinyl acetate | 108-05-4 | 86.10 | 0.200 | 0.704 | ND | ND | | 1 | WG2012931 |
| Xylenes, Total | 1330-20-7 | 106.16 | 0.600 | 2.61 | ND | ND | | 1 | WG2012931 |
| m&p-Xylene | 1330-20-7 | 106 | 0.400 | 1.73 | 0.424 | 1.84 | | 1 | WG2012931 |
| o-Xylene | 95-47-6 | 106 | 0.200 | 0.867 | ND | ND | | 1 | WG2012931 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | *60.0-140* | | *98.4* | | | | WG2012931 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | *60.0-140* | | *96.7* | | | | WG2014096 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 67-64-1 | 58.10 | 1.25 | 2.97 | ND | ND | | 1 | WG2012931 |
| Allyl chloride | 107-05-1 | 76.53 | 0.200 | 0.626 | ND | ND | | 1 | WG2012931 |
| Benzene | 71-43-2 | 78.10 | 0.200 | 0.639 | ND | ND | | 1 | WG2012931 |
| Benzyl Chloride | 100-44-7 | 127 | 0.200 | 1.04 | ND | ND | | 1 | WG2012931 |
| Bromodichloromethane | 75-27-4 | 164 | 0.200 | 1.34 | ND | ND | | 1 | WG2012931 |
| Bromoform | 75-25-2 | 253 | 0.600 | 6.21 | ND | ND | | 1 | WG2012931 |
| Bromomethane | 74-83-9 | 94.90 | 0.200 | 0.776 | ND | ND | | 1 | WG2012931 |
| 1,3-Butadiene | 106-99-0 | 54.10 | 2.00 | 4.43 | ND | ND | | 1 | WG2012931 |
| Carbon disulfide | 75-15-0 | 76.10 | 0.200 | 0.622 | 0.328 | 1.02 | | 1 | WG2012931 |
| Carbon tetrachloride | 56-23-5 | 154 | 0.200 | 1.26 | ND | ND | | 1 | WG2012931 |
| Chlorobenzene | 108-90-7 | 113 | 0.200 | 0.924 | ND | ND | | 1 | WG2012931 |
| Chloroethane | 75-00-3 | 64.50 | 0.200 | 0.528 | ND | ND | | 1 | WG2012931 |
| Chloroform | 67-66-3 | 119 | 0.200 | 0.973 | ND | ND | | 1 | WG2012931 |
| Chloromethane | 74-87-3 | 50.50 | 0.200 | 0.413 | ND | ND | | 1 | WG2012931 |
| 2-Chlorotoluene | 95-49-8 | 126 | 0.200 | 1.03 | ND | ND | | 1 | WG2012931 |
| Cyclohexane | 110-82-7 | 84.20 | 0.200 | 0.689 | ND | ND | | 1 | WG2012931 |
| Dibromochloromethane | 124-48-1 | 208 | 0.200 | 1.70 | ND | ND | | 1 | WG2012931 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.200 | 1.54 | ND | ND | | 1 | WG2012931 |
| 1,2-Dichlorobenzene | 95-50-1 | 147 | 0.200 | 1.20 | ND | ND | | 1 | WG2012931 |
| 1,3-Dichlorobenzene | 541-73-1 | 147 | 0.200 | 1.20 | ND | ND | | 1 | WG2012931 |
| 1,4-Dichlorobenzene | 106-46-7 | 147 | 0.200 | 1.20 | ND | ND | | 1 | WG2012931 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.200 | 0.810 | ND | ND | | 1 | WG2012931 |
| 1,1-Dichloroethane | 75-34-3 | 98 | 0.200 | 0.802 | 6.92 | 27.7 | | 1 | WG2012931 |
| 1,1-Dichloroethene | 75-35-4 | 96.90 | 0.200 | 0.793 | ND | ND | | 1 | WG2012931 |
| cis-1,2-Dichloroethene | 156-59-2 | 96.90 | 0.200 | 0.793 | ND | ND | | 1 | WG2012931 |
| trans-1,2-Dichloroethene | 156-60-5 | 96.90 | 0.200 | 0.793 | ND | ND | | 1 | WG2012931 |
| 1,2-Dichloropropane | 78-87-5 | 113 | 0.200 | 0.924 | ND | ND | | 1 | WG2012931 |
| cis-1,3-Dichloropropene | 10061-01-5 | 111 | 0.200 | 0.908 | ND | ND | | 1 | WG2012931 |
| trans-1,3-Dichloropropene | 10061-02-6 | 111 | 0.200 | 0.908 | ND | ND | | 1 | WG2012931 |
| 1,4-Dioxane | 123-91-1 | 88.10 | 0.200 | 0.721 | ND | ND | | 1 | WG2012931 |
| Ethanol | 64-17-5 | 46.10 | 1.25 | 2.36 | 1.66 | 3.13 | | 1 | WG2012931 |
| Ethylbenzene | 100-41-4 | 106 | 0.200 | 0.867 | ND | ND | | 1 | WG2012931 |
| 4-Ethyltoluene | 622-96-8 | 120 | 0.200 | 0.982 | ND | ND | | 1 | WG2012931 |
| Trichlorofluoromethane | 75-69-4 | 137.40 | 0.200 | 1.12 | ND | ND | | 1 | WG2012931 |
| Dichlorodifluoromethane | 75-71-8 | 120.92 | 0.200 | 0.989 | 6.16 | 30.5 | | 1 | WG2012931 |
| 1,1,2-Trichlorotrifluoroethane | 76-13-1 | 187.40 | 0.200 | 1.53 | ND | ND | | 1 | WG2012931 |
| 1,2-Dichlorotetrafluoroethane | 76-14-2 | 171 | 0.200 | 1.40 | ND | ND | | 1 | WG2012931 |
| Heptane | 142-82-5 | 100 | 0.200 | 0.818 | ND | ND | | 1 | WG2012931 |
| Hexachloro-1,3-butadiene | 87-68-3 | 261 | 0.630 | 6.73 | ND | ND | | 1 | WG2012931 |
| n-Hexane | 110-54-3 | 86.20 | 0.630 | 2.22 | ND | ND | | 1 | WG2012931 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.200 | 0.983 | ND | ND | | 1 | WG2012931 |
| Methylene Chloride | 75-09-2 | 84.90 | 0.200 | 0.694 | ND | ND | | 1 | WG2012931 |
| Methyl Butyl Ketone | 591-78-6 | 100 | 1.25 | 5.11 | ND | ND | | 1 | WG2012931 |
| 2-Butanone (MEK) | 78-93-3 | 72.10 | 1.25 | 3.69 | ND | ND | | 1 | WG2012931 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 100.10 | 1.25 | 5.12 | ND | ND | | 1 | WG2012931 |
| Methyl methacrylate | 80-62-6 | 100.12 | 0.200 | 0.819 | ND | ND | | 1 | WG2012931 |
| MTBE | 1634-04-4 | 88.10 | 0.200 | 0.721 | ND | ND | | 1 | WG2012931 |
| Naphthalene | 91-20-3 | 128 | 0.630 | 3.30 | ND | ND | | 1 | WG2012931 |
| 2-Propanol | 67-63-0 | 60.10 | 1.25 | 3.07 | ND | ND | | 1 | WG2012931 |
| Propene | 115-07-1 | 42.10 | 1.25 | 2.15 | ND | ND | | 1 | WG2012931 |
| Styrene | 100-42-5 | 104 | 0.200 | 0.851 | ND | ND | | 1 | WG2012931 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 168 | 0.200 | 1.37 | ND | ND | | 1 | WG2012931 |
| Tetrachloroethylene | 127-18-4 | 166 | 0.200 | 1.36 | ND | ND | | 1 | WG2012931 |
| Tetrahydrofuran | 109-99-9 | 72.10 | 0.200 | 0.590 | ND | ND | | 1 | WG2012931 |
| Toluene | 108-88-3 | 92.10 | 0.500 | 1.88 | ND | ND | | 1 | WG2012931 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 181 | 0.630 | 4.66 | ND | ND | | 1 | WG2012931 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 71-55-6 | 133 | 0.200 | 1.09 | 1.99 | 10.8 | | 1 | WG2012931 |
| 1,1,2-Trichloroethane | 79-00-5 | 133 | 0.200 | 1.09 | ND | ND | | 1 | WG2012931 |
| Trichloroethylene | 79-01-6 | 131 | 0.200 | 1.07 | ND | ND | | 1 | WG2012931 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.200 | 0.982 | ND | ND | | 1 | WG2012931 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.200 | 0.982 | ND | ND | | 1 | WG2012931 |
| 2,2,4-Trimethylpentane | 540-84-1 | 114.22 | 0.200 | 0.934 | 5.75 | 26.9 | | 1 | WG2012931 |
| Vinyl chloride | 75-01-4 | 62.50 | 0.200 | 0.511 | 20.9 | 53.4 | | 1 | WG2012931 |
| Vinyl Bromide | 593-60-2 | 106.95 | 0.200 | 0.875 | ND | ND | | 1 | WG2012931 |
| Vinyl acetate | 108-05-4 | 86.10 | 0.200 | 0.704 | ND | ND | | 1 | WG2012931 |
| Xylenes, Total | 1330-20-7 | 106.16 | 0.600 | 2.61 | ND | ND | | 1 | WG2012931 |
| m&p-Xylene | 1330-20-7 | 106 | 0.400 | 1.73 | ND | ND | | 1 | WG2012931 |
| o-Xylene | 95-47-6 | 106 | 0.200 | 0.867 | ND | ND | | 1 | WG2012931 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | *60.0-140* | | *101* | | | | WG2012931 |

## Method Blank (MB)

(MB) R3895465-3 02/25/23 08:21

| Analyte | MB Result ppbv | MB Qualifier | MB MDL ppbv | MB RDL ppbv |
|---|---|---|---|---|
| Acetone | U | | 0.584 | 1.25 |
| Allyl Chloride | U | | 0.114 | 0.200 |
| Benzene | U | | 0.0715 | 0.200 |
| Benzyl Chloride | U | | 0.0598 | 0.200 |
| Bromodichloromethane | U | | 0.0702 | 0.200 |
| Bromoform | U | | 0.0732 | 0.600 |
| Bromomethane | U | | 0.0982 | 0.200 |
| 1,3-Butadiene | U | | 0.104 | 2.00 |
| Carbon disulfide | U | | 0.102 | 0.200 |
| Carbon tetrachloride | U | | 0.0732 | 0.200 |
| Chlorobenzene | U | | 0.0832 | 0.200 |
| Chloroethane | U | | 0.0996 | 0.200 |
| Chloroform | U | | 0.0717 | 0.200 |
| Chloromethane | U | | 0.103 | 0.200 |
| 2-Chlorotoluene | U | | 0.0828 | 0.200 |
| Cyclohexane | U | | 0.0753 | 0.200 |
| Dibromochloromethane | U | | 0.0727 | 0.200 |
| 1,2-Dibromoethane | U | | 0.0721 | 0.200 |
| 1,2-Dichlorobenzene | U | | 0.128 | 0.200 |
| 1,3-Dichlorobenzene | U | | 0.182 | 0.200 |
| 1,4-Dichlorobenzene | U | | 0.0557 | 0.200 |
| 1,2-Dichloroethane | U | | 0.0700 | 0.200 |
| 1,1-Dichloroethane | U | | 0.0723 | 0.200 |
| 1,1-Dichloroethene | U | | 0.0762 | 0.200 |
| cis-1,2-Dichloroethene | U | | 0.0784 | 0.200 |
| trans-1,2-Dichloroethene | U | | 0.0673 | 0.200 |
| 1,2-Dichloropropane | U | | 0.0760 | 0.200 |
| cis-1,3-Dichloropropene | U | | 0.0689 | 0.200 |
| trans-1,3-Dichloropropene | U | | 0.0728 | 0.200 |
| 1,4-Dioxane | U | | 0.0833 | 0.200 |
| Ethanol | U | | 0.265 | 1.25 |
| Ethylbenzene | U | | 0.0835 | 0.200 |
| 4-Ethyltoluene | U | | 0.0783 | 0.200 |
| Trichlorofluoromethane | U | | 0.0819 | 0.200 |
| Dichlorodifluoromethane | U | | 0.137 | 0.200 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0793 | 0.200 |
| 1,2-Dichlorotetrafluoroethane | U | | 0.0890 | 0.200 |
| Heptane | U | | 0.104 | 0.200 |
| Hexachloro-1,3-butadiene | U | | 0.105 | 0.630 |
| n-Hexane | U | | 0.206 | 0.630 |

## Method Blank (MB)

(MB) R3895465-3 02/25/23 08:21

| Analyte | MB Result ppbv | MB Qualifier | MB MDL ppbv | MB RDL ppbv |
|---|---|---|---|---|
| Isopropylbenzene | U | | 0.0777 | 0.200 |
| Methylene Chloride | U | | 0.0979 | 0.200 |
| Methyl Butyl Ketone | U | | 0.133 | 1.25 |
| 2-Butanone (MEK) | U | | 0.0814 | 1.25 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.0765 | 1.25 |
| Methyl Methacrylate | U | | 0.0876 | 0.200 |
| MTBE | U | | 0.0647 | 0.200 |
| Naphthalene | U | | 0.350 | 0.630 |
| 2-Propanol | U | | 0.264 | 1.25 |
| Propene | 0.120 | J | 0.0932 | 1.25 |
| Styrene | U | | 0.0788 | 0.200 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0743 | 0.200 |
| Tetrachloroethylene | U | | 0.0814 | 0.200 |
| Tetrahydrofuran | U | | 0.0734 | 0.200 |
| Toluene | U | | 0.0870 | 0.500 |
| 1,2,4-Trichlorobenzene | U | | 0.148 | 0.630 |
| 1,1,1-Trichloroethane | U | | 0.0736 | 0.200 |
| 1,1,2-Trichloroethane | U | | 0.0775 | 0.200 |
| Trichloroethylene | U | | 0.0680 | 0.200 |
| 1,2,4-Trimethylbenzene | U | | 0.0764 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0779 | 0.200 |
| 2,2,4-Trimethylpentane | U | | 0.133 | 0.200 |
| Vinyl chloride | U | | 0.0949 | 0.200 |
| Vinyl Bromide | U | | 0.0852 | 0.200 |
| Vinyl acetate | U | | 0.116 | 0.200 |
| Xylenes, Total | U | | 0.135 | 0.600 |
| m&p-Xylene | U | | 0.135 | 0.400 |
| o-Xylene | U | | 0.0828 | 0.200 |
| *(S) 1,4-Bromofluorobenzene* | *97.6* | | | *60.0-140* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3895465-1 02/25/23 07:03 • (LCSD) R3895465-2 02/25/23 07:43

| Analyte | Spike Amount ppbv | LCS Result ppbv | LCSD Result ppbv | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | 3.75 | 3.71 | 3.79 | 98.9 | 101 | 70.0-130 | | | 2.13 | 25 |
| Allyl Chloride | 3.75 | 3.56 | 3.57 | 94.9 | 95.2 | 70.0-130 | | | 0.281 | 25 |
| Benzene | 3.75 | 3.59 | 3.62 | 95.7 | 96.5 | 70.0-130 | | | 0.832 | 25 |
| Benzyl Chloride | 3.75 | 3.98 | 4.00 | 106 | 107 | 70.0-152 | | | 0.501 | 25 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3895465-1 02/25/23 07:03 • (LCSD) R3895465-2 02/25/23 07:43

| Analyte | Spike Amount ppbv | LCS Result ppbv | LCSD Result ppbv | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Bromodichloromethane | 3.75 | 3.63 | 3.70 | 96.8 | 98.7 | 70.0-130 | | | 1.91 | 25 |
| Bromoform | 3.75 | 3.96 | 4.03 | 106 | 107 | 70.0-130 | | | 1.75 | 25 |
| Bromomethane | 3.75 | 3.64 | 3.63 | 97.1 | 96.8 | 70.0-130 | | | 0.275 | 25 |
| 1,3-Butadiene | 3.75 | 3.73 | 3.79 | 99.5 | 101 | 70.0-130 | | | 1.60 | 25 |
| Carbon disulfide | 3.75 | 3.61 | 3.67 | 96.3 | 97.9 | 70.0-130 | | | 1.65 | 25 |
| Carbon tetrachloride | 3.75 | 3.73 | 3.75 | 99.5 | 100 | 70.0-130 | | | 0.535 | 25 |
| Chlorobenzene | 3.75 | 3.71 | 3.75 | 98.9 | 100 | 70.0-130 | | | 1.07 | 25 |
| Chloroethane | 3.75 | 3.29 | 3.31 | 87.7 | 88.3 | 70.0-130 | | | 0.606 | 25 |
| Chloroform | 3.75 | 3.59 | 3.60 | 95.7 | 96.0 | 70.0-130 | | | 0.278 | 25 |
| Chloromethane | 3.75 | 3.71 | 3.73 | 98.9 | 99.5 | 70.0-130 | | | 0.538 | 25 |
| 2-Chlorotoluene | 3.75 | 3.81 | 3.82 | 102 | 102 | 70.0-130 | | | 0.262 | 25 |
| Cyclohexane | 3.75 | 3.43 | 3.46 | 91.5 | 92.3 | 70.0-130 | | | 0.871 | 25 |
| Dibromochloromethane | 3.75 | 3.72 | 3.74 | 99.2 | 99.7 | 70.0-130 | | | 0.536 | 25 |
| 1,2-Dibromoethane | 3.75 | 3.61 | 3.71 | 96.3 | 98.9 | 70.0-130 | | | 2.73 | 25 |
| 1,2-Dichlorobenzene | 3.75 | 3.98 | 3.99 | 106 | 106 | 70.0-130 | | | 0.251 | 25 |
| 1,3-Dichlorobenzene | 3.75 | 4.00 | 4.04 | 107 | 108 | 70.0-130 | | | 0.995 | 25 |
| 1,4-Dichlorobenzene | 3.75 | 4.02 | 4.07 | 107 | 109 | 70.0-130 | | | 1.24 | 25 |
| 1,2-Dichloroethane | 3.75 | 3.60 | 3.59 | 96.0 | 95.7 | 70.0-130 | | | 0.278 | 25 |
| 1,1-Dichloroethane | 3.75 | 3.60 | 3.63 | 96.0 | 96.8 | 70.0-130 | | | 0.830 | 25 |
| 1,1-Dichloroethene | 3.75 | 3.61 | 3.60 | 96.3 | 96.0 | 70.0-130 | | | 0.277 | 25 |
| cis-1,2-Dichloroethene | 3.75 | 3.79 | 3.83 | 101 | 102 | 70.0-130 | | | 1.05 | 25 |
| trans-1,2-Dichloroethene | 3.75 | 3.59 | 3.59 | 95.7 | 95.7 | 70.0-130 | | | 0.000 | 25 |
| 1,2-Dichloropropane | 3.75 | 3.53 | 3.56 | 94.1 | 94.9 | 70.0-130 | | | 0.846 | 25 |
| cis-1,3-Dichloropropene | 3.75 | 3.56 | 3.65 | 94.9 | 97.3 | 70.0-130 | | | 2.50 | 25 |
| trans-1,3-Dichloropropene | 3.75 | 3.58 | 3.61 | 95.5 | 96.3 | 70.0-130 | | | 0.834 | 25 |
| 1,4-Dioxane | 3.75 | 3.50 | 3.45 | 93.3 | 92.0 | 70.0-140 | | | 1.44 | 25 |
| Ethanol | 3.75 | 3.59 | 3.65 | 95.7 | 97.3 | 55.0-148 | | | 1.66 | 25 |
| Ethylbenzene | 3.75 | 3.73 | 3.78 | 99.5 | 101 | 70.0-130 | | | 1.33 | 25 |
| 4-Ethyltoluene | 3.75 | 3.96 | 3.99 | 106 | 106 | 70.0-130 | | | 0.755 | 25 |
| Trichlorofluoromethane | 3.75 | 3.55 | 3.57 | 94.7 | 95.2 | 70.0-130 | | | 0.562 | 25 |
| Dichlorodifluoromethane | 3.75 | 3.80 | 3.83 | 101 | 102 | 64.0-139 | | | 0.786 | 25 |
| 1,1,2-Trichlorotrifluoroethane | 3.75 | 3.63 | 3.61 | 96.8 | 96.3 | 70.0-130 | | | 0.552 | 25 |
| 1,2-Dichlorotetrafluoroethane | 3.75 | 3.74 | 3.76 | 99.7 | 100 | 70.0-130 | | | 0.533 | 25 |
| Heptane | 3.75 | 3.88 | 3.89 | 103 | 104 | 70.0-130 | | | 0.257 | 25 |
| Hexachloro-1,3-butadiene | 3.75 | 3.98 | 4.02 | 106 | 107 | 70.0-151 | | | 1.00 | 25 |
| n-Hexane | 3.75 | 3.54 | 3.50 | 94.4 | 93.3 | 70.0-130 | | | 1.14 | 25 |
| Isopropylbenzene | 3.75 | 3.81 | 3.84 | 102 | 102 | 70.0-130 | | | 0.784 | 25 |
| Methylene Chloride | 3.75 | 3.51 | 3.58 | 93.6 | 95.5 | 70.0-130 | | | 1.97 | 25 |
| Methyl Butyl Ketone | 3.75 | 3.67 | 3.68 | 97.9 | 98.1 | 70.0-149 | | | 0.272 | 25 |
| Methyl Ethyl Ketone | 3.75 | 3.52 | 3.49 | 93.9 | 93.1 | 70.0-130 | | | 0.856 | 25 |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3895465-1 02/25/23 07:03 • (LCSD) R3895465-2 02/25/23 07:43

| Analyte | Spike Amount ppbv | LCS Result ppbv | LCSD Result ppbv | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-pentanone (MIBK) | 3.75 | 3.66 | 3.66 | 97.6 | 97.6 | 70.0-139 | | | 0.000 | 25 |
| Methyl Methacrylate | 3.75 | 3.53 | 3.62 | 94.1 | 96.5 | 70.0-130 | | | 2.52 | 25 |
| MTBE | 3.75 | 3.52 | 3.59 | 93.9 | 95.7 | 70.0-130 | | | 1.97 | 25 |
| Naphthalene | 3.75 | 4.11 | 4.13 | 110 | 110 | 70.0-159 | | | 0.485 | 25 |
| 2-Propanol | 3.75 | 3.84 | 3.87 | 102 | 103 | 70.0-139 | | | 0.778 | 25 |
| Propene | 3.75 | 3.80 | 3.85 | 101 | 103 | 64.0-144 | | | 1.31 | 25 |
| Styrene | 3.75 | 3.79 | 3.78 | 101 | 101 | 70.0-130 | | | 0.264 | 25 |
| 1,1,2,2-Tetrachloroethane | 3.75 | 3.80 | 3.77 | 101 | 101 | 70.0-130 | | | 0.793 | 25 |
| Tetrachloroethylene | 3.75 | 3.67 | 3.68 | 97.9 | 98.1 | 70.0-130 | | | 0.272 | 25 |
| Tetrahydrofuran | 3.75 | 3.53 | 3.48 | 94.1 | 92.8 | 70.0-137 | | | 1.43 | 25 |
| Toluene | 3.75 | 3.60 | 3.67 | 96.0 | 97.9 | 70.0-130 | | | 1.93 | 25 |
| 1,2,4-Trichlorobenzene | 3.75 | 4.03 | 4.06 | 107 | 108 | 70.0-160 | | | 0.742 | 25 |
| 1,1,1-Trichloroethane | 3.75 | 3.60 | 3.61 | 96.0 | 96.3 | 70.0-130 | | | 0.277 | 25 |
| 1,1,2-Trichloroethane | 3.75 | 3.56 | 3.62 | 94.9 | 96.5 | 70.0-130 | | | 1.67 | 25 |
| Trichloroethylene | 3.75 | 3.57 | 3.64 | 95.2 | 97.1 | 70.0-130 | | | 1.94 | 25 |
| 1,2,4-Trimethylbenzene | 3.75 | 4.00 | 3.98 | 107 | 106 | 70.0-130 | | | 0.501 | 25 |
| 1,3,5-Trimethylbenzene | 3.75 | 4.58 | 4.61 | 122 | 123 | 70.0-130 | | | 0.653 | 25 |
| 2,2,4-Trimethylpentane | 3.75 | 3.61 | 3.64 | 96.3 | 97.1 | 70.0-130 | | | 0.828 | 25 |
| Vinyl chloride | 3.75 | 3.55 | 3.44 | 94.7 | 91.7 | 70.0-130 | | | 3.15 | 25 |
| Vinyl Bromide | 3.75 | 3.28 | 3.23 | 87.5 | 86.1 | 70.0-130 | | | 1.54 | 25 |
| Vinyl acetate | 3.75 | 3.49 | 3.68 | 93.1 | 98.1 | 70.0-130 | | | 5.30 | 25 |
| Xylenes, Total | 11.3 | 11.4 | 11.5 | 101 | 102 | 70.0-130 | | | 0.873 | 25 |
| m&p-Xylene | 7.50 | 7.74 | 7.74 | 103 | 103 | 70.0-130 | | | 0.000 | 25 |
| o-Xylene | 3.75 | 3.65 | 3.71 | 97.3 | 98.9 | 70.0-130 | | | 1.63 | 25 |
| *(S) 1,4-Bromofluorobenzene* | | | | *101* | *100* | *60.0-140* | | | | |

## Method Blank (MB)

(MB) R3896283-2 02/28/23 10:24

| Analyte | MB Result ppbv | MB Qualifier | MB MDL ppbv | MB RDL ppbv |
|---|---|---|---|---|
| Dichlorodifluoromethane | U | | 0.137 | 0.200 |
| *(S) 1,4-Bromofluorobenzene* | *95.3* | | | *60.0-140* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3896283-1 02/28/23 09:56 • (LCSD) R3896283-3 02/28/23 11:10

| Analyte | Spike Amount ppbv | LCS Result ppbv | LCSD Result ppbv | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 3.75 | 2.97 | 3.01 | 79.2 | 80.3 | 64.0-139 | | | 1.34 | 25 |
| *(S) 1,4-Bromofluorobenzene* | | | | *99.3* | *99.3* | *60.0-140* | | | | |

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| ND | Not detected at the Reporting Limit (or MDL where applicable). |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| J | The identification of the analyte is acceptable; the reported value is an estimate. |

# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LAO000356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**PES Environmental, Inc.- WA**

**2101 Fourth Ave., Suite 1310**
**Seattle, WA 98121**

Billing Information:
**Attn: Accounts Payable**
**2101 4th Avenue, Suite 1310**
**Seattle, WA 98121**

Analysis

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE
**MT JULIET, TN**
12065 Lebanon Road Mt Juliet, TN 37122
Phone: 615-758-5858 Alt: 800-767-5859
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

Report To:
**Brian O'Neal/Bill Haldeman**

Email To:
**Shannon.McKernan@nv5.com;brian.oneal@nv5.com;bill.haldeman@nv5.com;karsten.springstead@nv5.com**

Project Description: **American Linen**

City/State Collected: Seattle, WA

Please Circle: PT MT CT ET

SDG # L1584070

**E227**

Phone: **206-529-3980**

Client Project # **1413001.10.701.03**

Lab Project # **PESENVSWA-ALP**

Acctnum: **PESENVSWA**

Template: **T224336**

Prelogin: **P979643**

PM: **546 - Jared Starkey**

PB: egl 02/13 h03

Collected by (print): Anthony Semerad

Site/Facility ID #

P.O. # **443018-1413001.05.601**

Shipped Via:

Collected by (signature):

***Rush?*** (Lab MUST Be Notified)
___ Same Day ___ Three Day
___ Next Day ___ Five Day
___ Two Day

Date Results Needed

| Sample ID | Can # | Flow Cont. # | Collection Date | Collection Time | Canister Pressure/Vacuum Initial | Canister Pressure/Vacuum Final | TO-15 Summa | Rem./Contaminant | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|
| SV01-022323 | 022862 | 012578 | 2/23/23 | 11:12 | 30 | 4.5 | X | | -01 |
| SV-18-022323 | 022865 | 023034 | 2/23/23 | 10:22 | 26.5 | 5.0 | X | | -02 |

HDS 2/23/23

Sample Receipt Checklist
COC Seal Present/Intact: Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
RAD Screen <0.5 mR/hr: Y N
If Applicable
VOA Zero Headspace: Y N
Pres.Correct/Check: Y N

**Remarks:**

| Relinquished by : (Signature) | Date: | Time: | Samples returned via: __ UPS __ FedEx __ Courier __ _____ | Tracking # | Hold # |
|---|---|---|---|---|---|
| | 2/23/23 | 12:22 | Received by: (Signature) | Date: Time: | Condition: (lab use only) |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Date: Time: | |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: Time: | COC Seal Intact: ___Y ___N ___NA |
| | | | | | NCF: |

# APPENDIX J

# DATA VALIDATION REVIEWS (PROVIDED ON A USB FLASH DRIVE)

# MEMORANDUM

**TO:** Project File **DATE:** November 17, 2022

**FROM:** Jessie Compeau

**SUBJECT:** Laboratory Data Validation Review

**PROJECT:** American Linen Data Validation

**PROJECT #:** 443022-1413001.10.701.04

**TASK:** EIM Data Validation Level EPA2A for 4th Quarter Monitoring 2022 – Groundwater Samples – Group 1

**LAB:** Pace Sample Delivery Groups (SDGs): L1550357, L1550366, L1550880, L1550884, L1551408, L1551413, and L1551843

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Twenty-five (25) groundwater samples (including one field duplicate), and one trip blank were collected as part of the 4th Quarterly Monitoring Round for 2022 for the ongoing Remedial Investigation (RI) sampling at the Former American Linen Supply Site, in Seattle, Washington. The samples were collected October 25-28, 2022, shipped, and delivered to Pace Lab Sciences (Pace) of Mount Juliet, TN for laboratory analysis. Selected samples were analyzed for the following:

- Volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260D;
- VOCs (dissolved gases – methane, ethane, and ethene) by EPA SOP RSK 175;
- Alkalinity by Method 2320 B-2011;
- Anions (chloride, nitrate, and sulfate) by USEPA Method 9056A;
- Total Organic Carbon (TOC) by USEPA Method 9060A; and
- Metals (iron and manganese) by USEPA Method 6020B.

Results are reported in multiple SDGs and reviewed in small groups for each data validation report. Group 1 analytical results are reported in seven SDGs. The quality assurance review of the laboratory data associated with Group 1 is summarized below.

## DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation review of analytical data along with Pace control limit criteria were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2020) and USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2020). Following Guidelines, non-project-specific laboratory duplicates and matrix spike results were not evaluated as part of this data validation.

## DATA VALIDATION

### Completeness

All samples were collected and analyzed as requested.

### Sample Collection and Preservation

Samples were collected in laboratory-supplied sample containers preserved as appropriate for the individual analyses conducted. The samples were packed on ice in coolers and delivered by courier to the analytical laboratory. The laboratory reported that the coolers were received at a cooler temperature less than the recommended temperature preservation of 6°C. Samples were received in good condition. No data were qualified based upon the sample collection and preservation information.

### Holding Times

*USEPA Method 8260D:*
All samples were analyzed for VOCs within the EPA recommended holding time of fourteen days for preserved waters from the date of collection. All holding time criteria are met.

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
All samples were analyzed within the WA State recommended holding time of fourteen days for preserved waters from the date of sample collection. All holding time criteria are met.

*USEPA Method 6020B:*
All samples were analyzed within the USEPA recommended holding time for iron and manganese of 180 days for preserved waters from the date of sample collection. All holding time criteria are met.

*General Chemistry (Alkalinity, Chloride, Nitrate, Sulfate, and TOC):*
All samples were analyzed within the USEPA recommended holding time for alkalinity (14 days), chloride (28 days), sulfate (28 days), nitrate (48 hours), and TOC (28 days) for preserved waters from the date of sample collection. All holding time criteria are met.

### Initial and Continuing Calibration

Calibration data for this project are not required for this deliverable however Pace's notes indicate the following:

- SDG L1551843 - *USEPA Method 8260D:* Continuing calibration verification (CCV) issues were noted by Pace for multiple compounds associated with analytical batches in associated SDGs. These compounds are qualified by the laboratory "C3" to indicate that percent difference CCV is below laboratory acceptance criteria and showing low bias. Low level reporting limit check standard (sensitivity) requirements are within criteria. **Associated sample results with laboratory qualified (C3) results are estimated with low bias and qualified (J-/UJ).** Results reported below the RDL are estimated (J) and bias is not assigned.

- Multiple SDGs - *USEPA Method 8260D:* Continuing calibration verification (CCV) issues were noted by Pace for multiple compounds associated with analytical batches in each SDG. These compounds are qualified by the laboratory "C5" to indicate that percent difference CCV is above laboratory acceptance criteria and showing high bias. **Associated sample results (detects) with laboratory qualified (C5) results are estimated with high bias and qualified (J+).**

## Method Blank Results

*USEPA Method 8260D:*
Laboratory method blanks were included with the analytical batches per method requirement. The target analytes are not detected in the method blanks at or above the reporting detection limits (RDLs).

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
Laboratory method blanks were included with the analytical batches per method requirement. The target analytes (dissolved gases) are not detected in the method blanks at or above the RDLs.

*USEPA Method 6020B and General Chemistry (Alkalinity, Chloride, Nitrate, Sulfate, and TOC):*
Laboratory method blanks were included with the analytical batches per method requirement. The target analytes were detected in the method blanks below the RDLs. Per Guidance, no action is taken for blank detections less than the RDL when associated sample detections are greater than the RDL. General chemistry and metal blank detections are shown below:

| SDG | Batch | Method | Analyte | Method Blank Result | Qualifier | RDL | Units | Associated Result(s) Qualified |
|---|---|---|---|---|---|---|---|---|
| L1550357 | WG1954494 | 9060A | TOC | 191 | J | 1000 | µg/L | NO |
| L1550366 | WG1954494 | 9060A | TOC | 191 | J | 1000 | µg/L | NO |
| L1550880 | WG1955935 | 9056A | TOC | 378 | J | 1000 | µg/L | NO |
| L1550884 | WG1955935 | 9056A | TOC | 378 | J | 1000 | µg/L | NO |
| L1550884 | WG1957292 | 9056A | TOC | 716 | J | 1000 | µg/L | NO |
| L1551408 | WG1958040 | 9056A | TOC | 194 | J | 1000 | µg/L | NO |
| L1551408 | WG1958042 | 9056A | TOC | 208 | J | 1000 | µg/L | NO |
| L1551413 | WG1958042 | 9056A | TOC | 208 | J | 1000 | µg/L | NO |
| L1551843 | WG1958042 | 9056A | TOC | 223 | J | 1000 | µg/L | NO |

Target analytes were detected in method blanks at low levels with no impact to the associated samples.

## Trip Blank Results

*USEPA Method 8260D:*
One trip blank (TB-102722) was collected. The target analytes were not detected in the trip blank at or above the reporting detection limits (RDLs) with the following exceptions:

- SDG L1551408: Acetone was detected in the trip blank (TB-102722) at 2.72 µg/L and above the RDL (1.00 µg/L). No action is needed since acetone is not detected in the associated samples.

- SDG L1551408: Toluene was detected in the trip blank (TB-102722) at 0.110 µg/L and below the RDL (0.200 µg/L). **Sample MW-169-102722 and MW-170-102722, toluene results are detected below the RDL and are qualified as non-detected (U) due to trip blank contamination.**

**Field, Rinsate, or Equipment Blank Results**

Field, rinsate, or equipment blank samples were not collected in this Group.

**Field Duplicate Analyses**

Field duplicate pair was submitted and analyzed. Field duplicate sample pair is as follows:

- SDG L1551843: Samples MW-168-102822 and MW-978-102822

Target analyte results are comparable and within a relative percent difference (RPD) of 30% (± 1x RDL for groundwater results <5X the RDL) for the field duplicate pair.

**Laboratory Duplicate Analyses**

*USEPA Method 8260D:*
Laboratory duplicate samples were not analyzed. Refer to laboratory control sample/sample duplicate (LCS/LCSD) or matrix spike/matrix spike duplicate (MS/MSD) results for precision data.

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
Laboratory duplicate sample analyses were performed on non-client samples within the analytical batches. The primary/duplicate RPDs for client samples on dissolved gas analyses are within the laboratory control limit of 20%.

*USEPA Method 6020B:*
Laboratory duplicate samples were not analyzed. Refer to MS/MSD results for precision data.

*General Chemistry (Alkalinity, Chloride, Nitrate, Sulfate, and TOC):*
Laboratory duplicate sample analyses were performed on client samples and/or on non-client samples. The primary/duplicate RPDs for client samples on general chemistry parameters are within the laboratory control RPD limits or ± 1x RDL for groundwater results <5X the RDL with the following discussion:

- SDG L1550357: A laboratory duplicate was performed on sample MW-181-102522 with high RPDs for nitrate and sulfate. **The nitrate result for sample MW-181-102522 is qualified as estimated (J) because the absolute difference exceeds the RDL.** No action is needed for sulfate since the absolute difference is less than the RDL.

**Surrogate Recoveries**

*USEPA Method 8260D:*

The surrogate recovery results for the samples, laboratory control samples, matrix spike samples, and the method blanks are within the laboratory surrogate control limits for all the analyses.

**Laboratory Control Samples**

*USEPA Method 8260D:*
Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) or laboratory control sample (LCS) were analyzed by USEPA Method 8260D method. The LCS % Rs or LCS/LCSD % Rs and RPDs for all target compounds are within the laboratory control criteria for waters with the following exceptions:

- SDGs L1550357, L1550366, L1550880, and L1550884 - Analytical batch WG1949984: LCS recoveries for isopropylbenzene and 1,1,1,2-tetrachloroethane are above laboratory criteria and laboratory qualified (J4). No action needed since these compounds are not detected in the associated samples, LCSD and RPD are within control limit criteria.

- SDGs L1551408 and L1551413 - Analytical batch WG1951841: LCS/LCSD recoveries for 1,2-dibromoethane and dibromomethane are above laboratory criteria and laboratory qualified (J4). LCS recovery for n-propylbenzene is above laboratory criteria and laboratory qualified (J4). No action needed since these compounds are not detected in the associated samples.

- SDG L1551413 - Analytical batch WG1952435: LCS/LCSD recoveries for acetone are above laboratory criteria and laboratory qualified (J4). Acetone is detected below the RDL, and the result is already estimated. No bias is assigned since the result is below the RDL.

- SDG L1551843- Analytical batch WG1953300: LCS recovery for isopropylbenzene is above laboratory criteria and laboratory qualified (J4). No action needed since this compound is either not detected in the associated samples or is, in one case, detected below the RDL. LCS/LCSD RPDs are above criteria for tetrahydrofuran, trans-1,4-dichloro-2-butene and are laboratory qualified (J3). No action needed since the recoveries are within criteria but are recovered wide.

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
The LCS/LCSD % Rs and RPDs for the target compound (dissolved gases) are within the laboratory control criteria for waters.

*USEPA Method 6020B:*
The LCS % Rs for the target compound (iron and manganese) are within the laboratory control criteria for waters.

*General Chemistry (Alkalinity, Chloride, Nitrate, Sulfate, and TOC):*
The LCS % Rs for general chemistry parameters are within the laboratory control criteria for waters.

**Matrix Spike/Matrix Spike Duplicates**

*USEPA Method 8260D:*

MS/MSD analyses were performed on a non-client sample within the analytical batches. The MS/MSD % Rs and RPD for non-client samples were acceptable and within laboratory control limit criteria for water samples with the following discussion:

- SDG L1551408– Analytical batch WG1951841: MS/MSD recoveries for two target compounds are outside of criteria due to elevated concentration of the targets and are laboratory qualified (EV and E). No action is needed since the MS/MSD was performed on a non-client sample. Refer to LCS/LCSD results for precision and accuracy results.

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
MS/MSD analyses were performed on non-client samples within the analytical batches. The MS/MSD % Rs and RPDs for project samples were acceptable and within laboratory control limit criteria for water samples with the following discussion:

- SDGs L1550357, L1550366, L1551413, L1550884, and L1551408: MS/MSD recoveries and/or RPDs for ethane, ethene, or methane are outside of laboratory acceptance criteria. No action is needed since the MS/MSDs were performed on non-client samples. Refer to LCS and laboratory duplicate results for QC information.

- SDG L1528880: Both MS/MSD recoveries for methane are outside of laboratory acceptance criteria. No action is needed since the MS/MSDs were performed on non-client samples. Refer to LCS and laboratory duplicate results for QC information.

*USEPA Method 6020B:*
MS/MSD analyses were performed on client and on non-client samples within the analytical batches. The MS/MSD % Rs and RPDs for project samples were acceptable and within laboratory control limit criteria for water samples with the following discussion:

- SDG L1551413: MS/MSDs for manganese were performed on sample MW-176-102722. MS/MSD recoveries are below acceptance criteria however no action is taken since the sample amount is greater than four times the spike amount. Refer to LCS and laboratory duplicate results for QC data.

*General Chemistry (Alkalinity, Chloride, Nitrate, Sulfate, and TOC):*
MS or MS/MSD analyses were performed on client and/or non-client samples within the analytical batches. In cases where MS/MSD spike analyses are not performed refer to LCS or laboratory duplicate data for accuracy and precision data. Client sample MS/MSD % Rs and RPDs are acceptable and within laboratory control limit criteria for water samples with the following discussion:

- SDG L1551408: MS/MSDs for TOC were performed on samples MW-169-102722 and MW-172-102722. TOC MS/MSD recoveries are above control limit criteria and laboratory qualified (J5). **TOC results for samples MW-169-102722 and MW-172-102722 are estimated high and qualified (J+) due to high matrix spike recoveries.**

## Other Quality Control Issues

No laboratory quality control issues were identified in the laboratory report with the following discussions:

- Electronic data deliverables (EDDs) for these SDGs were provided by the laboratory and data validator qualifiers were entered. In some cases, different chemical synonyms are used between the EDD and the hardcopy however associated Chemical Abstracts Service (CAS) numbers are provided in the EDD to confirm chemical identifications.

- SDG L1551843: Sample narratives for samples MW-165-102822 and MW-166-102822 indicate that target compounds are too high to run a lower dilution.

## Compound Identification and Quantitation Limits

Results of the analyses were reported based on laboratory RDLs for all compounds. RDLs for selected compounds are elevated due to method-required dilutions. No action is taken other than to note this.

## Data Assessment

The laboratory data reported for this project were reviewed based on the criteria outlined in:

- USEPA National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2020); and
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2020).

Data qualifiers are assigned and laboratory report pages with qualifiers are attached. All data, including qualified data, are judged to be acceptable for their intended use.

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 553000 | | 8450 | 20000 | 1 | 11/07/2022 10:05 | WG1953731 |

Sample Narrative:
L1550357-01 WG1953731: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 95700 | | 379 | 1000 | 1 | 10/26/2022 19:07 | WG1949105 |
| Nitrate | 234 J | P1 | 48.0 | 100 | 1 | 10/26/2022 19:07 | WG1949105 |
| Sulfate | 1360 | J P1 | 594 | 5000 | 1 | 10/26/2022 19:07 | WG1949105 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 28800 | | 102 | 1000 | 1 | 11/05/2022 10:30 | WG1954494 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 12100 | | 28.1 | 100 | 1 | 11/11/2022 20:45 | WG1956346 |
| Manganese | 1660 | | 0.704 | 5.00 | 1 | 11/11/2022 20:45 | WG1956346 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 25300 | | 2.87 | 6.78 | 10 | 10/28/2022 11:42 | WG1949953 |
| Ethane | 282 | | 0.296 | 1.29 | 1 | 10/27/2022 14:02 | WG1949742 |
| Ethene | 3550 | | 0.422 | 1.27 | 1 | 10/27/2022 14:02 | WG1949742 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch | |
|---|---|---|---|---|---|---|---|---|
| Acetone | U | | 110 | 200 | 200 | 10/29/2022 03:04 | WG1949984 | |
| Acrylonitrile | U | | 15.2 | 100 | 200 | 10/29/2022 03:04 | WG1949984 | |
| Benzene | 6.60 | J | 3.20 | 8.00 | 200 | 10/29/2022 03:04 | WG1949984 | |
| Bromobenzene | U | | 8.40 | 100 | 200 | 10/29/2022 03:04 | WG1949984 | |
| Bromodichloromethane | U | | 6.30 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 | |
| Bromoform | U | | 47.8 | 200 | 200 | 10/29/2022 03:04 | WG1949984 | |
| Bromomethane | U | | 29.6 | 100 | 200 | 10/29/2022 03:04 | WG1949984 | |
| n-Butylbenzene | U | | 30.6 | 100 | 200 | 10/29/2022 03:04 | WG1949984 | |
| sec-Butylbenzene | U | | 20.2 | 100 | 200 | 10/29/2022 03:04 | WG1949984 | |
| tert-Butylbenzene | U | | 12.4 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 | |
| Carbon tetrachloride | U | | 8.64 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 | |
| Chlorobenzene | U | | 4.58 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 | |
| Chlorodibromomethane | U | | 3.60 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 | |
| Chloroethane | U | | 8.64 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 | |
| Chloroform | U | | 3.32 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 | |
| Chloromethane | U | | 11.1 | 100 | 200 | 10/29/2022 03:04 | WG1949984 | |
| 2-Chlorotoluene | U | | 7.36 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 | |
| 4-Chlorotoluene | U | | 9.04 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 | |
| 1,2-Dibromo-3-Chloropropane | U | | 40.8 | 200 | 200 | 10/29/2022 03:04 | WG1949984 | |
| 1,2-Dibromoethane | U | | 4.20 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 | JC 11/21/2022 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 8.00 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,2-Dichlorobenzene | U | | 11.6 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,3-Dichlorobenzene | U | | 13.6 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,4-Dichlorobenzene | U | | 15.8 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Dichlorodifluoromethane | U | | 6.54 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,1-Dichloroethane | U | | 4.60 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,2-Dichloroethane | U | | 3.80 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,1-Dichloroethene | 24.0 | | 4.00 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| cis-1,2-Dichloroethene | 5150 | | 5.52 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| trans-1,2-Dichloroethene | 31.0 | J | 11.4 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,2-Dichloropropane | U | | 10.2 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,1-Dichloropropene | U | | 5.60 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,3-Dichloropropane | U | | 14.0 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| cis-1,3-Dichloropropene | U | | 5.42 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| trans-1,3-Dichloropropene | U | | 12.2 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 2,2-Dichloropropane | U | | 6.34 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Di-isopropyl ether | U | | 2.80 | 8.00 | 200 | 10/29/2022 03:04 | WG1949984 |
| Ethylbenzene | U | | 4.24 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | 102 | 200 | 200 | 10/29/2022 03:04 | WG1949984 |
| Isopropylbenzene | U | J4 | 6.90 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| p-Isopropyltoluene | U | | 18.6 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 2-Butanone (MEK) | U | | 100 | 200 | 200 | 10/29/2022 03:04 | WG1949984 |
| Methylene Chloride | U | | 53.0 | 200 | 200 | 10/29/2022 03:04 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | 80.0 | 200 | 200 | 10/29/2022 03:04 | WG1949984 |
| Methyl tert-butyl ether | U | | 2.36 | 8.00 | 200 | 10/29/2022 03:04 | WG1949984 |
| Naphthalene | U | | 24.8 | 100 | 200 | 10/29/2022 03:04 | WG1949984 |
| n-Propylbenzene | U | | 9.44 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Styrene | U | | 21.8 | 100 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | J4 | 4.00 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | 3.12 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | 5.40 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Tetrachloroethene | U | | 5.60 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Toluene | 40.2 | | 10.0 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | 5.00 | 100 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | 38.6 | 100 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,1,1-Trichloroethane | U | | 2.20 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,1,2-Trichloroethane | U | | 7.06 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Trichloroethene | U | | 3.20 | 8.00 | 200 | 10/29/2022 03:04 | WG1949984 |
| Trichlorofluoromethane | U | | 4.00 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,2,3-Trichloropropane | U | | 40.8 | 100 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,2,4-Trimethylbenzene | U | | 9.28 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | 9.20 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | 8.64 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Vinyl chloride | 12200 | | 5.46 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Xylenes, Total | U | | 38.2 | 52.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Ethyl Ether | U | | 3.40 | 20.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| Tetrahydrofuran | U | | 18.0 | 100 | 200 | 10/29/2022 03:04 | WG1949984 |
| Iodomethane | U | | 48.4 | 100 | 200 | 10/29/2022 03:04 | WG1949984 |
| Allyl chloride | U | | 116 | 200 | 200 | 10/29/2022 03:04 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | 11.2 | 40.0 | 200 | 10/29/2022 03:04 | WG1949984 |
| *(S) Toluene-d8* | *115* | | | *75.0-131* | | *10/29/2022 03:04* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *116* | | | *67.0-138* | | *10/29/2022 03:04* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *94.4* | | | *70.0-130* | | *10/29/2022 03:04* | WG1949984 |

JC 11/21/2022

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 632000 | | 8450 | 20000 | 1 | 11/07/2022 10:09 | WG1953731 |

Sample Narrative:

L1550357-02 WG1953731: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 345000 | | 1900 | 5000 | 5 | 10/26/2022 20:12 | WG1949105 |
| Nitrate | 300 | | 48.0 | 100 | 1 | 10/26/2022 19:57 | WG1949105 |
| Sulfate | 2340 | J | 594 | 5000 | 1 | 10/26/2022 19:57 | WG1949105 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 47900 | | 102 | 1000 | 1 | 11/05/2022 10:49 | WG1954494 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 20500 | | 28.1 | 100 | 1 | 11/11/2022 20:49 | WG1956346 |
| Manganese | 3270 | | 0.704 | 5.00 | 1 | 11/11/2022 20:49 | WG1956346 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 31200 | | 2.87 | 6.78 | 10 | 10/28/2022 11:45 | WG1949953 |
| Ethane | 282 | | 0.296 | 1.29 | 1 | 10/27/2022 14:13 | WG1949742 |
| Ethene | 5090 | | 0.422 | 1.27 | 1 | 10/27/2022 14:13 | WG1949742 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 548 | 1000 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Acrylonitrile | U | | 76.0 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Benzene | U | | 16.0 | 40.0 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Bromobenzene | U | | 42.0 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Bromodichloromethane | U | | 31.5 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Bromoform | U | | 239 | 1000 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Bromomethane | U | | 148 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| n-Butylbenzene | U | | 153 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| sec-Butylbenzene | U | | 101 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| tert-Butylbenzene | U | | 62.0 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Carbon tetrachloride | U | | 43.2 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Chlorobenzene | U | | 22.9 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Chlorodibromomethane | U | | 18.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Chloroethane | U | | 43.2 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Chloroform | U | | 16.6 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Chloromethane | U | | 55.6 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 2-Chlorotoluene | U | | 36.8 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 4-Chlorotoluene | U | | 45.2 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,2-Dibromo-3-Chloropropane | U | | 204 | 1000 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,2-Dibromoethane | U | | 21.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|---|
| | ug/l | | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | | 40.0 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,2-Dichlorobenzene | U | | | 58.0 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,3-Dichlorobenzene | U | | | 68.0 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,4-Dichlorobenzene | U | | | 78.8 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Dichlorodifluoromethane | U | | | 32.7 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,1-Dichloroethane | U | | | 23.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,2-Dichloroethane | U | | | 19.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,1-Dichloroethene | U | | | 20.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| cis-1,2-Dichloroethene | 36600 | | | 27.6 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| trans-1,2-Dichloroethene | 81.0 | | J | 57.2 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,2-Dichloropropane | U | | | 50.8 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,1-Dichloropropene | U | | | 28.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,3-Dichloropropane | U | | | 70.0 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| cis-1,3-Dichloropropene | U | | | 27.1 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| trans-1,3-Dichloropropene | U | | | 61.2 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 2,2-Dichloropropane | U | | | 31.7 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Di-isopropyl ether | U | | | 14.0 | 40.0 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Ethylbenzene | U | | | 21.2 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | | 508 | 1000 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Isopropylbenzene | U | | J4 | 34.5 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| p-Isopropyltoluene | U | | | 93.2 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 2-Butanone (MEK) | U | | | 500 | 1000 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Methylene Chloride | U | | | 265 | 1000 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | | 400 | 1000 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Methyl tert-butyl ether | U | | | 11.8 | 40.0 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Naphthalene | U | | | 124 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| n-Propylbenzene | U | | | 47.2 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Styrene | U | | | 109 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | | J4 | 20.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | | 15.6 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | | 27.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Tetrachloroethene | 155 | J+ | C5 | 28.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Toluene | 197 | | J | 50.0 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | | 25.0 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | | 193 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,1,1-Trichloroethane | U | | | 11.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,1,2-Trichloroethane | U | | | 35.3 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Trichloroethene | 180 | | | 16.0 | 40.0 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Trichlorofluoromethane | U | | | 20.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,2,3-Trichloropropane | U | | | 204 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,2,4-Trimethylbenzene | U | | | 46.4 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | | 46.0 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | | 43.2 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Vinyl chloride | 24200 | | | 27.3 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Xylenes, Total | U | | | 191 | 260 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Ethyl Ether | U | | | 17.0 | 100 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Tetrahydrofuran | U | | | 90.0 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Iodomethane | U | | | 242 | 500 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Allyl chloride | U | | | 580 | 1000 | 1000 | 10/29/2022 03:25 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | | 56.0 | 200 | 1000 | 10/29/2022 03:25 | WG1949984 |
| *(S) Toluene-d8* | *118* | | | | *75.0-131* | | *10/29/2022 03:25* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *116* | | | | *67.0-138* | | *10/29/2022 03:25* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *94.4* | | | | *70.0-130* | | *10/29/2022 03:25* | WG1949984 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 754000 | | 8450 | 20000 | 1 | 11/07/2022 08:18 | WG1953739 |

Sample Narrative:
L1550357-03 WG1953739: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 134000 | | 379 | 1000 | 1 | 10/26/2022 20:57 | WG1949105 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/26/2022 20:57 | WG1949105 |
| Sulfate | 3920 | J | 594 | 5000 | 1 | 10/26/2022 20:57 | WG1949105 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 20100 | | 102 | 1000 | 1 | 11/05/2022 11:08 | WG1954494 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 16200 | | 28.1 | 100 | 1 | 11/11/2022 20:52 | WG1956346 |
| Manganese | 2820 | | 0.704 | 5.00 | 1 | 11/11/2022 20:52 | WG1956346 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 20200 | | 2.87 | 6.78 | 10 | 10/28/2022 11:51 | WG1949953 |
| Ethane | 472 | | 0.296 | 1.29 | 1 | 10/27/2022 14:20 | WG1949742 |
| Ethene | 1220 | | 0.422 | 1.27 | 1 | 10/27/2022 14:20 | WG1949742 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 110 | 200 | 200 | 10/29/2022 03:46 | WG1949984 |
| Acrylonitrile | U | | 15.2 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| Benzene | U | | 3.20 | 8.00 | 200 | 10/29/2022 03:46 | WG1949984 |
| Bromobenzene | U | | 8.40 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| Bromodichloromethane | U | | 6.30 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Bromoform | U | | 47.8 | 200 | 200 | 10/29/2022 03:46 | WG1949984 |
| Bromomethane | U | | 29.6 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| n-Butylbenzene | U | | 30.6 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| sec-Butylbenzene | U | | 20.2 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| tert-Butylbenzene | U | | 12.4 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Carbon tetrachloride | U | | 8.64 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Chlorobenzene | U | | 4.58 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Chlorodibromomethane | U | | 3.60 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Chloroethane | U | | 8.64 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Chloroform | U | | 3.32 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Chloromethane | U | | 11.1 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| 2-Chlorotoluene | U | | 7.36 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 4-Chlorotoluene | U | | 9.04 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,2-Dibromo-3-Chloropropane | U | | 40.8 | 200 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,2-Dibromoethane | U | | 4.20 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Dibromomethane | U | | 8.00 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,2-Dichlorobenzene | U | | 11.6 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,3-Dichlorobenzene | U | | 13.6 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,4-Dichlorobenzene | U | | 15.8 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Dichlorodifluoromethane | U | | 6.54 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,1-Dichloroethane | U | | 4.60 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,2-Dichloroethane | U | | 3.80 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,1-Dichloroethene | U | | 4.00 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| cis-1,2-Dichloroethene | 9440 | | 5.52 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| trans-1,2-Dichloroethene | 66.4 | | 11.4 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,2-Dichloropropane | U | | 10.2 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,1-Dichloropropene | U | | 5.60 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,3-Dichloropropane | U | | 14.0 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| cis-1,3-Dichloropropene | U | | 5.42 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| trans-1,3-Dichloropropene | U | | 12.2 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 2,2-Dichloropropane | U | | 6.34 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Di-isopropyl ether | U | | 2.80 | 8.00 | 200 | 10/29/2022 03:46 | WG1949984 |
| Ethylbenzene | U | | 4.24 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | 102 | 200 | 200 | 10/29/2022 03:46 | WG1949984 |
| Isopropylbenzene | U | J4 | 6.90 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| p-Isopropyltoluene | U | | 18.6 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 2-Butanone (MEK) | U | | 100 | 200 | 200 | 10/29/2022 03:46 | WG1949984 |
| Methylene Chloride | U | | 53.0 | 200 | 200 | 10/29/2022 03:46 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | 80.0 | 200 | 200 | 10/29/2022 03:46 | WG1949984 |
| Methyl tert-butyl ether | U | | 2.36 | 8.00 | 200 | 10/29/2022 03:46 | WG1949984 |
| Naphthalene | U | | 24.8 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| n-Propylbenzene | U | | 9.44 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Styrene | U | | 21.8 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | J4 | 4.00 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | 3.12 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | 5.40 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Tetrachloroethene | U | | 5.60 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Toluene | 43.8 | | 10.0 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | 5.00 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | 38.6 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,1,1-Trichloroethane | U | | 2.20 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,1,2-Trichloroethane | U | | 7.06 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Trichloroethene | U | | 3.20 | 8.00 | 200 | 10/29/2022 03:46 | WG1949984 |
| Trichlorofluoromethane | U | | 4.00 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,2,3-Trichloropropane | U | | 40.8 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,2,4-Trimethylbenzene | U | | 9.28 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | 9.20 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | 8.64 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Vinyl chloride | 5850 | | 5.46 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Xylenes, Total | U | | 38.2 | 52.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Ethyl Ether | U | | 3.40 | 20.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| Tetrahydrofuran | U | | 18.0 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| Iodomethane | U | | 48.4 | 100 | 200 | 10/29/2022 03:46 | WG1949984 |
| Allyl chloride | U | | 116 | 200 | 200 | 10/29/2022 03:46 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | 11.2 | 40.0 | 200 | 10/29/2022 03:46 | WG1949984 |
| *(S) Toluene-d8* | *117* | | | *75.0-131* | | *10/29/2022 03:46* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *117* | | | *67.0-138* | | *10/29/2022 03:46* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *94.9* | | | *70.0-130* | | *10/29/2022 03:46* | WG1949984 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 345000 | | 8450 | 20000 | 1 | 11/07/2022 08:22 | WG1953739 |

Sample Narrative:

L1550366-01 WG1953739: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 95300 | | 379 | 1000 | 1 | 10/26/2022 21:12 | WG1949105 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/26/2022 21:12 | WG1949105 |
| Sulfate | 20100 | | 594 | 5000 | 1 | 10/26/2022 21:12 | WG1949105 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 9810 | | 102 | 1000 | 1 | 11/05/2022 13:37 | WG1954494 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 3490 | | 28.1 | 100 | 1 | 11/10/2022 19:07 | WG1956348 |
| Manganese | 1510 | | 0.704 | 5.00 | 1 | 11/10/2022 19:07 | WG1956348 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 29100 | | 2.87 | 6.78 | 10 | 10/28/2022 11:58 | WG1949953 |
| Ethane | 8.44 | | 0.296 | 1.29 | 1 | 10/27/2022 14:26 | WG1949742 |
| Ethene | 469 | | 0.422 | 1.27 | 1 | 10/27/2022 14:26 | WG1949742 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch | |
|---|---|---|---|---|---|---|---|---|
| Acetone | U | | 54.8 | 100 | 100 | 10/29/2022 04:07 | WG1949984 | |
| Acrylonitrile | U | | 7.60 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 | |
| Benzene | U | | 1.60 | 4.00 | 100 | 10/29/2022 04:07 | WG1949984 | |
| Bromobenzene | U | | 4.20 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 | |
| Bromodichloromethane | U | | 3.15 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 | |
| Bromoform | U | | 23.9 | 100 | 100 | 10/29/2022 04:07 | WG1949984 | |
| Bromomethane | U | | 14.8 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 | |
| n-Butylbenzene | U | | 15.3 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 | |
| sec-Butylbenzene | U | | 10.1 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 | |
| tert-Butylbenzene | U | | 6.20 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 | |
| Carbon tetrachloride | U | | 4.32 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 | |
| Chlorobenzene | U | | 2.29 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 | |
| Chlorodibromomethane | U | | 1.80 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 | |
| Chloroethane | U | | 4.32 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 | |
| Chloroform | U | | 1.66 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 | |
| Chloromethane | U | | 5.56 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 | |
| 2-Chlorotoluene | U | | 3.68 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 | |
| 4-Chlorotoluene | U | | 4.52 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 | |
| 1,2-Dibromo-3-Chloropropane | U | | 20.4 | 100 | 100 | 10/29/2022 04:07 | WG1949984 | |
| 1,2-Dibromoethane | U | | 2.10 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 | JC 11/21/2022 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Dibromomethane | U | | 4.00 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,2-Dichlorobenzene | U | | 5.80 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,3-Dichlorobenzene | U | | 6.80 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,4-Dichlorobenzene | U | | 7.88 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Dichlorodifluoromethane | U | | 3.27 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,1-Dichloroethane | U | | 2.30 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,2-Dichloroethane | U | | 1.90 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,1-Dichloroethene | 14.6 | | 2.00 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| cis-1,2-Dichloroethene | 3060 | | 2.76 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| trans-1,2-Dichloroethene | 9.90 | J | 5.72 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,2-Dichloropropane | U | | 5.08 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,1-Dichloropropene | U | | 2.80 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,3-Dichloropropane | U | | 7.00 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| cis-1,3-Dichloropropene | U | | 2.71 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| trans-1,3-Dichloropropene | U | | 6.12 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 2,2-Dichloropropane | U | | 3.17 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Di-isopropyl ether | U | | 1.40 | 4.00 | 100 | 10/29/2022 04:07 | WG1949984 |
| Ethylbenzene | U | | 2.12 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | 50.8 | 100 | 100 | 10/29/2022 04:07 | WG1949984 |
| Isopropylbenzene | U | ~~J4~~ | 3.45 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| p-Isopropyltoluene | U | | 9.32 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 2-Butanone (MEK) | U | | 50.0 | 100 | 100 | 10/29/2022 04:07 | WG1949984 |
| Methylene Chloride | U | | 26.5 | 100 | 100 | 10/29/2022 04:07 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | 40.0 | 100 | 100 | 10/29/2022 04:07 | WG1949984 |
| Methyl tert-butyl ether | U | | 1.18 | 4.00 | 100 | 10/29/2022 04:07 | WG1949984 |
| Naphthalene | U | | 12.4 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| n-Propylbenzene | U | | 4.72 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Styrene | U | | 10.9 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | ~~J4~~ | 2.00 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | 1.56 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | 2.70 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Tetrachloroethene | U | | 2.80 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Toluene | 17.8 | J | 5.00 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | 2.50 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | 19.3 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,1,1-Trichloroethane | U | | 1.10 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,1,2-Trichloroethane | U | | 3.53 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Trichloroethene | U | | 1.60 | 4.00 | 100 | 10/29/2022 04:07 | WG1949984 |
| Trichlorofluoromethane | U | | 2.00 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,2,3-Trichloropropane | U | | 20.4 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,2,4-Trimethylbenzene | U | | 4.64 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | 4.60 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | 4.32 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Vinyl chloride | 4350 | | 2.73 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Xylenes, Total | U | | 19.1 | 26.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Ethyl Ether | U | | 1.70 | 10.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Tetrahydrofuran | U | | 9.00 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Iodomethane | U | | 24.2 | 50.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| Allyl chloride | U | | 58.0 | 100 | 100 | 10/29/2022 04:07 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | 5.60 | 20.0 | 100 | 10/29/2022 04:07 | WG1949984 |
| *(S) Toluene-d8* | *120* | | | *75.0-131* | | *10/29/2022 04:07* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *120* | | | *67.0-138* | | *10/29/2022 04:07* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *95.6* | | | *70.0-130* | | *10/29/2022 04:07* | WG1949984 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 886000 | | 8450 | 20000 | 1 | 11/07/2022 08:28 | WG1953739 |

Sample Narrative:
L1550366-02 WG1953739: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 228000 | | 1900 | 5000 | 5 | 10/26/2022 21:41 | WG1949105 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/26/2022 21:27 | WG1949105 |
| Sulfate | 4200 | J | 594 | 5000 | 1 | 10/26/2022 21:27 | WG1949105 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 16800 | | 102 | 1000 | 1 | 11/05/2022 13:58 | WG1954494 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 28400 | | 28.1 | 100 | 1 | 11/10/2022 19:10 | WG1956348 |
| Manganese | 2980 | | 0.704 | 5.00 | 1 | 11/10/2022 19:10 | WG1956348 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 17300 | | 2.87 | 6.78 | 10 | 10/28/2022 12:02 | WG1949953 |
| Ethane | 16.0 | V | 0.296 | 1.29 | 1 | 10/27/2022 14:32 | WG1949742 |
| Ethene | 206 | | 0.422 | 1.27 | 1 | 10/27/2022 14:32 | WG1949742 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 27.4 | 50.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Acrylonitrile | U | | 3.80 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Benzene | U | | 0.800 | 2.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Bromobenzene | U | | 2.10 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Bromodichloromethane | U | | 1.58 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Bromoform | U | | 12.0 | 50.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Bromomethane | U | | 7.40 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| n-Butylbenzene | U | | 7.65 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| sec-Butylbenzene | U | | 5.05 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| tert-Butylbenzene | U | | 3.10 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Carbon tetrachloride | U | | 2.16 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Chlorobenzene | U | | 1.15 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Chlorodibromomethane | U | | 0.900 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Chloroethane | 36.0 | | 2.16 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Chloroform | U | | 0.830 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Chloromethane | U | | 2.78 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 2-Chlorotoluene | U | | 1.84 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| 4-Chlorotoluene | U | | 2.26 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,2-Dibromo-3-Chloropropane | U | | 10.2 | 50.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,2-Dibromoethane | U | | 1.05 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|---|
| | ug/l | | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | | 2.00 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,2-Dichlorobenzene | U | | | 2.90 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,3-Dichlorobenzene | U | | | 3.40 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,4-Dichlorobenzene | U | | | 3.94 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Dichlorodifluoromethane | U | | | 1.64 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,1-Dichloroethane | U | | | 1.15 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,2-Dichloroethane | U | | | 0.950 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,1-Dichloroethene | U | | | 1.00 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| cis-1,2-Dichloroethene | 1120 | | | 1.38 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| trans-1,2-Dichloroethene | 5.75 | | J | 2.86 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,2-Dichloropropane | U | | | 2.54 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,1-Dichloropropene | U | | | 1.40 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,3-Dichloropropane | U | | | 3.50 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| cis-1,3-Dichloropropene | U | | | 1.36 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| trans-1,3-Dichloropropene | U | | | 3.06 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 2,2-Dichloropropane | U | | | 1.59 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Di-isopropyl ether | U | | | 0.700 | 2.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Ethylbenzene | U | | | 1.06 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | | 25.4 | 50.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Isopropylbenzene | U | | J4 | 1.73 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| p-Isopropyltoluene | U | | | 4.66 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 2-Butanone (MEK) | U | | | 25.0 | 50.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Methylene Chloride | U | | | 13.3 | 50.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | | 20.0 | 50.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Methyl tert-butyl ether | U | | | 0.590 | 2.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Naphthalene | U | | | 6.20 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| n-Propylbenzene | U | | | 2.36 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Styrene | U | | | 5.45 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | | J4 | 1.00 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | | 0.780 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | | 1.35 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Tetrachloroethene | 10.4 | J+ | C5 | 1.40 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Toluene | 8.20 | | J | 2.50 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | | 1.25 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | | 9.65 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,1,1-Trichloroethane | U | | | 0.550 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,1,2-Trichloroethane | U | | | 1.77 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Trichloroethene | 5.10 | | | 0.800 | 2.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Trichlorofluoromethane | U | | | 1.00 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,2,3-Trichloropropane | U | | | 10.2 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,2,4-Trimethylbenzene | U | | | 2.32 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | | 2.30 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | | 2.16 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Vinyl chloride | 1620 | | | 1.36 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Xylenes, Total | U | | | 9.55 | 13.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Ethyl Ether | U | | | 0.850 | 5.00 | 50 | 10/29/2022 04:29 | WG1949984 |
| Tetrahydrofuran | U | | | 4.50 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Iodomethane | U | | | 12.1 | 25.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Allyl chloride | U | | | 29.0 | 50.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | | 2.80 | 10.0 | 50 | 10/29/2022 04:29 | WG1949984 |
| *(S) Toluene-d8* | *117* | | | | *75.0-131* | | *10/29/2022 04:29* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *115* | | | | *67.0-138* | | *10/29/2022 04:29* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *95.9* | | | | *70.0-130* | | *10/29/2022 04:29* | WG1949984 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 303000 | | 8450 | 20000 | 1 | 11/07/2022 08:32 | WG1953739 |

Sample Narrative:
L1550366-03 WG1953739: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 23700 | | 379 | 1000 | 1 | 11/01/2022 16:21 | WG1949105 |
| Nitrate | 132 | | 48.0 | 100 | 1 | 10/26/2022 21:56 | WG1949105 |
| Sulfate | 29700 | | 594 | 5000 | 1 | 10/26/2022 21:56 | WG1949105 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 9490 | | 102 | 1000 | 1 | 11/05/2022 14:18 | WG1954494 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1160 | | 28.1 | 100 | 1 | 11/10/2022 19:13 | WG1956348 |
| Manganese | 3720 | | 0.704 | 5.00 | 1 | 11/10/2022 19:13 | WG1956348 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 1720 | | 0.287 | 0.678 | 1 | 10/27/2022 14:41 | WG1949742 |
| Ethane | 7.45 | | 0.296 | 1.29 | 1 | 10/27/2022 14:41 | WG1949742 |
| Ethene | 6.31 | | 0.422 | 1.27 | 1 | 10/27/2022 14:41 | WG1949742 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 5.48 | 10.0 | 10 | 10/29/2022 04:50 | WG1949984 |
| Acrylonitrile | U | | 0.760 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Benzene | U | | 0.160 | 0.400 | 10 | 10/29/2022 04:50 | WG1949984 |
| Bromobenzene | U | | 0.420 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Bromodichloromethane | U | | 0.315 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Bromoform | U | | 2.39 | 10.0 | 10 | 10/29/2022 04:50 | WG1949984 |
| Bromomethane | U | | 1.48 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| n-Butylbenzene | U | | 1.53 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| sec-Butylbenzene | U | | 1.01 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| tert-Butylbenzene | U | | 0.620 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Carbon tetrachloride | U | | 0.432 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Chlorobenzene | U | | 0.229 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Chlorodibromomethane | U | | 0.180 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Chloroethane | 3.82 | | 0.432 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Chloroform | U | | 0.166 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Chloromethane | U | | 0.556 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 2-Chlorotoluene | U | | 0.368 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 4-Chlorotoluene | U | | 0.452 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,2-Dibromo-3-Chloropropane | U | | 2.04 | 10.0 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,2-Dibromoethane | U | | 0.210 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.400 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,2-Dichlorobenzene | U | | 0.580 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,3-Dichlorobenzene | U | | 0.680 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,4-Dichlorobenzene | U | | 0.788 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Dichlorodifluoromethane | U | | 0.327 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,1-Dichloroethane | U | | 0.230 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,2-Dichloroethane | U | | 0.190 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,1-Dichloroethene | 12.7 | | 0.200 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| cis-1,2-Dichloroethene | 251 | | 0.276 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| trans-1,2-Dichloroethene | 5.01 | | 0.572 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,2-Dichloropropane | U | | 0.508 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,1-Dichloropropene | U | | 0.280 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,3-Dichloropropane | U | | 0.700 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| cis-1,3-Dichloropropene | U | | 0.271 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| trans-1,3-Dichloropropene | U | | 0.612 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 2,2-Dichloropropane | U | | 0.317 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Di-isopropyl ether | U | | 0.140 | 0.400 | 10 | 10/29/2022 04:50 | WG1949984 |
| Ethylbenzene | U | | 0.212 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | 5.08 | 10.0 | 10 | 10/29/2022 04:50 | WG1949984 |
| Isopropylbenzene | U | J4 | 0.345 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| p-Isopropyltoluene | U | | 0.932 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 2-Butanone (MEK) | U | | 5.00 | 10.0 | 10 | 10/29/2022 04:50 | WG1949984 |
| Methylene Chloride | U | | 2.65 | 10.0 | 10 | 10/29/2022 04:50 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | 4.00 | 10.0 | 10 | 10/29/2022 04:50 | WG1949984 |
| Methyl tert-butyl ether | U | | 0.118 | 0.400 | 10 | 10/29/2022 04:50 | WG1949984 |
| Naphthalene | U | | 1.24 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| n-Propylbenzene | U | | 0.472 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Styrene | U | | 1.09 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | J4 | 0.200 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | 0.156 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.270 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Tetrachloroethene | 319 | J+ C5 | 0.280 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Toluene | 1.93 | J | 0.500 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | 0.250 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | 1.93 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,1,1-Trichloroethane | U | | 0.110 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,1,2-Trichloroethane | U | | 0.353 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Trichloroethene | 217 | | 0.160 | 0.400 | 10 | 10/29/2022 04:50 | WG1949984 |
| Trichlorofluoromethane | U | | 0.200 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,2,3-Trichloropropane | U | | 2.04 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,2,4-Trimethylbenzene | U | | 0.464 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | 0.460 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | 0.432 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Vinyl chloride | 23.9 | | 0.273 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Xylenes, Total | U | | 1.91 | 2.60 | 10 | 10/29/2022 04:50 | WG1949984 |
| Ethyl Ether | U | | 0.170 | 1.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Tetrahydrofuran | U | | 0.900 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Iodomethane | U | | 2.42 | 5.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| Allyl chloride | U | | 5.80 | 10.0 | 10 | 10/29/2022 04:50 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | 0.560 | 2.00 | 10 | 10/29/2022 04:50 | WG1949984 |
| *(S) Toluene-d8* | *111* | | | *75.0-131* | | *10/29/2022 04:50* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *115* | | | *67.0-138* | | *10/29/2022 04:50* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *94.5* | | | *70.0-130* | | *10/29/2022 04:50* | WG1949984 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 320000 | | 8450 | 20000 | 1 | 11/08/2022 12:28 | WG1956061 |

Sample Narrative:
L1550880-01 WG1956061: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 69000 | | 379 | 1000 | 1 | 10/27/2022 23:00 | WG1949908 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/27/2022 23:00 | WG1949908 |
| Sulfate | 10300 | | 594 | 5000 | 1 | 10/27/2022 23:00 | WG1949908 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 8330 | | 102 | 1000 | 1 | 11/11/2022 12:31 | WG1955935 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 3620 | | 28.1 | 100 | 1 | 11/10/2022 19:57 | WG1956348 |
| Manganese | 666 | | 0.704 | 5.00 | 1 | 11/10/2022 19:57 | WG1956348 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 29100 | | 2.87 | 6.78 | 10 | 11/01/2022 09:11 | WG1952125 |
| Ethane | 731 | | 0.296 | 1.29 | 1 | 10/31/2022 14:55 | WG1951651 |
| Ethene | 1880 | | 0.422 | 1.27 | 1 | 10/31/2022 14:55 | WG1951651 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 110 | 200 | 200 | 10/29/2022 05:11 | WG1949984 |
| Acrylonitrile | U | | 15.2 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| Benzene | U | | 3.20 | 8.00 | 200 | 10/29/2022 05:11 | WG1949984 |
| Bromobenzene | U | | 8.40 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| Bromodichloromethane | U | | 6.30 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Bromoform | U | | 47.8 | 200 | 200 | 10/29/2022 05:11 | WG1949984 |
| Bromomethane | U | | 29.6 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| n-Butylbenzene | U | | 30.6 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| sec-Butylbenzene | U | | 20.2 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| tert-Butylbenzene | U | | 12.4 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Carbon tetrachloride | U | | 8.64 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Chlorobenzene | U | | 4.58 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Chlorodibromomethane | U | | 3.60 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Chloroethane | U | | 8.64 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Chloroform | U | | 3.32 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Chloromethane | U | | 11.1 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| 2-Chlorotoluene | U | | 7.36 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 4-Chlorotoluene | U | | 9.04 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,2-Dibromo-3-Chloropropane | U | | 40.8 | 200 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,2-Dibromoethane | U | | 4.20 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 8.00 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,2-Dichlorobenzene | U | | 11.6 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,3-Dichlorobenzene | U | | 13.6 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,4-Dichlorobenzene | U | | 15.8 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Dichlorodifluoromethane | U | | 6.54 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,1-Dichloroethane | U | | 4.60 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,2-Dichloroethane | U | | 3.80 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,1-Dichloroethene | U | | 4.00 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| cis-1,2-Dichloroethene | 3150 | | 5.52 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| trans-1,2-Dichloroethene | 27.2 | J | 11.4 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,2-Dichloropropane | U | | 10.2 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,1-Dichloropropene | U | | 5.60 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,3-Dichloropropane | U | | 14.0 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| cis-1,3-Dichloropropene | U | | 5.42 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| trans-1,3-Dichloropropene | U | | 12.2 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 2,2-Dichloropropane | U | | 6.34 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Di-isopropyl ether | U | | 2.80 | 8.00 | 200 | 10/29/2022 05:11 | WG1949984 |
| Ethylbenzene | U | | 4.24 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | 102 | 200 | 200 | 10/29/2022 05:11 | WG1949984 |
| Isopropylbenzene | U | ~~J4~~ | 6.90 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| p-Isopropyltoluene | U | | 18.6 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 2-Butanone (MEK) | U | | 100 | 200 | 200 | 10/29/2022 05:11 | WG1949984 |
| Methylene Chloride | U | | 53.0 | 200 | 200 | 10/29/2022 05:11 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | 80.0 | 200 | 200 | 10/29/2022 05:11 | WG1949984 |
| Methyl tert-butyl ether | U | | 2.36 | 8.00 | 200 | 10/29/2022 05:11 | WG1949984 |
| Naphthalene | U | | 24.8 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| n-Propylbenzene | U | | 9.44 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Styrene | U | | 21.8 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | ~~J4~~ | 4.00 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | 3.12 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | 5.40 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Tetrachloroethene | 5450 J+ | C5 | 5.60 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Toluene | 33.2 | J | 10.0 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | 5.00 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | 38.6 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,1,1-Trichloroethane | U | | 2.20 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,1,2-Trichloroethane | U | | 7.06 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Trichloroethene | 551 | | 3.20 | 8.00 | 200 | 10/29/2022 05:11 | WG1949984 |
| Trichlorofluoromethane | U | | 4.00 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,2,3-Trichloropropane | U | | 40.8 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,2,4-Trimethylbenzene | U | | 9.28 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | 9.20 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | 8.64 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Vinyl chloride | 3100 | | 5.46 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Xylenes, Total | U | | 38.2 | 52.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Ethyl Ether | U | | 3.40 | 20.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| Tetrahydrofuran | U | | 18.0 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| Iodomethane | U | | 48.4 | 100 | 200 | 10/29/2022 05:11 | WG1949984 |
| Allyl chloride | U | | 116 | 200 | 200 | 10/29/2022 05:11 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | 11.2 | 40.0 | 200 | 10/29/2022 05:11 | WG1949984 |
| *(S) Toluene-d8* | *115* | | | *75.0-131* | | *10/29/2022 05:11* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *114* | | | *67.0-138* | | *10/29/2022 05:11* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *96.4* | | | *70.0-130* | | *10/29/2022 05:11* | WG1949984 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 1150000 | | 8450 | 20000 | 1 | 11/08/2022 12:33 | WG1956061 |

Sample Narrative:
L1550880-02 WG1956061: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 74600 | | 379 | 1000 | 1 | 10/27/2022 23:41 | WG1949908 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/27/2022 23:41 | WG1949908 |
| Sulfate | 24100 | | 594 | 5000 | 1 | 10/27/2022 23:41 | WG1949908 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 34700 | | 102 | 1000 | 1 | 11/11/2022 13:38 | WG1955935 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 23700 | | 28.1 | 100 | 1 | 11/10/2022 20:00 | WG1956348 |
| Manganese | 8180 | | 0.704 | 5.00 | 1 | 11/10/2022 20:00 | WG1956348 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 14700 | | 2.87 | 6.78 | 10 | 11/01/2022 09:14 | WG1952125 |
| Ethane | 39.1 | | 0.296 | 1.29 | 1 | 10/31/2022 15:18 | WG1951651 |
| Ethene | 99.8 | | 0.422 | 1.27 | 1 | 10/31/2022 15:18 | WG1951651 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 13.7 | 25.0 | 25 | 10/29/2022 05:33 | WG1949984 |
| Acrylonitrile | U | | 1.90 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| Benzene | U | | 0.400 | 1.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| Bromobenzene | U | | 1.05 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| Bromodichloromethane | U | | 0.788 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Bromoform | U | | 5.98 | 25.0 | 25 | 10/29/2022 05:33 | WG1949984 |
| Bromomethane | U | | 3.70 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| n-Butylbenzene | U | | 3.83 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| sec-Butylbenzene | U | | 2.53 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| tert-Butylbenzene | U | | 1.55 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| Carbon tetrachloride | U | | 1.08 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| Chlorobenzene | U | | 0.573 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Chlorodibromomethane | U | | 0.450 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Chloroethane | U | | 1.08 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| Chloroform | U | | 0.415 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Chloromethane | U | | 1.39 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| 2-Chlorotoluene | U | | 0.920 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| 4-Chlorotoluene | U | | 1.13 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,2-Dibromo-3-Chloropropane | U | | 5.10 | 25.0 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,2-Dibromoethane | U | | 0.525 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 1.00 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,2-Dichlorobenzene | U | | 1.45 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,3-Dichlorobenzene | U | | 1.70 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,4-Dichlorobenzene | U | | 1.97 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| Dichlorodifluoromethane | U | | 0.818 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,1-Dichloroethane | U | | 0.575 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,2-Dichloroethane | U | | 0.475 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,1-Dichloroethene | 2.65 | | 0.500 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| cis-1,2-Dichloroethene | 948 | | 0.690 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| trans-1,2-Dichloroethene | 4.50 | J | 1.43 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,2-Dichloropropane | U | | 1.27 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,1-Dichloropropene | U | | 0.700 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,3-Dichloropropane | U | | 1.75 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| cis-1,3-Dichloropropene | U | | 0.678 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| trans-1,3-Dichloropropene | U | | 1.53 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| 2,2-Dichloropropane | U | | 0.793 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Di-isopropyl ether | U | | 0.350 | 1.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| Ethylbenzene | U | | 0.530 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | 12.7 | 25.0 | 25 | 10/29/2022 05:33 | WG1949984 |
| Isopropylbenzene | U | ~~J4~~ | 0.863 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| p-Isopropyltoluene | U | | 2.33 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| 2-Butanone (MEK) | U | | 12.5 | 25.0 | 25 | 10/29/2022 05:33 | WG1949984 |
| Methylene Chloride | U | | 6.63 | 25.0 | 25 | 10/29/2022 05:33 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | 10.0 | 25.0 | 25 | 10/29/2022 05:33 | WG1949984 |
| Methyl tert-butyl ether | U | | 0.295 | 1.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| Naphthalene | U | | 3.10 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| n-Propylbenzene | U | | 1.18 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| Styrene | U | | 2.73 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | ~~J4~~ | 0.500 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | 0.390 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.675 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Tetrachloroethene | 4.80 | J+ C5 | 0.700 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Toluene | 5.07 | | 1.25 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | 0.625 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | 4.83 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,1,1-Trichloroethane | U | | 0.275 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,1,2-Trichloroethane | U | | 0.883 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Trichloroethene | 7.70 | | 0.400 | 1.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| Trichlorofluoromethane | U | | 0.500 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,2,3-Trichloropropane | U | | 5.10 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,2,4-Trimethylbenzene | U | | 1.16 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | 1.15 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | 1.08 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| Vinyl chloride | 743 | | 0.682 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Xylenes, Total | U | | 4.78 | 6.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Ethyl Ether | U | | 0.425 | 2.50 | 25 | 10/29/2022 05:33 | WG1949984 |
| Tetrahydrofuran | U | | 2.25 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| Iodomethane | U | | 6.05 | 12.5 | 25 | 10/29/2022 05:33 | WG1949984 |
| Allyl chloride | U | | 14.5 | 25.0 | 25 | 10/29/2022 05:33 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | 1.40 | 5.00 | 25 | 10/29/2022 05:33 | WG1949984 |
| *(S) Toluene-d8* | *114* | | | *75.0-131* | | *10/29/2022 05:33* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *114* | | | *67.0-138* | | *10/29/2022 05:33* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *93.8* | | | *70.0-130* | | *10/29/2022 05:33* | WG1949984 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 326000 | | 8450 | 20000 | 1 | 11/08/2022 12:45 | WG1956061 |

Sample Narrative:
L1550880-03 WG1956061: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 102000 | | 379 | 1000 | 1 | 10/27/2022 23:55 | WG1949908 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/27/2022 23:55 | WG1949908 |
| Sulfate | 12000 | | 594 | 5000 | 1 | 10/27/2022 23:55 | WG1949908 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 7080 | | 102 | 1000 | 1 | 11/11/2022 13:56 | WG1955935 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 2660 | | 28.1 | 100 | 1 | 11/10/2022 20:03 | WG1956348 |
| Manganese | 548 | | 0.704 | 5.00 | 1 | 11/10/2022 20:03 | WG1956348 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 4890 | | 0.287 | 0.678 | 1 | 10/31/2022 15:27 | WG1951651 |
| Ethane | 26.4 | | 0.296 | 1.29 | 1 | 10/31/2022 15:27 | WG1951651 |
| Ethene | 424 | | 0.422 | 1.27 | 1 | 10/31/2022 15:27 | WG1951651 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 54.8 | 100 | 100 | 10/29/2022 05:55 | WG1949984 |
| Acrylonitrile | U | | 7.60 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Benzene | U | | 1.60 | 4.00 | 100 | 10/29/2022 05:55 | WG1949984 |
| Bromobenzene | U | | 4.20 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Bromodichloromethane | U | | 3.15 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Bromoform | U | | 23.9 | 100 | 100 | 10/29/2022 05:55 | WG1949984 |
| Bromomethane | U | | 14.8 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| n-Butylbenzene | U | | 15.3 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| sec-Butylbenzene | U | | 10.1 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| tert-Butylbenzene | U | | 6.20 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Carbon tetrachloride | U | | 4.32 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Chlorobenzene | U | | 2.29 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Chlorodibromomethane | U | | 1.80 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Chloroethane | U | | 4.32 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Chloroform | U | | 1.66 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Chloromethane | U | | 5.56 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 2-Chlorotoluene | U | | 3.68 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 4-Chlorotoluene | U | | 4.52 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,2-Dibromo-3-Chloropropane | U | | 20.4 | 100 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,2-Dibromoethane | U | | 2.10 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Dibromomethane | U | | 4.00 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,2-Dichlorobenzene | U | | 5.80 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,3-Dichlorobenzene | U | | 6.80 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,4-Dichlorobenzene | U | | 7.88 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Dichlorodifluoromethane | U | | 3.27 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,1-Dichloroethane | U | | 2.30 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,2-Dichloroethane | U | | 1.90 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,1-Dichloroethene | 35.8 | | 2.00 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| cis-1,2-Dichloroethene | 3680 | | 2.76 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| trans-1,2-Dichloroethene | 15.5 | J | 5.72 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,2-Dichloropropane | U | | 5.08 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,1-Dichloropropene | U | | 2.80 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,3-Dichloropropane | U | | 7.00 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| cis-1,3-Dichloropropene | U | | 2.71 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| trans-1,3-Dichloropropene | U | | 6.12 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 2,2-Dichloropropane | U | | 3.17 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Di-isopropyl ether | U | | 1.40 | 4.00 | 100 | 10/29/2022 05:55 | WG1949984 |
| Ethylbenzene | U | | 2.12 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | 50.8 | 100 | 100 | 10/29/2022 05:55 | WG1949984 |
| Isopropylbenzene | U | ~~J4~~ | 3.45 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| p-Isopropyltoluene | U | | 9.32 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 2-Butanone (MEK) | U | | 50.0 | 100 | 100 | 10/29/2022 05:55 | WG1949984 |
| Methylene Chloride | U | | 26.5 | 100 | 100 | 10/29/2022 05:55 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | 40.0 | 100 | 100 | 10/29/2022 05:55 | WG1949984 |
| Methyl tert-butyl ether | U | | 1.18 | 4.00 | 100 | 10/29/2022 05:55 | WG1949984 |
| Naphthalene | U | | 12.4 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| n-Propylbenzene | U | | 4.72 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Styrene | U | | 10.9 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | ~~J4~~ | 2.00 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | 1.56 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | 2.70 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Tetrachloroethene | U | | 2.80 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Toluene | 17.3 | J | 5.00 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | 2.50 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | 19.3 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,1,1-Trichloroethane | U | | 1.10 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,1,2-Trichloroethane | U | | 3.53 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Trichloroethene | 9.30 | | 1.60 | 4.00 | 100 | 10/29/2022 05:55 | WG1949984 |
| Trichlorofluoromethane | U | | 2.00 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,2,3-Trichloropropane | U | | 20.4 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,2,4-Trimethylbenzene | U | | 4.64 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | 4.60 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | 4.32 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Vinyl chloride | 1820 | | 2.73 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Xylenes, Total | U | | 19.1 | 26.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Ethyl Ether | U | | 1.70 | 10.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Tetrahydrofuran | U | | 9.00 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Iodomethane | U | | 24.2 | 50.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| Allyl chloride | U | | 58.0 | 100 | 100 | 10/29/2022 05:55 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | 5.60 | 20.0 | 100 | 10/29/2022 05:55 | WG1949984 |
| *(S) Toluene-d8* | *113* | | | *75.0-131* | | *10/29/2022 05:55* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *116* | | | *67.0-138* | | *10/29/2022 05:55* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *96.3* | | | *70.0-130* | | *10/29/2022 05:55* | WG1949984 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 696000 | | 8450 | 20000 | 1 | 11/08/2022 12:50 | WG1956061 |

Sample Narrative:

L1550884-01 WG1956061: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 80800 | | 379 | 1000 | 1 | 10/28/2022 00:08 | WG1949908 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/28/2022 00:08 | WG1949908 |
| Sulfate | U | | 594 | 5000 | 1 | 10/28/2022 00:08 | WG1949908 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 7330 | | 102 | 1000 | 1 | 11/11/2022 14:15 | WG1955935 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 4320 | | 28.1 | 100 | 1 | 11/10/2022 20:16 | WG1956348 |
| Manganese | 868 | | 0.704 | 5.00 | 1 | 11/10/2022 20:16 | WG1956348 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 13100 | | 2.87 | 6.78 | 10 | 11/01/2022 09:20 | WG1952125 |
| Ethane | 375 | | 0.296 | 1.29 | 1 | 10/31/2022 15:36 | WG1951651 |
| Ethene | U | | 0.422 | 1.27 | 1 | 10/31/2022 15:36 | WG1951651 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 10/29/2022 01:58 | WG1949984 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 10/29/2022 01:58 | WG1949984 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 10/29/2022 01:58 | WG1949984 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| cis-1,2-Dichloroethene | 0.125 | | 0.0276 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 10/29/2022 01:58 | WG1949984 |
| Ethylbenzene | 0.101 | | 0.0212 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 10/29/2022 01:58 | WG1949984 |
| Isopropylbenzene | U | J4 | 0.0345 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 10/29/2022 01:58 | WG1949984 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 10/29/2022 01:58 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 10/29/2022 01:58 | WG1949984 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 10/29/2022 01:58 | WG1949984 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| Styrene | U | | 0.109 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | J4 | 0.0200 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| Toluene | 0.506 | | 0.0500 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 10/29/2022 01:58 | WG1949984 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,2,4-Trimethylbenzene | 0.171 | J | 0.0464 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| Vinyl chloride | 0.274 | | 0.0273 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| Xylenes, Total | 0.780 | | 0.191 | 0.260 | 1 | 10/29/2022 01:58 | WG1949984 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 10/29/2022 01:58 | WG1949984 |
| Tetrahydrofuran | 0.867 | | 0.0900 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 10/29/2022 01:58 | WG1949984 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 10/29/2022 01:58 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 10/29/2022 01:58 | WG1949984 |
| *(S) Toluene-d8* | *118* | | | *75.0-131* | | *10/29/2022 01:58* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *111* | | | *67.0-138* | | *10/29/2022 01:58* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *93.0* | | | *70.0-130* | | *10/29/2022 01:58* | WG1949984 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 264000 | | 8450 | 20000 | 1 | 11/08/2022 12:55 | WG1956061 |

Sample Narrative:
L1550884-02 WG1956061: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 41400 | | 379 | 1000 | 1 | 10/28/2022 00:22 | WG1949908 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/28/2022 00:22 | WG1949908 |
| Sulfate | 24400 | | 594 | 5000 | 1 | 10/28/2022 00:22 | WG1949908 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1970 | B | 102 | 1000 | 1 | 11/11/2022 13:05 | WG1957292 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1190 | | 28.1 | 100 | 1 | 11/10/2022 18:54 | WG1956348 |
| Manganese | 579 | | 0.704 | 5.00 | 1 | 11/10/2022 18:54 | WG1956348 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 927 | | 0.287 | 0.678 | 1 | 11/01/2022 09:39 | WG1952125 |
| Ethane | 24.1 | | 0.296 | 1.29 | 1 | 11/01/2022 09:39 | WG1952125 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/01/2022 09:39 | WG1952125 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 10/29/2022 02:20 | WG1949984 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 10/29/2022 02:20 | WG1949984 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 10/29/2022 02:20 | WG1949984 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| cis-1,2-Dichloroethene | 0.104 | | 0.0276 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 10/29/2022 02:20 | WG1949984 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 10/29/2022 02:20 | WG1949984 |
| Isopropylbenzene | U | J4 | 0.0345 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 10/29/2022 02:20 | WG1949984 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 10/29/2022 02:20 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 10/29/2022 02:20 | WG1949984 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 10/29/2022 02:20 | WG1949984 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| Styrene | U | | 0.109 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | J4 | 0.0200 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 10/29/2022 02:20 | WG1949984 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| Vinyl chloride | 0.192 | | 0.0273 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 10/29/2022 02:20 | WG1949984 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 10/29/2022 02:20 | WG1949984 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 10/29/2022 02:20 | WG1949984 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 10/29/2022 02:20 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 10/29/2022 02:20 | WG1949984 |
| *(S) Toluene-d8* | *116* | | | *75.0-131* | | *10/29/2022 02:20* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *113* | | | *67.0-138* | | *10/29/2022 02:20* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *94.4* | | | *70.0-130* | | *10/29/2022 02:20* | WG1949984 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 781000 | | 8450 | 20000 | 1 | 11/08/2022 13:00 | WG1956061 |

Sample Narrative:
L1550884-03 WG1956061: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 94600 | | 379 | 1000 | 1 | 10/28/2022 00:36 | WG1949908 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/28/2022 00:36 | WG1949908 |
| Sulfate | U | | 594 | 5000 | 1 | 10/28/2022 00:36 | WG1949908 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 10200 | | 102 | 1000 | 1 | 11/11/2022 13:26 | WG1957292 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 10800 | | 28.1 | 100 | 1 | 11/10/2022 20:20 | WG1956348 |
| Manganese | 1730 | | 0.704 | 5.00 | 1 | 11/10/2022 20:20 | WG1956348 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 32900 | | 2.87 | 6.78 | 10 | 11/01/2022 14:23 | WG1952393 |
| Ethane | 300 | | 0.296 | 1.29 | 1 | 11/01/2022 09:43 | WG1952125 |
| Ethene | 37.4 | | 0.422 | 1.27 | 1 | 11/01/2022 09:43 | WG1952125 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 10/29/2022 02:42 | WG1949984 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| Benzene | 0.0520 | | 0.0160 | 0.0400 | 1 | 10/29/2022 02:42 | WG1949984 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 10/29/2022 02:42 | WG1949984 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| cis-1,2-Dichloroethene | 0.207 | | 0.0276 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| trans-1,2-Dichloroethene | 0.682 | | 0.0572 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 10/29/2022 02:42 | WG1949984 |
| Ethylbenzene | 0.0730 | J | 0.0212 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 10/29/2022 02:42 | WG1949984 |
| Isopropylbenzene | U | ~~J4~~ | 0.0345 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 10/29/2022 02:42 | WG1949984 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 10/29/2022 02:42 | WG1949984 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 10/29/2022 02:42 | WG1949984 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 10/29/2022 02:42 | WG1949984 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| Styrene | U | | 0.109 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,1,1,2-Tetrachloroethane | U | ~~J4~~ | 0.0200 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| Toluene | 0.379 | | 0.0500 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| Trichloroethene | 0.0630 | | 0.0160 | 0.0400 | 1 | 10/29/2022 02:42 | WG1949984 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,2,4-Trimethylbenzene | 0.101 | J | 0.0464 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| Vinyl chloride | 3.19 | | 0.0273 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| Xylenes, Total | 0.479 | | 0.191 | 0.260 | 1 | 10/29/2022 02:42 | WG1949984 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 10/29/2022 02:42 | WG1949984 |
| Tetrahydrofuran | 0.748 | | 0.0900 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 10/29/2022 02:42 | WG1949984 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 10/29/2022 02:42 | WG1949984 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 10/29/2022 02:42 | WG1949984 |
| *(S) Toluene-d8* | *118* | | | *75.0-131* | | *10/29/2022 02:42* | WG1949984 |
| *(S) 4-Bromofluorobenzene* | *118* | | | *67.0-138* | | *10/29/2022 02:42* | WG1949984 |
| *(S) 1,2-Dichloroethane-d4* | *94.3* | | | *70.0-130* | | *10/29/2022 02:42* | WG1949984 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 449000 | | 8450 | 20000 | 1 | 11/09/2022 15:19 | WG1956194 |

Sample Narrative:
L1551408-01 WG1956194: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 85000 | | 379 | 1000 | 1 | 10/28/2022 22:21 | WG1950716 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/28/2022 22:21 | WG1950716 |
| Sulfate | 596 | J | 594 | 5000 | 1 | 10/28/2022 22:21 | WG1950716 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 15200 J+ | J5 | 102 | 1000 | 1 | 11/14/2022 10:53 | WG1958040 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 2710 | | 28.1 | 100 | 1 | 11/11/2022 21:59 | WG1956357 |
| Manganese | 748 | | 0.704 | 5.00 | 1 | 11/11/2022 21:59 | WG1956357 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 30500 | | 2.87 | 6.78 | 10 | 11/02/2022 15:49 | WG1953104 |
| Ethane | 198 | | 0.296 | 1.29 | 1 | 11/02/2022 11:45 | WG1952606 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/02/2022 11:45 | WG1952606 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 10/31/2022 19:32 | WG1951841 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| Benzene | 0.109 | | 0.0160 | 0.0400 | 1 | 10/31/2022 19:32 | WG1951841 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 10/31/2022 19:32 | WG1951841 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,2-Dibromoethane | U | J4 | 0.0210 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | ~~J4~~ | 0.0400 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| trans-1,2-Dichloroethene | 0.284 | | 0.0572 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 10/31/2022 19:32 | WG1951841 |
| Ethylbenzene | 0.0670 | J | 0.0212 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 10/31/2022 19:32 | WG1951841 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 10/31/2022 19:32 | WG1951841 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 10/31/2022 19:32 | WG1951841 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 10/31/2022 19:32 | WG1951841 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 10/31/2022 19:32 | WG1951841 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| n-Propylbenzene | U | ~~J4~~ | 0.0472 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| Styrene | U | | 0.109 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| Toluene | 0.168 | U ~~J~~ | 0.0500 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| Trichloroethene | 0.0560 | | 0.0160 | 0.0400 | 1 | 10/31/2022 19:32 | WG1951841 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/02/2022 18:44 | WG1952435 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| Vinyl chloride | 1.12 | | 0.0273 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| Xylenes, Total | 0.316 | | 0.191 | 0.260 | 1 | 10/31/2022 19:32 | WG1951841 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 10/31/2022 19:32 | WG1951841 |
| Tetrahydrofuran | 3.74 | | 0.0900 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 10/31/2022 19:32 | WG1951841 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 10/31/2022 19:32 | WG1951841 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 10/31/2022 19:32 | WG1951841 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *10/31/2022 19:32* | WG1951841 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/02/2022 18:44* | WG1952435 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *10/31/2022 19:32* | WG1951841 |
| *(S) 4-Bromofluorobenzene* | *93.1* | | | *67.0-138* | | *11/02/2022 18:44* | WG1952435 |
| *(S) 1,2-Dichloroethane-d4* | *99.2* | | | *70.0-130* | | *10/31/2022 19:32* | WG1951841 |
| *(S) 1,2-Dichloroethane-d4* | *111* | | | *70.0-130* | | *11/02/2022 18:44* | WG1952435 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 294000 | | 8450 | 20000 | 1 | 11/09/2022 15:24 | WG1956194 |

Sample Narrative:
L1551408-02 WG1956194: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 25900 | | 379 | 1000 | 1 | 10/28/2022 23:02 | WG1950716 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/28/2022 23:02 | WG1950716 |
| Sulfate | 29900 | | 594 | 5000 | 1 | 10/28/2022 23:02 | WG1950716 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 7790 J+ | J5 | 102 | 1000 | 1 | 11/14/2022 11:57 | WG1958040 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 514 | | 28.1 | 100 | 1 | 11/11/2022 22:03 | WG1956357 |
| Manganese | 2220 | | 0.704 | 5.00 | 1 | 11/11/2022 22:03 | WG1956357 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 5210 | | 0.287 | 0.678 | 1 | 11/02/2022 11:53 | WG1952606 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/02/2022 11:53 | WG1952606 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/02/2022 11:53 | WG1952606 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 10/31/2022 19:51 | WG1951841 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| Benzene | 0.0400 | J | 0.0160 | 0.0400 | 1 | 10/31/2022 19:51 | WG1951841 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 10/31/2022 19:51 | WG1951841 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| Chloroform | 0.116 | | 0.0166 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,2-Dibromoethane | U | ~~J4~~ | 0.0210 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | J4 | 0.0400 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,1-Dichloroethane | 0.198 | | 0.0230 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,1-Dichloroethene | 46.3 | | 0.0200 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| cis-1,2-Dichloroethene | 309 | | 5.52 | 20.0 | 200 | 11/02/2022 19:03 | WG1952435 |
| trans-1,2-Dichloroethene | 27.4 | | 0.0572 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 10/31/2022 19:51 | WG1951841 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 10/31/2022 19:51 | WG1951841 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 10/31/2022 19:51 | WG1951841 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 10/31/2022 19:51 | WG1951841 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 10/31/2022 19:51 | WG1951841 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 10/31/2022 19:51 | WG1951841 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| n-Propylbenzene | U | J4 | 0.0472 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| Styrene | U | | 0.109 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| Tetrachloroethene | 3390 | | 5.60 | 20.0 | 200 | 11/02/2022 19:03 | WG1952435 |
| Toluene | 0.412 | | 0.0500 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| Trichloroethene | 1880 | | 3.20 | 8.00 | 200 | 11/02/2022 19:03 | WG1952435 |
| Trichlorofluoromethane | U | | 4.00 | 20.0 | 200 | 11/02/2022 19:03 | WG1952435 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| Vinyl chloride | 8.28 | | 0.0273 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| Xylenes, Total | 0.310 | | 0.191 | 0.260 | 1 | 10/31/2022 19:51 | WG1951841 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 10/31/2022 19:51 | WG1951841 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 10/31/2022 19:51 | WG1951841 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 10/31/2022 19:51 | WG1951841 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 10/31/2022 19:51 | WG1951841 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *10/31/2022 19:51* | WG1951841 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/02/2022 19:03* | WG1952435 |
| *(S) 4-Bromofluorobenzene* | *106* | | | *67.0-138* | | *10/31/2022 19:51* | WG1951841 |
| *(S) 4-Bromofluorobenzene* | *94.6* | | | *67.0-138* | | *11/02/2022 19:03* | WG1952435 |
| *(S) 1,2-Dichloroethane-d4* | *94.4* | | | *70.0-130* | | *10/31/2022 19:51* | WG1951841 |
| *(S) 1,2-Dichloroethane-d4* | *115* | | | *70.0-130* | | *11/02/2022 19:03* | WG1952435 |

JC 11/21/2022

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 601000 | | 8450 | 20000 | 1 | 11/09/2022 15:34 | WG1956194 |

Sample Narrative:
L1551408-03 WG1956194: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 162000 | | 379 | 1000 | 1 | 10/28/2022 23:43 | WG1950716 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/28/2022 23:43 | WG1950716 |
| Sulfate | 3030 | J | 594 | 5000 | 1 | 10/28/2022 23:43 | WG1950716 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 16500 | | 102 | 1000 | 1 | 11/13/2022 09:03 | WG1958042 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 4090 | | 28.1 | 100 | 1 | 11/11/2022 22:06 | WG1956357 |
| Manganese | 1190 | | 0.704 | 5.00 | 1 | 11/11/2022 22:06 | WG1956357 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 21800 | | 2.87 | 6.78 | 10 | 11/02/2022 15:52 | WG1953104 |
| Ethane | 146 | | 0.296 | 1.29 | 1 | 11/02/2022 12:01 | WG1952606 |
| Ethene | 2160 | | 0.422 | 1.27 | 1 | 11/02/2022 12:01 | WG1952606 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch | |
|---|---|---|---|---|---|---|---|---|
| Acetone | U | | 5.48 | 10.0 | 10 | 10/31/2022 21:29 | WG1951841 | |
| Acrylonitrile | U | | 0.760 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 | |
| Benzene | 0.490 | | 0.160 | 0.400 | 10 | 10/31/2022 21:29 | WG1951841 | |
| Bromobenzene | U | | 0.420 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 | |
| Bromodichloromethane | U | | 0.315 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 | |
| Bromoform | U | | 2.39 | 10.0 | 10 | 10/31/2022 21:29 | WG1951841 | |
| Bromomethane | U | | 1.48 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 | |
| n-Butylbenzene | U | | 1.53 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 | |
| sec-Butylbenzene | U | | 1.01 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 | |
| tert-Butylbenzene | U | | 0.620 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 | |
| Carbon tetrachloride | U | | 0.432 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 | |
| Chlorobenzene | U | | 0.229 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 | |
| Chlorodibromomethane | U | | 0.180 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 | |
| Chloroethane | U | | 0.432 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 | |
| Chloroform | U | | 0.166 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 | |
| Chloromethane | U | | 0.556 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 | |
| 2-Chlorotoluene | U | | 0.368 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 | |
| 4-Chlorotoluene | U | | 0.452 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 | |
| 1,2-Dibromo-3-Chloropropane | U | | 2.04 | 10.0 | 10 | 10/31/2022 21:29 | WG1951841 | |
| 1,2-Dibromoethane | U | ~~J4~~ | 0.210 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 | JC 11/21/2022 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | J4 | 0.400 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,2-Dichlorobenzene | U | | 0.580 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,3-Dichlorobenzene | U | | 0.680 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,4-Dichlorobenzene | U | | 0.788 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Dichlorodifluoromethane | U | | 0.327 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,1-Dichloroethane | U | | 0.230 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,2-Dichloroethane | U | | 0.190 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,1-Dichloroethene | 16.1 | | 0.200 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| cis-1,2-Dichloroethene | 2980 | | 13.8 | 50.0 | 500 | 11/02/2022 19:22 | WG1952435 |
| trans-1,2-Dichloroethene | 180 | | 0.572 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,2-Dichloropropane | U | | 0.508 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,1-Dichloropropene | U | | 0.280 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,3-Dichloropropane | U | | 0.700 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| cis-1,3-Dichloropropene | U | | 0.271 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| trans-1,3-Dichloropropene | U | | 0.612 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 2,2-Dichloropropane | U | | 0.317 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Di-isopropyl ether | U | | 0.140 | 0.400 | 10 | 10/31/2022 21:29 | WG1951841 |
| Ethylbenzene | 0.570 | J | 0.212 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Hexachloro-1,3-butadiene | U | | 5.08 | 10.0 | 10 | 10/31/2022 21:29 | WG1951841 |
| Isopropylbenzene | U | | 0.345 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| p-Isopropyltoluene | U | | 0.932 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 2-Butanone (MEK) | U | | 5.00 | 10.0 | 10 | 10/31/2022 21:29 | WG1951841 |
| Methylene Chloride | U | | 2.65 | 10.0 | 10 | 10/31/2022 21:29 | WG1951841 |
| 4-Methyl-2-pentanone (MIBK) | U | | 4.00 | 10.0 | 10 | 10/31/2022 21:29 | WG1951841 |
| Methyl tert-butyl ether | U | | 0.118 | 0.400 | 10 | 10/31/2022 21:29 | WG1951841 |
| Naphthalene | U | | 1.24 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| n-Propylbenzene | U | J4 | 0.472 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Styrene | U | | 1.09 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,1,1,2-Tetrachloroethane | U | | 0.200 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,1,2,2-Tetrachloroethane | U | | 0.156 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.270 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Tetrachloroethene | 31.0 | J | 14.0 | 50.0 | 500 | 11/02/2022 19:22 | WG1952435 |
| Toluene | 0.850 U | J | 0.500 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,2,3-Trichlorobenzene | U | | 0.250 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,2,4-Trichlorobenzene | U | | 1.93 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,1,1-Trichloroethane | U | | 0.110 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,1,2-Trichloroethane | U | | 0.353 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Trichloroethene | 3.99 | | 0.160 | 0.400 | 10 | 10/31/2022 21:29 | WG1951841 |
| Trichlorofluoromethane | U | | 10.0 | 50.0 | 500 | 11/02/2022 19:22 | WG1952435 |
| 1,2,3-Trichloropropane | U | | 2.04 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,2,4-Trimethylbenzene | U | | 0.464 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,2,3-Trimethylbenzene | U | | 0.460 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| 1,3,5-Trimethylbenzene | U | | 0.432 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Vinyl chloride | 11700 | | 13.6 | 50.0 | 500 | 11/02/2022 19:22 | WG1952435 |
| Xylenes, Total | U | | 1.91 | 2.60 | 10 | 10/31/2022 21:29 | WG1951841 |
| Ethyl Ether | U | | 0.170 | 1.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Tetrahydrofuran | U | | 0.900 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Iodomethane | U | | 2.42 | 5.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| Allyl chloride | U | | 5.80 | 10.0 | 10 | 10/31/2022 21:29 | WG1951841 |
| Trans-1,4-Dichloro-2-butene | U | | 0.560 | 2.00 | 10 | 10/31/2022 21:29 | WG1951841 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *10/31/2022 21:29* | WG1951841 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/02/2022 19:22* | WG1952435 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *10/31/2022 21:29* | WG1951841 |
| *(S) 4-Bromofluorobenzene* | *93.6* | | | *67.0-138* | | *11/02/2022 19:22* | WG1952435 |
| *(S) 1,2-Dichloroethane-d4* | *99.1* | | | *70.0-130* | | *10/31/2022 21:29* | WG1951841 |
| *(S) 1,2-Dichloroethane-d4* | *112* | | | *70.0-130* | | *11/02/2022 19:22* | WG1952435 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 526000 | | 8450 | 20000 | 1 | 11/09/2022 15:39 | WG1956194 |

Sample Narrative:

L1551408-04 WG1956194: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 79900 | | 379 | 1000 | 1 | 10/28/2022 23:57 | WG1950716 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/28/2022 23:57 | WG1950716 |
| Sulfate | 721 | J | 594 | 5000 | 1 | 10/28/2022 23:57 | WG1950716 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 11300 | | 102 | 1000 | 1 | 11/13/2022 09:23 | WG1958042 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 4850 | | 28.1 | 100 | 1 | 11/11/2022 22:10 | WG1956357 |
| Manganese | 767 | | 0.704 | 5.00 | 1 | 11/11/2022 22:10 | WG1956357 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 30400 | | 2.87 | 6.78 | 10 | 11/02/2022 15:55 | WG1953104 |
| Ethane | 198 | | 0.296 | 1.29 | 1 | 11/02/2022 12:11 | WG1952606 |
| Ethene | 22.1 | | 0.422 | 1.27 | 1 | 11/02/2022 12:11 | WG1952606 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 2.74 | 5.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Acrylonitrile | U | | 0.380 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| Benzene | 0.105 | J | 0.0800 | 0.200 | 5 | 10/31/2022 21:49 | WG1951841 |
| Bromobenzene | U | | 0.210 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| Bromodichloromethane | U | | 0.158 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| Bromoform | U | | 1.20 | 5.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Bromomethane | U | | 0.740 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| n-Butylbenzene | U | | 0.765 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| sec-Butylbenzene | U | | 0.505 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| tert-Butylbenzene | U | | 0.310 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Carbon tetrachloride | U | | 0.216 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Chlorobenzene | U | | 0.115 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| Chlorodibromomethane | U | | 0.0900 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| Chloroethane | U | | 0.216 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Chloroform | U | | 0.0830 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| Chloromethane | U | | 0.278 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| 2-Chlorotoluene | U | | 0.184 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| 4-Chlorotoluene | U | | 0.226 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,2-Dibromo-3-Chloropropane | U | | 1.02 | 5.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,2-Dibromoethane | U | ~~J4~~ | 0.105 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | J4 | 0.200 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,2-Dichlorobenzene | U | | 0.290 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,3-Dichlorobenzene | U | | 0.340 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,4-Dichlorobenzene | U | | 0.394 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Dichlorodifluoromethane | U | | 0.164 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,1-Dichloroethane | U | | 0.115 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,2-Dichloroethane | U | | 0.0950 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,1-Dichloroethene | U | | 0.100 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| cis-1,2-Dichloroethene | 0.225 | J | 0.138 | 0.500 | 5 | 11/02/2022 19:41 | WG1952435 |
| trans-1,2-Dichloroethene | U | | 0.286 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,2-Dichloropropane | U | | 0.254 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,1-Dichloropropene | U | | 0.140 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,3-Dichloropropane | U | | 0.350 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| cis-1,3-Dichloropropene | U | | 0.136 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| trans-1,3-Dichloropropene | U | | 0.306 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 2,2-Dichloropropane | U | | 0.159 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| Di-isopropyl ether | U | | 0.0700 | 0.200 | 5 | 10/31/2022 21:49 | WG1951841 |
| Ethylbenzene | U | | 0.106 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| Hexachloro-1,3-butadiene | U | | 2.54 | 5.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Isopropylbenzene | U | | 0.173 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| p-Isopropyltoluene | U | | 0.466 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 2-Butanone (MEK) | U | | 2.50 | 5.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Methylene Chloride | U | | 1.33 | 5.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 4-Methyl-2-pentanone (MIBK) | U | | 2.00 | 5.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Methyl tert-butyl ether | U | | 0.0590 | 0.200 | 5 | 10/31/2022 21:49 | WG1951841 |
| Naphthalene | U | | 0.620 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| n-Propylbenzene | U | J4 | 0.236 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Styrene | U | | 0.545 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,1,1,2-Tetrachloroethane | U | | 0.100 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0780 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.135 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| Tetrachloroethene | U | | 0.140 | 0.500 | 5 | 11/02/2022 19:41 | WG1952435 |
| Toluene | U | | 0.250 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,2,3-Trichlorobenzene | U | | 0.125 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,2,4-Trichlorobenzene | U | | 0.965 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,1,1-Trichloroethane | U | | 0.0550 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,1,2-Trichloroethane | U | | 0.177 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| Trichloroethene | U | | 0.0800 | 0.200 | 5 | 11/02/2022 19:41 | WG1952435 |
| Trichlorofluoromethane | U | | 0.100 | 0.500 | 5 | 11/02/2022 19:41 | WG1952435 |
| 1,2,3-Trichloropropane | U | | 1.02 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,2,4-Trimethylbenzene | U | | 0.232 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,2,3-Trimethylbenzene | U | | 0.230 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| 1,3,5-Trimethylbenzene | U | | 0.216 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Vinyl chloride | 1.48 | | 0.137 | 0.500 | 5 | 11/02/2022 19:41 | WG1952435 |
| Xylenes, Total | U | | 0.955 | 1.30 | 5 | 10/31/2022 21:49 | WG1951841 |
| Ethyl Ether | U | | 0.0850 | 0.500 | 5 | 10/31/2022 21:49 | WG1951841 |
| Tetrahydrofuran | U | | 0.450 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| Iodomethane | U | | 1.21 | 2.50 | 5 | 10/31/2022 21:49 | WG1951841 |
| Allyl chloride | U | | 2.90 | 5.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| Trans-1,4-Dichloro-2-butene | U | | 0.280 | 1.00 | 5 | 10/31/2022 21:49 | WG1951841 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *10/31/2022 21:49* | WG1951841 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/02/2022 19:41* | WG1952435 |
| *(S) 4-Bromofluorobenzene* | *106* | | | *67.0-138* | | *10/31/2022 21:49* | WG1951841 |
| *(S) 4-Bromofluorobenzene* | *93.9* | | | *67.0-138* | | *11/02/2022 19:41* | WG1952435 |
| *(S) 1,2-Dichloroethane-d4* | *94.5* | | | *70.0-130* | | *10/31/2022 21:49* | WG1951841 |
| *(S) 1,2-Dichloroethane-d4* | *113* | | | *70.0-130* | | *11/02/2022 19:41* | WG1952435 |

JC 11/21/2022

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 515000 | | 8450 | 20000 | 1 | 11/09/2022 15:43 | WG1956194 |

Sample Narrative:

L1551413-01 WG1956194: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 46000 | | 379 | 1000 | 1 | 10/29/2022 00:11 | WG1950716 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/29/2022 00:11 | WG1950716 |
| Sulfate | U | | 594 | 5000 | 1 | 10/29/2022 00:11 | WG1950716 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 11900 | | 102 | 1000 | 1 | 11/13/2022 09:44 | WG1958042 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 3020 | | 28.1 | 100 | 1 | 11/11/2022 22:20 | WG1956357 |
| Manganese | 2070 | | 0.704 | 5.00 | 1 | 11/11/2022 22:20 | WG1956357 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 29400 | | 2.87 | 6.78 | 10 | 11/02/2022 15:58 | WG1953104 |
| Ethane | 613 | | 0.296 | 1.29 | 1 | 11/02/2022 12:42 | WG1952606 |
| Ethene | 104 | | 0.422 | 1.27 | 1 | 11/02/2022 12:42 | WG1952606 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 10/31/2022 20:11 | WG1951841 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| Benzene | 0.188 | | 0.0160 | 0.0400 | 1 | 10/31/2022 20:11 | WG1951841 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 10/31/2022 20:11 | WG1951841 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,2-Dibromoethane | U | ~~J4~~ | 0.0210 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | ~~J4~~ | 0.0400 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| cis-1,2-Dichloroethene | 0.0630 | J | 0.0276 | 0.100 | 1 | 11/02/2022 20:01 | WG1952435 |
| trans-1,2-Dichloroethene | 0.556 | | 0.0572 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 10/31/2022 20:11 | WG1951841 |
| Ethylbenzene | 0.0460 | J | 0.0212 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 10/31/2022 20:11 | WG1951841 |
| Isopropylbenzene | 0.0720 | J | 0.0345 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 10/31/2022 20:11 | WG1951841 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 10/31/2022 20:11 | WG1951841 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 10/31/2022 20:11 | WG1951841 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 10/31/2022 20:11 | WG1951841 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| n-Propylbenzene | U | ~~J4~~ | 0.0472 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| Styrene | U | | 0.109 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/02/2022 20:01 | WG1952435 |
| Toluene | 0.122 | J | 0.0500 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| Trichloroethene | 0.0460 | | 0.0160 | 0.0400 | 1 | 11/02/2022 20:01 | WG1952435 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/02/2022 20:01 | WG1952435 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| Vinyl chloride | 0.629 | | 0.0273 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 10/31/2022 20:11 | WG1951841 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 10/31/2022 20:11 | WG1951841 |
| Tetrahydrofuran | 3.77 | | 0.0900 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 10/31/2022 20:11 | WG1951841 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 10/31/2022 20:11 | WG1951841 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 10/31/2022 20:11 | WG1951841 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *10/31/2022 20:11* | WG1951841 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/02/2022 20:01* | WG1952435 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *10/31/2022 20:11* | WG1951841 |
| *(S) 4-Bromofluorobenzene* | *93.8* | | | *67.0-138* | | *11/02/2022 20:01* | WG1952435 |
| *(S) 1,2-Dichloroethane-d4* | *100* | | | *70.0-130* | | *10/31/2022 20:11* | WG1951841 |
| *(S) 1,2-Dichloroethane-d4* | *111* | | | *70.0-130* | | *11/02/2022 20:01* | WG1952435 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 1090000 | | 8450 | 20000 | 1 | 11/09/2022 15:48 | WG1956194 |

Sample Narrative:
L1551413-02 WG1956194: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 86400 | | 379 | 1000 | 1 | 10/29/2022 00:24 | WG1950716 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/29/2022 00:24 | WG1950716 |
| Sulfate | 3690 | J | 594 | 5000 | 1 | 10/29/2022 00:24 | WG1950716 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 29100 | | 102 | 1000 | 1 | 11/13/2022 10:50 | WG1958042 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 14700 | | 28.1 | 100 | 1 | 11/11/2022 22:23 | WG1956357 |
| Manganese | 3680 | | 0.704 | 5.00 | 1 | 11/11/2022 22:23 | WG1956357 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 28200 | | 2.87 | 6.78 | 10 | 11/02/2022 16:01 | WG1953104 |
| Ethane | 196 | | 0.296 | 1.29 | 1 | 11/02/2022 13:37 | WG1952606 |
| Ethene | 57.6 | | 0.422 | 1.27 | 1 | 11/02/2022 13:37 | WG1952606 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 3.08 J+ | C5 | 0.548 | 1.00 | 1 | 10/31/2022 20:30 | WG1951841 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| Benzene | 0.0260 | J | 0.0160 | 0.0400 | 1 | 10/31/2022 20:30 | WG1951841 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 10/31/2022 20:30 | WG1951841 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| Chloroethane | 1.40 | | 0.0432 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,2-Dibromoethane | U | J4 | 0.0210 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | J4 | 0.0400 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,1-Dichloroethene | 0.108 | | 0.0200 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| cis-1,2-Dichloroethene | 22.3 | | 0.0276 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| trans-1,2-Dichloroethene | 1.25 | | 0.0572 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 10/31/2022 20:30 | WG1951841 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 10/31/2022 20:30 | WG1951841 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 10/31/2022 20:30 | WG1951841 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 10/31/2022 20:30 | WG1951841 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 10/31/2022 20:30 | WG1951841 |
| Methyl tert-butyl ether | 0.0180 | J | 0.0118 | 0.0400 | 1 | 10/31/2022 20:30 | WG1951841 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| n-Propylbenzene | U | J4 | 0.0472 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| Styrene | U | | 0.109 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| Tetrachloroethene | 2.38 | | 0.0280 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| Trichloroethene | 0.997 | | 0.0160 | 0.0400 | 1 | 10/31/2022 20:30 | WG1951841 |
| Trichlorofluoromethane | U | | 0.200 | 1.00 | 10 | 11/02/2022 20:20 | WG1952435 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| Vinyl chloride | 157 | | 0.273 | 1.00 | 10 | 11/02/2022 20:20 | WG1952435 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 10/31/2022 20:30 | WG1951841 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 10/31/2022 20:30 | WG1951841 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 10/31/2022 20:30 | WG1951841 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 10/31/2022 20:30 | WG1951841 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 10/31/2022 20:30 | WG1951841 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *10/31/2022 20:30* | WG1951841 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/02/2022 20:20* | WG1952435 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *10/31/2022 20:30* | WG1951841 |
| *(S) 4-Bromofluorobenzene* | *92.3* | | | *67.0-138* | | *11/02/2022 20:20* | WG1952435 |
| *(S) 1,2-Dichloroethane-d4* | *101* | | | *70.0-130* | | *10/31/2022 20:30* | WG1951841 |
| *(S) 1,2-Dichloroethane-d4* | *112* | | | *70.0-130* | | *11/02/2022 20:20* | WG1952435 |

JC 11/21/2022

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 1000000 | | 8450 | 20000 | 1 | 11/09/2022 15:52 | WG1956194 |

Sample Narrative:

L1551413-03 WG1956194: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 82800 | | 379 | 1000 | 1 | 10/29/2022 00:38 | WG1950716 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/29/2022 00:38 | WG1950716 |
| Sulfate | U | | 594 | 5000 | 1 | 10/29/2022 00:38 | WG1950716 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 18800 | | 102 | 1000 | 1 | 11/13/2022 11:12 | WG1958042 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 15900 | | 28.1 | 100 | 1 | 11/11/2022 22:26 | WG1956357 |
| Manganese | 2840 | | 0.704 | 5.00 | 1 | 11/11/2022 22:26 | WG1956357 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 32200 | | 2.87 | 6.78 | 10 | 11/02/2022 16:04 | WG1953104 |
| Ethane | 567 | | 0.296 | 1.29 | 1 | 11/02/2022 13:40 | WG1952606 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/02/2022 13:40 | WG1952606 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 0.637 | J ~~J4~~ | 0.548 | 1.00 | 1 | 11/02/2022 20:39 | WG1952435 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| Benzene | 0.0220 | J | 0.0160 | 0.0400 | 1 | 10/31/2022 20:50 | WG1951841 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 10/31/2022 20:50 | WG1951841 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| Chloroethane | 0.219 | | 0.0432 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,2-Dibromoethane | U | ~~J4~~ | 0.0210 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | ~~J4~~ | 0.0400 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| cis-1,2-Dichloroethene | 0.0740 | J | 0.0276 | 0.100 | 1 | 11/02/2022 20:39 | WG1952435 |
| trans-1,2-Dichloroethene | 1.22 | | 0.0572 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 10/31/2022 20:50 | WG1951841 |
| Ethylbenzene | 0.0680 | J | 0.0212 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 10/31/2022 20:50 | WG1951841 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 10/31/2022 20:50 | WG1951841 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 10/31/2022 20:50 | WG1951841 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 10/31/2022 20:50 | WG1951841 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 10/31/2022 20:50 | WG1951841 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| n-Propylbenzene | U | ~~J4~~ | 0.0472 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| Styrene | U | | 0.109 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| Tetrachloroethene | 1.41 | | 0.0280 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| Toluene | 0.107 | J | 0.0500 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| Trichloroethene | 0.0220 | J | 0.0160 | 0.0400 | 1 | 11/02/2022 20:39 | WG1952435 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/02/2022 20:39 | WG1952435 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| Vinyl chloride | 0.0940 | J | 0.0273 | 0.100 | 1 | 11/02/2022 20:39 | WG1952435 |
| Xylenes, Total | 0.224 | J | 0.191 | 0.260 | 1 | 10/31/2022 20:50 | WG1951841 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 10/31/2022 20:50 | WG1951841 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 10/31/2022 20:50 | WG1951841 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 10/31/2022 20:50 | WG1951841 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 10/31/2022 20:50 | WG1951841 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *10/31/2022 20:50* | WG1951841 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/02/2022 20:39* | WG1952435 |
| *(S) 4-Bromofluorobenzene* | *93.9* | | | *67.0-138* | | *10/31/2022 20:50* | WG1951841 |
| *(S) 4-Bromofluorobenzene* | *92.9* | | | *67.0-138* | | *11/02/2022 20:39* | WG1952435 |
| *(S) 1,2-Dichloroethane-d4* | *102* | | | *70.0-130* | | *10/31/2022 20:50* | WG1951841 |
| *(S) 1,2-Dichloroethane-d4* | *111* | | | *70.0-130* | | *11/02/2022 20:39* | WG1952435 |

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1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 840000 | | 8450 | 20000 | 1 | 11/09/2022 15:57 | WG1956194 |

Sample Narrative:

L1551413-04 WG1956194: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 68600 | | 379 | 1000 | 1 | 10/29/2022 00:52 | WG1950716 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/29/2022 00:52 | WG1950716 |
| Sulfate | U | | 594 | 5000 | 1 | 10/29/2022 00:52 | WG1950716 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 16400 | | 102 | 1000 | 1 | 11/13/2022 11:33 | WG1958042 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 11400 | | 28.1 | 100 | 1 | 11/11/2022 21:46 | WG1956357 |
| Manganese | 2290 | | 0.704 | 5.00 | 1 | 11/11/2022 21:46 | WG1956357 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 28900 | | 2.87 | 6.78 | 10 | 11/02/2022 16:09 | WG1953104 |
| Ethane | 590 | | 0.296 | 1.29 | 1 | 11/02/2022 13:44 | WG1952606 |
| Ethene | 30.1 | | 0.422 | 1.27 | 1 | 11/02/2022 13:44 | WG1952606 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 2.62 J+ | C5 | 0.548 | 1.00 | 1 | 10/31/2022 21:09 | WG1951841 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| Benzene | 0.0230 | J | 0.0160 | 0.0400 | 1 | 10/31/2022 21:09 | WG1951841 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 10/31/2022 21:09 | WG1951841 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| Chloroethane | 0.258 | | 0.0432 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,2-Dibromoethane | U | ~~J4~~ | 0.0210 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |

JC
11/21/2022

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | ~~J4~~ | 0.0400 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| cis-1,2-Dichloroethene | 0.211 | | 0.0276 | 0.100 | 1 | 11/02/2022 20:58 | WG1952435 |
| trans-1,2-Dichloroethene | 1.07 | | 0.0572 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 10/31/2022 21:09 | WG1951841 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 10/31/2022 21:09 | WG1951841 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 10/31/2022 21:09 | WG1951841 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 10/31/2022 21:09 | WG1951841 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 10/31/2022 21:09 | WG1951841 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 10/31/2022 21:09 | WG1951841 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| n-Propylbenzene | U | ~~J4~~ | 0.0472 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| Styrene | U | | 0.109 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/02/2022 20:58 | WG1952435 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| Trichloroethene | 0.0200 | J | 0.0160 | 0.0400 | 1 | 11/02/2022 20:58 | WG1952435 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/02/2022 20:58 | WG1952435 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| Vinyl chloride | 0.668 | | 0.0273 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 10/31/2022 21:09 | WG1951841 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 10/31/2022 21:09 | WG1951841 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 10/31/2022 21:09 | WG1951841 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 10/31/2022 21:09 | WG1951841 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 10/31/2022 21:09 | WG1951841 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *10/31/2022 21:09* | WG1951841 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/02/2022 20:58* | WG1952435 |
| *(S) 4-Bromofluorobenzene* | *97.8* | | | *67.0-138* | | *10/31/2022 21:09* | WG1951841 |
| *(S) 4-Bromofluorobenzene* | *94.3* | | | *67.0-138* | | *11/02/2022 20:58* | WG1952435 |
| *(S) 1,2-Dichloroethane-d4* | *99.9* | | | *70.0-130* | | *10/31/2022 21:09* | WG1951841 |
| *(S) 1,2-Dichloroethane-d4* | *114* | | | *70.0-130* | | *11/02/2022 20:58* | WG1952435 |

JC 11/21/2022

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 610000 | | 8450 | 20000 | 1 | 11/10/2022 13:21 | WG1956248 |

Sample Narrative:

L1551843-01 WG1956248: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 56700 | | 379 | 1000 | 1 | 10/29/2022 22:14 | WG1951135 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/29/2022 22:14 | WG1951135 |
| Sulfate | 5350 | | 594 | 5000 | 1 | 10/29/2022 22:14 | WG1951135 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 25400 | | 102 | 1000 | 1 | 11/14/2022 19:29 | WG1958045 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 18400 | | 28.1 | 100 | 1 | 11/11/2022 16:46 | WG1957857 |
| Manganese | 3410 | | 0.704 | 5.00 | 1 | 11/11/2022 16:46 | WG1957857 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 33300 | | 2.87 | 6.78 | 10 | 11/03/2022 14:09 | WG1953876 |
| Ethane | 712 | | 0.296 | 1.29 | 1 | 11/03/2022 09:38 | WG1953618 |
| Ethene | 446 | | 0.422 | 1.27 | 1 | 11/03/2022 09:38 | WG1953618 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 2.74 | 5.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Acrylonitrile | U | | 0.380 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| Benzene | 0.220 | | 0.0800 | 0.200 | 5 | 11/03/2022 03:40 | WG1953300 |
| Bromobenzene | U | | 0.210 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| Bromodichloromethane | U | | 0.158 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| Bromoform | U | | 1.20 | 5.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Bromomethane | U | | 0.740 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| n-Butylbenzene | U | | 0.765 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| sec-Butylbenzene | 0.865 | J | 0.505 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| tert-Butylbenzene | U | | 0.310 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Carbon tetrachloride | U | | 0.216 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Chlorobenzene | U | | 0.115 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| Chlorodibromomethane | U | | 0.0900 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| Chloroethane | U | | 0.216 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Chloroform | U | | 0.0830 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| Chloromethane | U | | 0.278 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| 2-Chlorotoluene | U | | 0.184 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| 4-Chlorotoluene | U | | 0.226 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,2-Dibromo-3-Chloropropane | U | C3 | 1.02 | 5.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,2-Dibromoethane | U | | 0.105 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |

JC 11/21/2022

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.200 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,2-Dichlorobenzene | U | | 0.290 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,3-Dichlorobenzene | U | | 0.340 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,4-Dichlorobenzene | U | | 0.394 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Dichlorodifluoromethane | U | | 0.164 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,1-Dichloroethane | U | | 0.115 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,2-Dichloroethane | U | | 0.0950 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,1-Dichloroethene | 0.815 | | 0.100 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| cis-1,2-Dichloroethene | 858 | | 0.552 | 2.00 | 20 | 11/04/2022 01:23 | WG1953741 |
| trans-1,2-Dichloroethene | 14.9 | | 0.286 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,2-Dichloropropane | U | | 0.254 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,1-Dichloropropene | U | | 0.140 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,3-Dichloropropane | U | | 0.350 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| cis-1,3-Dichloropropene | U | | 0.136 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| trans-1,3-Dichloropropene | U | | 0.306 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 2,2-Dichloropropane | U | | 0.159 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| Di-isopropyl ether | U | | 0.0700 | 0.200 | 5 | 11/03/2022 03:40 | WG1953300 |
| Ethylbenzene | U | | 0.106 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| Hexachloro-1,3-butadiene | U | | 2.54 | 5.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Isopropylbenzene | 0.185 J | J ~~J4~~ | 0.173 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| p-Isopropyltoluene | 1.92 | | 0.466 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 2-Butanone (MEK) | U | | 2.50 | 5.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Methylene Chloride | 1.49 | J | 1.33 | 5.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 4-Methyl-2-pentanone (MIBK) | U | | 2.00 | 5.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Methyl tert-butyl ether | U | | 0.0590 | 0.200 | 5 | 11/03/2022 03:40 | WG1953300 |
| Naphthalene | 3.45 | | 0.620 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| n-Propylbenzene | 1.91 J+ | C5 | 0.236 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Styrene | U | | 0.545 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,1,1,2-Tetrachloroethane | U | | 0.100 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0780 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.135 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| Tetrachloroethene | U | | 0.140 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| Toluene | U | | 0.250 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,2,3-Trichlorobenzene | U | | 0.125 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,2,4-Trichlorobenzene | U | | 0.965 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,1,1-Trichloroethane | U | | 0.0550 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,1,2-Trichloroethane | U | | 0.177 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| Trichloroethene | U | | 0.0800 | 0.200 | 5 | 11/03/2022 03:40 | WG1953300 |
| Trichlorofluoromethane | U | | 0.100 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,2,3-Trichloropropane | U | | 1.02 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,2,4-Trimethylbenzene | 4.58 | | 0.232 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,2,3-Trimethylbenzene | 1.13 | | 0.230 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| 1,3,5-Trimethylbenzene | U | | 0.216 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Vinyl chloride | 797 | | 0.546 | 2.00 | 20 | 11/04/2022 01:23 | WG1953741 |
| Xylenes, Total | 1.44 | | 0.955 | 1.30 | 5 | 11/03/2022 03:40 | WG1953300 |
| Ethyl Ether | U | | 0.0850 | 0.500 | 5 | 11/03/2022 03:40 | WG1953300 |
| Tetrahydrofuran | 2.61 | ~~J3~~ | 0.450 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| Iodomethane | U | | 1.21 | 2.50 | 5 | 11/03/2022 03:40 | WG1953300 |
| Allyl chloride | U | | 2.90 | 5.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| Trans-1,4-Dichloro-2-butene | U | ~~J3~~ | 0.280 | 1.00 | 5 | 11/03/2022 03:40 | WG1953300 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/03/2022 03:40* | WG1953300 |
| *(S) Toluene-d8* | *98.7* | | | *75.0-131* | | *11/04/2022 01:23* | WG1953741 |
| *(S) 4-Bromofluorobenzene* | *110* | | | *67.0-138* | | *11/03/2022 03:40* | WG1953300 |
| *(S) 4-Bromofluorobenzene* | *90.9* | | | *67.0-138* | | *11/04/2022 01:23* | WG1953741 |
| *(S) 1,2-Dichloroethane-d4* | *93.6* | | | *70.0-130* | | *11/03/2022 03:40* | WG1953300 |
| *(S) 1,2-Dichloroethane-d4* | *105* | | | *70.0-130* | | *11/04/2022 01:23* | WG1953741 |

JC 11/21/2022

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |

Sample Narrative:

L1551843-01 WG1953300: Target compounds too high to run at a lower dilution.

JC 11/21/2022

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 757000 | | 8450 | 20000 | 1 | 11/10/2022 13:26 | WG1956248 |

Sample Narrative:

L1551843-02 WG1956248: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 89500 | | 379 | 1000 | 1 | 10/29/2022 22:29 | WG1951135 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/29/2022 22:29 | WG1951135 |
| Sulfate | 18100 | | 594 | 5000 | 1 | 10/29/2022 22:29 | WG1951135 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 46700 | | 102 | 1000 | 1 | 11/14/2022 19:51 | WG1958045 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 33900 | | 28.1 | 100 | 1 | 11/11/2022 16:50 | WG1957857 |
| Manganese | 1580 | | 0.704 | 5.00 | 1 | 11/11/2022 16:50 | WG1957857 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 30100 | | 2.87 | 6.78 | 10 | 11/03/2022 14:12 | WG1953876 |
| Ethane | 480 | | 0.296 | 1.29 | 1 | 11/03/2022 09:42 | WG1953618 |
| Ethene | 1930 | | 0.422 | 1.27 | 1 | 11/03/2022 09:42 | WG1953618 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 7.41 | | 2.74 | 5.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Acrylonitrile | U | | 0.380 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| Benzene | 0.130 | J | 0.0800 | 0.200 | 5 | 11/03/2022 04:01 | WG1953300 |
| Bromobenzene | U | | 0.210 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| Bromodichloromethane | U | | 0.158 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| Bromoform | U | | 1.20 | 5.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Bromomethane | U | | 0.740 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| n-Butylbenzene | U | | 0.765 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| sec-Butylbenzene | U | | 0.505 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| tert-Butylbenzene | U | | 0.310 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Carbon tetrachloride | U | | 0.216 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Chlorobenzene | U | | 0.115 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| Chlorodibromomethane | U | | 0.0900 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| Chloroethane | U | | 0.216 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Chloroform | U | | 0.0830 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| Chloromethane | U | | 0.278 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| 2-Chlorotoluene | U | | 0.184 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| 4-Chlorotoluene | U | | 0.226 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,2-Dibromo-3-Chloropropane | U | UJ C3 | 1.02 | 5.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,2-Dibromoethane | U | | 0.105 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |

JC 11/21/2022

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.200 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,2-Dichlorobenzene | U | | 0.290 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,3-Dichlorobenzene | U | | 0.340 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,4-Dichlorobenzene | U | | 0.394 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Dichlorodifluoromethane | U | | 0.164 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,1-Dichloroethane | U | | 0.115 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,2-Dichloroethane | U | | 0.0950 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,1-Dichloroethene | 13.9 | | 0.100 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| cis-1,2-Dichloroethene | 12000 | | 27.6 | 100 | 1000 | 11/04/2022 19:28 | WG1954372 |
| trans-1,2-Dichloroethene | 49.7 | | 0.286 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,2-Dichloropropane | U | | 0.254 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,1-Dichloropropene | U | | 0.140 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,3-Dichloropropane | U | | 0.350 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| cis-1,3-Dichloropropene | U | | 0.136 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| trans-1,3-Dichloropropene | U | | 0.306 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 2,2-Dichloropropane | U | | 0.159 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| Di-isopropyl ether | U | | 0.0700 | 0.200 | 5 | 11/03/2022 04:01 | WG1953300 |
| Ethylbenzene | U | | 0.106 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| Hexachloro-1,3-butadiene | U | | 2.54 | 5.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Isopropylbenzene | U | ~~J4~~ | 0.173 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| p-Isopropyltoluene | 0.870 | J | 0.466 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 2-Butanone (MEK) | U | | 2.50 | 5.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Methylene Chloride | U | | 1.33 | 5.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 4-Methyl-2-pentanone (MIBK) | U | | 2.00 | 5.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Methyl tert-butyl ether | U | | 0.0590 | 0.200 | 5 | 11/03/2022 04:01 | WG1953300 |
| Naphthalene | U | | 0.620 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| n-Propylbenzene | 0.310 | J | 0.236 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Styrene | U | | 0.545 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,1,1,2-Tetrachloroethane | U | | 0.100 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0780 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.135 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| Tetrachloroethene | U | | 0.140 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| Toluene | U | | 0.250 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,2,3-Trichlorobenzene | U | | 0.125 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,2,4-Trichlorobenzene | U | | 0.965 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,1,1-Trichloroethane | U | | 0.0550 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,1,2-Trichloroethane | U | | 0.177 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| Trichloroethene | U | | 0.0800 | 0.200 | 5 | 11/03/2022 04:01 | WG1953300 |
| Trichlorofluoromethane | U | | 0.100 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,2,3-Trichloropropane | U | | 1.02 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,2,4-Trimethylbenzene | 0.705 | J | 0.232 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,2,3-Trimethylbenzene | U | | 0.230 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| 1,3,5-Trimethylbenzene | U | | 0.216 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Vinyl chloride | 4810 | | 1.36 | 5.00 | 50 | 11/04/2022 01:42 | WG1953741 |
| Xylenes, Total | U | | 0.955 | 1.30 | 5 | 11/03/2022 04:01 | WG1953300 |
| Ethyl Ether | U | | 0.0850 | 0.500 | 5 | 11/03/2022 04:01 | WG1953300 |
| Tetrahydrofuran | U | ~~J3~~ | 0.450 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| Iodomethane | U | | 1.21 | 2.50 | 5 | 11/03/2022 04:01 | WG1953300 |
| Allyl chloride | U | | 2.90 | 5.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| Trans-1,4-Dichloro-2-butene | U | ~~J3~~ | 0.280 | 1.00 | 5 | 11/03/2022 04:01 | WG1953300 |
| *(S) Toluene-d8* | *111* | | | *75.0-131* | | *11/03/2022 04:01* | WG1953300 |
| *(S) Toluene-d8* | *100* | | | *75.0-131* | | *11/04/2022 01:42* | WG1953741 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/04/2022 19:28* | WG1954372 |
| *(S) 4-Bromofluorobenzene* | *112* | | | *67.0-138* | | *11/03/2022 04:01* | WG1953300 |
| *(S) 4-Bromofluorobenzene* | *86.4* | | | *67.0-138* | | *11/04/2022 01:42* | WG1953741 |
| *(S) 4-Bromofluorobenzene* | *104* | | | *67.0-138* | | *11/04/2022 19:28* | WG1954372 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| *(S) 1,2-Dichloroethane-d4* | *95.8* | | | *70.0-130* | | *11/03/2022 04:01* | WG1953300 |
| *(S) 1,2-Dichloroethane-d4* | *106* | | | *70.0-130* | | *11/04/2022 01:42* | WG1953741 |
| *(S) 1,2-Dichloroethane-d4* | *99.4* | | | *70.0-130* | | *11/04/2022 19:28* | WG1954372 |

Sample Narrative:

L1551843-02 WG1953300: Target compounds too high to run at a lower dilution.



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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 434000 | | 8450 | 20000 | 1 | 11/10/2022 13:39 | WG1956248 |

Sample Narrative:

L1551843-03 WG1956248: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 35900 | | 379 | 1000 | 1 | 10/29/2022 22:44 | WG1951135 |
| Nitrate | 206 | | 48.0 | 100 | 1 | 10/29/2022 22:44 | WG1951135 |
| Sulfate | 4280 | J | 594 | 5000 | 1 | 10/29/2022 22:44 | WG1951135 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 10300 | | 102 | 1000 | 1 | 11/14/2022 20:10 | WG1958045 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 2820 | | 28.1 | 100 | 1 | 11/11/2022 16:53 | WG1957857 |
| Manganese | 1180 | | 0.704 | 5.00 | 1 | 11/11/2022 16:53 | WG1957857 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 12800 | | 2.87 | 6.78 | 10 | 11/03/2022 14:15 | WG1953876 |
| Ethane | 276 | | 0.296 | 1.29 | 1 | 11/03/2022 09:46 | WG1953618 |
| Ethene | 32.7 | | 0.422 | 1.27 | 1 | 11/03/2022 09:46 | WG1953618 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/03/2022 00:10 | WG1953300 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| Benzene | 0.0190 | J | 0.0160 | 0.0400 | 1 | 11/03/2022 00:10 | WG1953300 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 00:10 | WG1953300 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| Chloroethane | 0.427 | | 0.0432 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,2-Dibromo-3-Chloropropane | U | UJ C3 | 0.204 | 1.00 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| cis-1,2-Dichloroethene | 2.93 | | 0.0276 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| trans-1,2-Dichloroethene | 0.0850 | J | 0.0572 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 00:10 | WG1953300 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 00:10 | WG1953300 |
| Isopropylbenzene | U | ~~J4~~ | 0.0345 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 00:10 | WG1953300 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 00:10 | WG1953300 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 00:10 | WG1953300 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 00:10 | WG1953300 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| Tetrachloroethene | 0.147 | | 0.0280 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| Toluene | 0.191 | J | 0.0500 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 00:10 | WG1953300 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| Vinyl chloride | 6.68 | | 0.0273 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 00:10 | WG1953300 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 00:10 | WG1953300 |
| Tetrahydrofuran | 0.492 | J ~~J3~~ | 0.0900 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 00:10 | WG1953300 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 00:10 | WG1953300 |
| Trans-1,4-Dichloro-2-butene | U | ~~J3~~ | 0.0560 | 0.200 | 1 | 11/03/2022 00:10 | WG1953300 |
| *(S) Toluene-d8* | *111* | | | *75.0-131* | | *11/03/2022 00:10* | WG1953300 |
| *(S) 4-Bromofluorobenzene* | *116* | | | *67.0-138* | | *11/03/2022 00:10* | WG1953300 |
| *(S) 1,2-Dichloroethane-d4* | *93.9* | | | *70.0-130* | | *11/03/2022 00:10* | WG1953300 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 439000 | | 8450 | 20000 | 1 | 11/10/2022 13:45 | WG1956248 |

Sample Narrative:

L1551843-04 WG1956248: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 36400 | | 379 | 1000 | 1 | 10/29/2022 23:29 | WG1951135 |
| Nitrate | 171 | | 48.0 | 100 | 1 | 10/29/2022 23:29 | WG1951135 |
| Sulfate | 4260 | J | 594 | 5000 | 1 | 10/29/2022 23:29 | WG1951135 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 10300 | | 102 | 1000 | 1 | 11/14/2022 20:46 | WG1958045 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 2710 | | 28.1 | 100 | 1 | 11/11/2022 17:19 | WG1957857 |
| Manganese | 1160 | | 0.704 | 5.00 | 1 | 11/11/2022 17:19 | WG1957857 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 13100 | | 2.87 | 6.78 | 10 | 11/03/2022 14:18 | WG1953876 |
| Ethane | 264 | | 0.296 | 1.29 | 1 | 11/03/2022 09:51 | WG1953618 |
| Ethene | 31.8 | | 0.422 | 1.27 | 1 | 11/03/2022 09:51 | WG1953618 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.92 | | 0.548 | 1.00 | 1 | 11/03/2022 00:31 | WG1953300 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 00:31 | WG1953300 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 00:31 | WG1953300 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| Chloroethane | 0.402 | | 0.0432 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,2-Dibromo-3-Chloropropane | U | UJ C3 | 0.204 | 1.00 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| cis-1,2-Dichloroethene | 2.68 | | 0.0276 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| trans-1,2-Dichloroethene | 0.0870 | J | 0.0572 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 00:31 | WG1953300 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 00:31 | WG1953300 |
| Isopropylbenzene | U | J4 | 0.0345 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 00:31 | WG1953300 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 00:31 | WG1953300 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 00:31 | WG1953300 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 00:31 | WG1953300 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| Tetrachloroethene | 0.0840 | J | 0.0280 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| Toluene | 0.114 | J | 0.0500 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 00:31 | WG1953300 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| Vinyl chloride | 6.56 | | 0.0273 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 00:31 | WG1953300 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 00:31 | WG1953300 |
| Tetrahydrofuran | 0.567 | J3 | 0.0900 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 00:31 | WG1953300 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 00:31 | WG1953300 |
| Trans-1,4-Dichloro-2-butene | U | J3 | 0.0560 | 0.200 | 1 | 11/03/2022 00:31 | WG1953300 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/03/2022 00:31* | WG1953300 |
| *(S) 4-Bromofluorobenzene* | *108* | | | *67.0-138* | | *11/03/2022 00:31* | WG1953300 |
| *(S) 1,2-Dichloroethane-d4* | *95.7* | | | *70.0-130* | | *11/03/2022 00:31* | WG1953300 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 392000 | | 8450 | 20000 | 1 | 11/10/2022 13:50 | WG1956248 |

Sample Narrative:

L1551843-05 WG1956248: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 33800 | | 379 | 1000 | 1 | 10/29/2022 23:44 | WG1951135 |
| Nitrate | U | | 48.0 | 100 | 1 | 10/29/2022 23:44 | WG1951135 |
| Sulfate | 16900 | | 594 | 5000 | 1 | 10/29/2022 23:44 | WG1951135 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 10200 | | 102 | 1000 | 1 | 11/14/2022 21:06 | WG1958045 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 2350 | | 28.1 | 100 | 1 | 11/11/2022 17:22 | WG1957857 |
| Manganese | 569 | | 0.704 | 5.00 | 1 | 11/11/2022 17:22 | WG1957857 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 5840 | | 0.287 | 0.678 | 1 | 11/03/2022 09:55 | WG1953618 |
| Ethane | 90.9 | | 0.296 | 1.29 | 1 | 11/03/2022 09:55 | WG1953618 |
| Ethene | 1.42 | | 0.422 | 1.27 | 1 | 11/03/2022 09:55 | WG1953618 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|---|
| Acetone | 1.74 | | | 0.548 | 1.00 | 1 | 11/03/2022 00:52 | WG1953300 |
| Acrylonitrile | U | | | 0.0760 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| Benzene | U | | | 0.0160 | 0.0400 | 1 | 11/03/2022 00:52 | WG1953300 |
| Bromobenzene | U | | | 0.0420 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| Bromodichloromethane | U | | | 0.0315 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| Bromoform | U | | | 0.239 | 1.00 | 1 | 11/03/2022 00:52 | WG1953300 |
| Bromomethane | U | | | 0.148 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| n-Butylbenzene | U | | | 0.153 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| sec-Butylbenzene | U | | | 0.101 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| tert-Butylbenzene | U | | | 0.0620 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| Carbon tetrachloride | U | | | 0.0432 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| Chlorobenzene | U | | | 0.0229 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| Chlorodibromomethane | U | | | 0.0180 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| Chloroethane | U | | | 0.0432 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| Chloroform | U | | | 0.0166 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| Chloromethane | U | | | 0.0556 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| 2-Chlorotoluene | U | | | 0.0368 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| 4-Chlorotoluene | U | | | 0.0452 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,2-Dibromo-3-Chloropropane | U | UJ | C3 | 0.204 | 1.00 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,2-Dibromoethane | U | | | 0.0210 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| cis-1,2-Dichloroethene | 0.184 | | 0.0276 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 00:52 | WG1953300 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 00:52 | WG1953300 |
| Isopropylbenzene | U | ~~J4~~ | 0.0345 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 00:52 | WG1953300 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 00:52 | WG1953300 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 00:52 | WG1953300 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 00:52 | WG1953300 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| Tetrachloroethene | 0.192 | | 0.0280 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| Toluene | 0.186 | J | 0.0500 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 00:52 | WG1953300 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| Vinyl chloride | 0.138 | | 0.0273 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 00:52 | WG1953300 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 00:52 | WG1953300 |
| Tetrahydrofuran | 0.386 | J ~~J3~~ | 0.0900 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 00:52 | WG1953300 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 00:52 | WG1953300 |
| Trans-1,4-Dichloro-2-butene | U | ~~J3~~ | 0.0560 | 0.200 | 1 | 11/03/2022 00:52 | WG1953300 |
| *(S) Toluene-d8* | *112* | | | *75.0-131* | | *11/03/2022 00:52* | WG1953300 |
| *(S) 4-Bromofluorobenzene* | *115* | | | *67.0-138* | | *11/03/2022 00:52* | WG1953300 |
| *(S) 1,2-Dichloroethane-d4* | *96.6* | | | *70.0-130* | | *11/03/2022 00:52* | WG1953300 |

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# MEMORANDUM

**TO:** Project File **DATE:** December 1, 2022

**FROM:** Jessie Compeau

**SUBJECT:** Laboratory Data Validation Review

**PROJECT:** American Linen Data Validation

**PROJECT #:** 443022-1413001.10.701.04

**TASK:** EIM Data Validation Level EPA2A for 4th Quarter Monitoring 2022 – Groundwater Samples – Group 2

**LAB:** Pace Sample Delivery Groups (SDGs): L1552392, L1552408, L1552420, L1552983, and L1553859

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Fifty-eight (58) groundwater samples (including five field duplicates), and two trip blanks were collected as part of the 4th Quarterly Monitoring Round for 2022 for the ongoing Remedial Investigation (RI) sampling at the Former American Linen Supply Site, in Seattle, Washington. The samples were collected October 31, and November 1, 2022, shipped, and delivered to Pace Lab Sciences (Pace) of Mount Juliet, TN for laboratory analysis. Selected samples were analyzed for the following:

- Volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260D;
- Total petroleum hydrocarbons (TPH) as gasoline (TPH-Gx) by NWTPH-Gx per the analytical method stipulated by Washington State Department of Ecology;
- VOCs (dissolved gases – methane, ethane, and ethene) by EPA SOP RSK 175;
- Alkalinity by Method 2320 B-2011;
- Anions (chloride, nitrate, and sulfate) by USEPA Method 9056A;
- Total Organic Carbon (TOC) by USEPA Method 9060A; and
- Metals (iron and manganese) by USEPA Method 6020B.

Results are reported in multiple SDGs and reviewed in small groups for each data validation report. Group 2 analytical results are reported in five SDGs. The quality assurance review of the laboratory data associated with Group 2 is summarized below.

## DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation review of analytical data along with Pace control limit criteria were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2020) and USEPA National Functional Guidelines for Inorganic Superfund

Methods Data Review (USEPA, 2020). Following Guidelines, non-project-specific laboratory duplicates and matrix spike results were not evaluated as part of this data validation.

## DATA VALIDATION

### Completeness

All samples were collected and analyzed as requested with the following discussions:

- SDG L1552392: PES chain of custody shows that the first-row sample is a grab sample and was collected on 10/31/2022 however the remaining samples do not indicate composite or grab or show the date of sample collection. Sample identifications confirm the 10/31/2022 date of collection and based on remaining samples in Group 2 these are grab samples.

- SDG L1552408: PES corrected chain of custody sample IDs from MW-127-103122 and MW-125-103122 to read MW127-103122 and MW125-103122.

### Sample Collection and Preservation

Samples were collected in laboratory-supplied sample containers preserved as appropriate for the individual analyses conducted. The samples were packed on ice in coolers and delivered by courier to the analytical laboratory. The laboratory reported that the coolers were received at a cooler temperature less than the recommended temperature preservation of 6°C. Samples were received in good condition. No data were qualified based upon the sample collection and preservation information.

### Holding Times

*USEPA Method 8260D:*
All samples were analyzed for VOCs within the EPA recommended holding time of fourteen days for preserved waters from the date of collection. All holding time criteria are met with the following exceptions:

- SDG L1552983 – Analytical batch WG1960796: Several target analytes including cis-1,2-dichloroethene, tetrachloroethene, and/or trichloroethene for samples MW-314-110122, MW110-110122, FMW-131-110122, and GEI-2-110122 were analyzed two days past holding time and results are laboratory qualified (Q). **All associated sample laboratory qualified (Q) results are estimated (J/UJ) due to holding time exceedance.**

*NWTPH-Gx Method:*
All samples were analyzed for gasoline within the WA State recommended holding time of fourteen days for preserved waters from the date of sample collection. All holding time criteria were met.

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*

All samples were analyzed within the WA State recommended holding time of fourteen days for preserved waters from the date of sample collection. All holding time criteria are met.

*USEPA Method 6020B:*
All samples were analyzed within the USEPA recommended holding time for iron and manganese of 180 days for preserved waters from the date of sample collection. All holding time criteria are met.

*General Chemistry (Alkalinity, Chloride, Nitrate, Sulfate, and TOC):*
All samples were analyzed within the USEPA recommended holding time for alkalinity (14 days), chloride (28 days), sulfate (28 days), nitrate (48 hours), and TOC (28 days) for preserved waters from the date of sample collection. All holding time criteria are met with the following exceptions:

- SDG L1553859: Chloride, nitrate, and sulfate results for sample MW-982-110222 are laboratory qualified (T8) to indicate holding time exceedances. Holding times for sulfate and chloride are within 28 days and the laboratory qualifier (T8) appears to be an error. **Holding time for nitrate is exceeded by a few hours and nitrate result for sample MW-982-110222 is estimated (J).**

- SDG L1553859: Nitrate results for samples MW-325-110222 and MW-326-110222 are laboratory qualified (T8) to indicate holding time exceedance. **Holding time for nitrate is exceeded by a few hours and nitrate result for sample MW-325-110222 and MW-326-110222 is estimated (J).**

**Initial and Continuing Calibration**

Calibration data for this project are not required for this deliverable however Pace's notes indicate the following:

- Multiple SDGs - *USEPA Method 8260D:* Continuing calibration verification (CCV) issues were noted by Pace for multiple compounds associated with analytical batches in associated SDGs. These compounds are qualified by the laboratory "C3" to indicate that percent difference CCV is below laboratory acceptance criteria and showing low bias. Low level reporting limit check standard (sensitivity) requirements are within criteria. **Associated sample results with laboratory qualified (C3) results are estimated with low bias and qualified (J-/UJ).** Results reported below the RDL are estimated (J) and bias is not assigned.

- Multiple SDGs - *USEPA Method 8260D:* Continuing calibration verification (CCV) issues were noted by Pace for multiple compounds associated with analytical batches in associated SDGs. These compounds are qualified by the laboratory "C4" to indicate that percent difference CCV is below laboratory acceptance criteria and showing low bias. **Associated sample results with laboratory qualified (C4) results are estimated with low bias and qualified (J-/UJ).** Results reported below the RDL are estimated (J) and bias is not assigned.

- SDGs L1552408 and L1552420 - *USEPA Method 8260D:* Continuing calibration verification (CCV) issue was noted by Pace for acetone associated with analytical batch WG1953994. This compound is qualified by the laboratory "C5" to indicate that percent difference CCV is above laboratory acceptance criteria and showing high bias. **Associated sample results (detects) with laboratory qualified (C5) results are estimated with high bias and qualified (J+) unless otherwise qualified as not detected (U) due to blank contamination.**

**Method Blank Results**

*USEPA Method 8260D:*
Laboratory method blanks were included with the analytical batches per method requirement. The target analytes are not detected in the method blanks at or above the reporting detection limits (RDLs) with the following exceptions:

- SDG L1552392 – Analytical batch WG1955004: Methylene chloride is detected in the method blank at a low level above the RDL. No action is needed since methylene chloride is not detected in the associated samples.

- SDG L1552408 – Analytical batch WG1955442: Chloroform is detected in the method blank at a low level above the RDL. **Associated chloroform detection is detected below the RDL in sample MW120-103122 and is qualified as not detected (U) due to method blank contamination.**

- SDG L1552420 - Analytical batch WG1954134: Three target analytes (cis-1,2-dichloroethene, 1,2,3-trichlorobenzene, and 1,2,4-trichlorobenzene) were detected in the method blank at low levels below the RDL. No action is needed since these compounds are either not detected or detected above the RDL in sample W-MW-01-103122.

- SDG L1552983 - Analytical batch WG1954134: Methylene chloride is detected in the method blank at a low level above the RDL. No action is needed since methylene chloride is not detected in the associated samples.

- SDG L1552983 - Analytical batch WG1955004: Methylene chloride is detected in the method blank at a low level above the RDL. No action is needed since methylene chloride is not detected in the associated samples.

- SDG L1552983 - Analytical batch WG1956115: Chloroform is detected in the method blank at a low level above the RDL. No action is needed since chloroform is not detected in the associated samples.

*NWTPH-Gx Method:*
Laboratory method blank was included with the analytical batch per method requirement. The target analyte (gasoline) is not detected in the method blank with the following exception:

- SDG L1552408 – Analytical batch WG1956886: Gasoline is detected in the method blank at a low level below the RDL and laboratory qualified (BJ). **Associated gasoline**

**detection in sample MW125-103122 is below the RDL and is qualified as not detected (U) due to method blank contamination.**

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
Laboratory method blanks were included with the analytical batches per method requirement. The target analytes (dissolved gases) are not detected in the method blanks at or above the RDLs.

*USEPA Method 6020B and General Chemistry (Alkalinity, Chloride, Nitrate, Sulfate, and TOC):*
Laboratory method blanks were included with the analytical batches per method requirement. The target analytes were detected in the method blanks below the RDLs. Per Guidance, no action is taken for blank detections less than the RDL when associated sample detections are greater than the RDL. General chemistry and metal blank detections are shown below:

| SDG | Batch | Method | Analyte | Method Blank Result | Qualifier | RDL | Units | Associated Result(s) Qualified |
|---|---|---|---|---|---|---|---|---|
| L1552392 | WG1959289 | 9060A | TOC | 378 | J | 1000 | µg/L | NO |
| L1552392 | WG1959754 | 9060A | TOC | 382 | J | 1000 | µg/L | NO |
| L1552408 | WG1959754 | 9060A | TOC | 382 | J | 1000 | µg/L | NO |
| L1552408 | WG1962430 | 9060A | TOC | 357 | J | 1000 | µg/L | NO |
| L1552420 | WG1959765 | 9060A | TOC | 914 | J | 1000 | µg/L | NO |
| L1552420 | WG1962430 | 9060A | TOC | 357 | J | 1000 | µg/L | NO |
| L1552983 | WG1953376 | 9056A | Chloride | 386 | J | 1000 | µg/L | NO |
| L1552983 | WG1959765 | 9060A | TOC | 914 | J | 1000 | µg/L | NO |
| L1552983 | WG1960009 | 9060A | TOC | 621 | J | 1000 | µg/L | NO |
| L1553859 | WG1962431 | 9060A | TOC | 637 | J | 1000 | µg/L | YES |

Target analytes were detected in method blanks at low levels with no impact to the associated samples with the following exceptions:

- SDG L1553859: TOC was detected in the method blank at 637 µg/L. TOC was detected below the RDL in samples MW-316-110222, MW-315-110222, MW-326-110222, MW-984-110222 and laboratory qualified (B J). **TOC results for samples MW-316-110222, MW-315-110222, MW-326-110222, and MW-984-110222 are qualified as not detected (U) due to method blank contamination.**

- SDG L1552983: TOC was detected in the method blank at 914 µg/L. TOC was detected below the RDL in samples MW111-110122, MW103-110122 and are laboratory qualified (B J). **TOC results for samples MW111-110122 and MW103-110122 are qualified as not detected (U) due to method blank contamination.**

## Trip Blank Results

*USEPA Method 8260D:*
Two trip blanks (TB-103122 and TB-110122) were collected. Trip blank (TB-110122) is associated with one of three coolers which included eight samples (FMW-131-110122, GEI-2-110122, FMW-137-110122, MW-342-110122, MW-343-110122, MW-329-110122, MW128-110122, and MW-317-110122 (Pace SDG L1552983-19 through 26)). The target analytes were

not detected in the trip blanks at or above the reporting detection limits (RDLs) with the following exceptions:

- SDG L1552420: Acetone was detected in the trip blank (TB-103122) at 3.24 µg/L and above the RDL (1.00 µg/L). **Sample MW-160-103122 acetone result is detected slightly above the RDL and qualified as non-detected (U) due to trip blank contamination.**

- SDG L1552420: Toluene was detected in the trip blank (TB-103122) at 0.118 µg/L and below the RDL (0.200 µg/L). **Sample W-MW-01-103122 toluene result is detected below the RDL and qualified as non-detected (U) due to trip blank contamination.**

- SDG L1552983: Acetone was detected in the trip blank (TB-110122) at 2.09 µg/L and above the RDL (1.00 µg/L). Acetone was either not detected or detected at or greater than the action level in samples associated with this trip blank.

- SDG L1552983: Toluene was detected in the trip blank (TB-110122) at 0.120 µg/L and below the RDL (0.200 µg/L). Toluene was not detected in the samples associated with this trip blank.

**Field, Rinsate, or Equipment Blank Results**

Field, rinsate, or equipment blank samples were not collected in this Group.

**Field Duplicate Analyses**

Field duplicate pairs were submitted and analyzed. Field duplicate sample pairs are as follows:

- SDG L1552392: Samples MW-301-103122 and MW-981-103122
- SDG L1552408: Samples MW-142-103122 and MW-980-103122
- SDG L1552420: Samples MW-161-103122 and MW-979-103122
- SDG L1553859: Samples MW119-110222 and MW-983-110222
- SDG L1553859: Samples MW-319-110222 and MW-982-110222
- SDG L1553859: Samples MW-326-110222 and MW-984-110222

Target analyte results are comparable and within a relative percent difference (RPD) of 30% (± 1x RDL for groundwater results <5X the RDL) for the field duplicate pair with the following exceptions:

- SDG L1552392: Samples MW-301-103122 and MW-981-103122 – Methane RPD exceeds criteria for field duplicate pair. **Methane results for samples MW-301-103122 and MW-981-103122 are estimated and qualified (J).**

- SDG L1553859: Samples MW-326-110222 and MW-984-110222 – Nitrate RPD exceeds criteria for field duplicate pair. **Nitrate results for samples MW-326-110222 and MW-984-110222 are estimated and qualified (J).**

## Laboratory Duplicate Analyses

*USEPA Method 8260D:*
Laboratory duplicate samples were not analyzed. Refer to laboratory control sample/sample duplicate (LCS/LCSD) or matrix spike/matrix spike duplicate (MS/MSD) results for precision data.

*NWTPH-Gx Method:*
Laboratory duplicate samples were not analyzed. Refer to LCS/LCSD results for precision data.

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
Laboratory duplicate sample analyses were performed on client and on non-client samples within the analytical batches. The primary/duplicate RPDs for client samples on dissolved gas analyses are within the laboratory control limit of 20%.

*USEPA Method 6020B:*
Laboratory duplicate samples were not analyzed. Refer to MS/MSD results for precision data.

*General Chemistry (Alkalinity, Chloride, Nitrate, Sulfate, and TOC):*
Laboratory duplicate sample analyses were performed on client samples and on non-client samples within the analytical batches. The primary/duplicate RPDs for client samples on general chemistry parameters are within the laboratory control RPD limits or $\pm$ 1x RDL for groundwater results <5X the RDL.

## Surrogate Recoveries

*USEPA Method 8260D:*
The surrogate recovery results for the samples, laboratory control samples, matrix spike samples, and the method blanks are within the laboratory surrogate control limits for all the analyses.

*NWTPH-Gx Method:*
The surrogate recovery results for the samples, laboratory control samples, and the blanks are within the laboratory surrogate control limits.

## Laboratory Control Samples

*USEPA Method 8260D:*
Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) or laboratory control sample (LCS) were analyzed by USEPA Method 8260D method. The LCS % Rs or LCS/LCSD % Rs and RPDs for all target compounds are within the laboratory control criteria for waters with the following exceptions:

- SDG L1552408 - Analytical batch WG1955442: LCS/LCSD RPDs are above criteria for bromomethane, chloroethane, and 2-chlorotoluene are laboratory qualified (J3). No action needed since the recoveries are within criteria but are recovered wide. Pace was contacted to confirm batch identification since the LCS/LCSD results are the same as LCS/LCSD results reported with SDG L1552983 - Analytical batch WG1956115. Per Pace (email on

12/5/2022) samples L1552408-02, -04, -05, -06, -07, and -08 were analyzed or reanalyzed on 11/9/2022 and were "ghosted" into rerun QC batch and first-time analysis associated with SDG L15529832-22, -23, -24, -25, and -26. The two QC batches were analyzed under the same ICV, LCS/LCSD, and method blank.

- SDG L1552420 - Analytical batch WG1954134: LCS recovery for 1,2,4-trichlorobenzene is above laboratory criteria and laboratory qualified (J4). No action needed since this compound is not detected in the associated samples.

- SDG L1552983 - Analytical batch WG1954601: LCS/LCSD RPD is above criteria for 2,2-dichloropropane and laboratory qualified (J3). No action needed since the recoveries are within criteria but are recovered wide.

- SDG L1552983 - Analytical batch WG1956115: LCS/LCSD RPDs are above criteria for bromomethane, chloroethane, and 2-chlorotoluene are laboratory qualified (J3). No action needed since the recoveries are within criteria but are recovered wide. Pace was contacted to confirm batch identification since the LCS/LCSD results are the same as LCS/LCSD results reported with SDG L1552408 - Analytical batch WG1955442. Per Pace (email on 12/5/2022) samples L1552408-02, -04, -05, -06, -07, and -08 were analyzed or reanalyzed on 11/9/2022 and were "ghosted" into rerun QC batch and first-time analysis associated with SDG L15529832-22, -23, -24, -25, and -26. The two QC batches were analyzed under the same ICV, LCS/LCSD, and method blank.

*NWTPH-Gx Method:*
LCS/LCSDs were analyzed by the NWTPH-Gx method along with the analytical batch. The LCS/LCSD % Rs and RPDs for gasoline are within control limit criteria.

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
The LCS/LCSD % Rs and RPDs for the target compound (dissolved gases) are within the laboratory control criteria for waters.

*USEPA Method 6020B:*
The LCS % Rs for the target compound (iron and manganese) are within the laboratory control criteria for waters.

*General Chemistry (Alkalinity, Chloride, Nitrate, Sulfate, and TOC):*
The LCS % Rs for general chemistry parameters are within the laboratory control criteria for waters.

**Matrix Spike/Matrix Spike Duplicates**

*USEPA Method 8260D:*
MS/MSD analyses were not performed. Refer to LCS/LCSD and field duplicate results for accuracy and precision data.

*NWTPH-Gx Method:*

MS/MSD analyses were not performed. Refer to LCS/LCSD and field duplicate results for accuracy and precision data.

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
MS/MSD analyses were performed on non-client samples within the analytical batches. The MS/MSD % Rs and RPDs were acceptable and within laboratory control limit criteria for water.

*USEPA Method 6020B:*
MS/MSD analyses were performed on client and on non-client samples within the analytical batches. The MS/MSD % Rs and RPDs for project samples were acceptable and within laboratory control limit criteria for water samples with the following discussion:

- SDG L1553859: MS/MSDs for manganese were performed on sample MW-983-110222. MS recovery is above acceptance criteria and laboratory qualified (V). No action is taken since the sample amount is greater than four times the spike amount. Refer to LCS and laboratory duplicate results for QC data.

*General Chemistry (Alkalinity, Chloride, Nitrate, Sulfate, and TOC):*
MS or MS/MSD analyses were performed on client and/or non-client samples within the analytical batches. In cases where MS/MSD spike analyses are not performed refer to LCS or laboratory duplicate data for accuracy and precision data. Client sample MS/MSD % Rs and RPDs are acceptable and within laboratory control limit criteria for water samples.

**Other Quality Control Issues**

No laboratory quality control issues were identified in the laboratory report with the following discussions:

- Electronic data deliverables (EDDs) for these SDGs were provided by the laboratory and data validator qualifiers were entered. In some cases, different chemical synonyms are used between the EDD and the hardcopy however associated Chemical Abstracts Service (CAS) numbers are provided in the EDD to confirm chemical identifications.

- SDG L1552408: Sample narrative for sample MW-980-103122 indicates that the lowest possible dilution (5X) was used due to sample foaming. Sample MW-980-103122 is a field duplicate of sample MW-142-103122 which was undiluted with no laboratory notes regarding sample foaming. Field duplicate results for VOCs are comparable and no further action is taken other than to note this.

**Compound Identification and Quantitation Limits**

Results of the analyses were reported based on laboratory RDLs for all compounds. RDLs for selected compounds are elevated due to method-required dilutions. No action is taken other than to note this.

## Data Assessment

The laboratory data reported for this project were reviewed based on the criteria outlined in:

- USEPA National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2020); and
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2020).

Data qualifiers are assigned and laboratory report pages with qualifiers are attached. All data, including qualified data, are judged to be acceptable for their intended use.

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 806000 | | 8450 | 20000 | 1 | 11/11/2022 14:55 | WG1957551 |

Sample Narrative:

L1552392-01 WG1957551: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Sulfate | 218000 | | 2970 | 25000 | 5 | 11/03/2022 05:10 | WG1953513 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 9260 | | 102 | 1000 | 1 | 11/17/2022 16:07 | WG1959289 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 8600 | | 28.1 | 100 | 1 | 11/13/2022 12:18 | WG1957859 |
| Manganese | 7550 | | 0.704 | 5.00 | 1 | 11/13/2022 12:18 | WG1957859 |

## Volatile Organic Compounds (GC) by Method NWTPHGX

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | U | | 31.6 | 100 | 1 | 11/05/2022 01:01 | WG1954579 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *94.0* | | | *78.0-120* | | *11/05/2022 01:01* | WG1954579 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 524 | | 0.287 | 0.678 | 1 | 11/03/2022 11:32 | WG1953648 |
| Ethane | 3.04 | | 0.296 | 1.29 | 1 | 11/03/2022 11:32 | WG1953648 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/03/2022 11:32 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/03/2022 15:21 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 15:21 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 15:21 | WG1953994 |
| Bromomethane | U | UJ C3 | 0.148 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 15:21 | WG1953994 |
| Ethylbenzene | 0.0330 | J | 0.0212 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 15:21 | WG1953994 |
| Isopropylbenzene | 0.0740 | J | 0.0345 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| p-Isopropyltoluene | 0.156 | J | 0.0932 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 15:21 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 15:21 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 15:21 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 15:21 | WG1953994 |
| Naphthalene | 1.46 | | 0.124 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| n-Propylbenzene | 0.0860 | J | 0.0472 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 15:21 | WG1953994 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,2,4-Trimethylbenzene | 0.259 | | 0.0464 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| 1,3,5-Trimethylbenzene | 0.194 | J | 0.0432 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| Vinyl chloride | 1.03 | | 0.0273 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 15:21 | WG1953994 |
| Ethyl Ether | 0.105 | | 0.0170 | 0.100 | 1 | 11/03/2022 15:21 | WG1953994 |
| Tetrahydrofuran | 0.332 | J | 0.0900 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 15:21 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 15:21 | WG1953994 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 15:21 | WG1953994 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *11/03/2022 15:21* | WG1953994 |

JC 11/29/2022

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/03/2022 15:21* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *95.2* | | | *70.0-130* | | *11/03/2022 15:21* | WG1953994 |



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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 148000 | | 8450 | 20000 | 1 | 11/11/2022 15:04 | WG1957551 |

Sample Narrative:
L1552392-02 WG1957551: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 24700 | | 379 | 1000 | 1 | 11/01/2022 18:49 | WG1952474 |
| Nitrate | 51.6 | J | 48.0 | 100 | 1 | 11/01/2022 18:49 | WG1952474 |
| Sulfate | 51400 | | 594 | 5000 | 1 | 11/01/2022 18:49 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1830 | B | 102 | 1000 | 1 | 11/17/2022 16:42 | WG1959289 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1370 | | 28.1 | 100 | 1 | 11/13/2022 12:21 | WG1957859 |
| Manganese | 1860 | | 0.704 | 5.00 | 1 | 11/13/2022 12:21 | WG1957859 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 22.5 | | 0.287 | 0.678 | 1 | 11/03/2022 11:35 | WG1953648 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/03/2022 11:35 | WG1953648 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/03/2022 11:35 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/03/2022 15:40 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 15:40 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 15:40 | WG1953994 |
| Bromomethane | U | UJ C3 | 0.148 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| Dichlorodifluoromethane | U UJ | C3 | 0.0327 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 15:40 | WG1953994 |
| Ethylbenzene | 0.0350 | J | 0.0212 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 15:40 | WG1953994 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 15:40 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 15:40 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 15:40 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 15:40 | WG1953994 |
| Naphthalene | 0.357 | J | 0.124 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| Toluene | 0.107 | J | 0.0500 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,2,3-Trichlorobenzene | U UJ | C4 | 0.0250 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,2,4-Trichlorobenzene | U UJ | C4 | 0.193 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 15:40 | WG1953994 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,2,4-Trimethylbenzene | 0.0710 | J | 0.0464 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 15:40 | WG1953994 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 15:40 | WG1953994 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 15:40 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 15:40 | WG1953994 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 15:40 | WG1953994 |
| *(S) Toluene-d8* | *101* | | | *75.0-131* | | *11/03/2022 15:40* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/03/2022 15:40* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *100* | | | *70.0-130* | | *11/03/2022 15:40* | WG1953994 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 143000 | | 8450 | 20000 | 1 | 11/11/2022 15:15 | WG1957551 |

Sample Narrative:
L1552392-03 WG1957551: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 75600 | | 379 | 1000 | 1 | 11/01/2022 19:02 | WG1952474 |
| Nitrate | 1450 | | 48.0 | 100 | 1 | 11/01/2022 19:02 | WG1952474 |
| Sulfate | 24200 | | 594 | 5000 | 1 | 11/01/2022 19:02 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 3620 | ~~B~~ | 102 | 1000 | 1 | 11/17/2022 16:59 | WG1959289 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 777 | | 28.1 | 100 | 1 | 11/13/2022 12:25 | WG1957859 |
| Manganese | 216 | | 0.704 | 5.00 | 1 | 11/13/2022 12:25 | WG1957859 |

## Volatile Organic Compounds (GC) by Method NWTPHGX

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | U | | 31.6 | 100 | 1 | 11/05/2022 01:22 | WG1954579 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *94.7* | | | *78.0-120* | | *11/05/2022 01:22* | WG1954579 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 62.9 J | | 0.287 | 0.678 | 1 | 11/03/2022 11:39 | WG1953648 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/03/2022 11:39 | WG1953648 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/03/2022 11:39 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/03/2022 15:59 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 15:59 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 15:59 | WG1953994 |
| Bromomethane | U | UJ C3 | 0.148 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| Chloroform | 0.0680 | J | 0.0166 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| cis-1,2-Dichloroethene | 0.114 | | 0.0276 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 15:59 | WG1953994 |
| Ethylbenzene | 0.0710 | J | 0.0212 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 15:59 | WG1953994 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 15:59 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 15:59 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 15:59 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 15:59 | WG1953994 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| Tetrachloroethene | 0.881 | | 0.0280 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| Toluene | 0.357 | | 0.0500 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| Trichloroethene | 0.112 | | 0.0160 | 0.0400 | 1 | 11/03/2022 15:59 | WG1953994 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| Xylenes, Total | 0.327 | | 0.191 | 0.260 | 1 | 11/03/2022 15:59 | WG1953994 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 15:59 | WG1953994 |
| Tetrahydrofuran | 1.74 | | 0.0900 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 15:59 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 15:59 | WG1953994 |

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1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 15:59 | WG1953994 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *11/03/2022 15:59* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/03/2022 15:59* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *98.6* | | | *70.0-130* | | *11/03/2022 15:59* | WG1953994 |



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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 142000 | | 8450 | 20000 | 1 | 11/11/2022 15:19 | WG1957551 |

Sample Narrative:
L1552392-04 WG1957551: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 76700 | | 379 | 1000 | 1 | 11/01/2022 19:15 | WG1952474 |
| Nitrate | 1450 | | 48.0 | 100 | 1 | 11/01/2022 19:15 | WG1952474 |
| Sulfate | 24600 | | 594 | 5000 | 1 | 11/01/2022 19:15 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 3530 | B | 102 | 1000 | 1 | 11/17/2022 17:16 | WG1959289 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 445 | | 28.1 | 100 | 1 | 11/12/2022 15:36 | WG1957860 |
| Manganese | 184 | | 0.704 | 5.00 | 1 | 11/12/2022 15:36 | WG1957860 |

## Volatile Organic Compounds (GC) by Method NWTPHGX

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | U | | 31.6 | 100 | 1 | 11/05/2022 01:42 | WG1954579 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *94.0* | | | *78.0-120* | | *11/05/2022 01:42* | WG1954579 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 97.0 J | | 0.287 | 0.678 | 1 | 11/03/2022 11:42 | WG1953648 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/03/2022 11:42 | WG1953648 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/03/2022 11:42 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/03/2022 16:17 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 16:17 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 16:17 | WG1953994 |
| Bromomethane | U UJ | C3 | 0.148 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| Chloroform | 0.0750 | J | 0.0166 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| cis-1,2-Dichloroethene | 0.123 | | 0.0276 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 16:17 | WG1953994 |
| Ethylbenzene | 0.0420 | J | 0.0212 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 16:17 | WG1953994 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 16:17 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 16:17 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 16:17 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 16:17 | WG1953994 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| Tetrachloroethene | 1.14 | | 0.0280 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| Toluene | 0.260 | | 0.0500 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| Trichloroethene | 0.122 | | 0.0160 | 0.0400 | 1 | 11/03/2022 16:17 | WG1953994 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| Xylenes, Total | 0.246 | J | 0.191 | 0.260 | 1 | 11/03/2022 16:17 | WG1953994 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 16:17 | WG1953994 |
| Tetrahydrofuran | 1.65 | | 0.0900 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 16:17 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 16:17 | WG1953994 |

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1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 16:17 | WG1953994 |
| *(S) Toluene-d8* | *101* | | | *75.0-131* | | *11/03/2022 16:17* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/03/2022 16:17* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *94.2* | | | *70.0-130* | | *11/03/2022 16:17* | WG1953994 |



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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 165000 | | 8450 | 20000 | 1 | 11/11/2022 15:23 | WG1957551 |

Sample Narrative:

L1552392-05 WG1957551: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 4640 | | 379 | 1000 | 1 | 11/01/2022 19:54 | WG1952474 |
| Nitrate | 77.8 | J | 48.0 | 100 | 1 | 11/01/2022 19:54 | WG1952474 |
| Sulfate | U | | 594 | 5000 | 1 | 11/01/2022 19:54 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2240 | ~~B~~ | 102 | 1000 | 1 | 11/17/2022 17:32 | WG1959289 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 131 | | 28.1 | 100 | 1 | 11/12/2022 15:49 | WG1957860 |
| Manganese | 282 | | 0.704 | 5.00 | 1 | 11/12/2022 15:49 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 9.47 | | 0.287 | 0.678 | 1 | 11/03/2022 11:47 | WG1953648 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/03/2022 11:47 | WG1953648 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/03/2022 11:47 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/05/2022 23:07 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 23:07 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 23:07 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 23:07 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 23:07 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 23:07 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 23:07 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 23:07 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 23:07 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| Toluene | 0.117 | J | 0.0500 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 23:07 | WG1955004 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 23:07 | WG1955004 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/05/2022 23:07 | WG1955004 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 23:07 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 23:07 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/05/2022 23:07 | WG1955004 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/05/2022 23:07* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/05/2022 23:07* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *100* | | | *70.0-130* | | *11/05/2022 23:07* | WG1955004 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 142000 | | 8450 | 20000 | 1 | 11/11/2022 15:28 | WG1957551 |

Sample Narrative:

L1552392-06 WG1957551: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 5070 | | 379 | 1000 | 1 | 11/01/2022 20:06 | WG1952474 |
| Nitrate | 75.1 | J | 48.0 | 100 | 1 | 11/01/2022 20:06 | WG1952474 |
| Sulfate | 2450 | J | 594 | 5000 | 1 | 11/01/2022 20:06 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1500 | B | 102 | 1000 | 1 | 11/15/2022 17:52 | WG1959754 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 212 | | 28.1 | 100 | 1 | 11/12/2022 15:53 | WG1957860 |
| Manganese | 40.2 | | 0.704 | 5.00 | 1 | 11/12/2022 15:53 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 2.66 | | 0.287 | 0.678 | 1 | 11/03/2022 11:52 | WG1953648 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/03/2022 11:52 | WG1953648 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/03/2022 11:52 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/05/2022 23:26 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 23:26 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 23:26 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|---|
| | ug/l | | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | | 0.0400 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,2-Dichlorobenzene | U | | | 0.0580 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,3-Dichlorobenzene | U | | | 0.0680 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,4-Dichlorobenzene | U | | | 0.0788 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| Dichlorodifluoromethane | U | UJ | C3 | 0.0327 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,1-Dichloroethane | U | | | 0.0230 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,2-Dichloroethane | U | | | 0.0190 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,1-Dichloroethene | U | | | 0.0200 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| cis-1,2-Dichloroethene | U | | | 0.0276 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| trans-1,2-Dichloroethene | U | | | 0.0572 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,2-Dichloropropane | U | | | 0.0508 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,1-Dichloropropene | U | | | 0.0280 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,3-Dichloropropane | U | | | 0.0700 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| cis-1,3-Dichloropropene | U | | | 0.0271 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| trans-1,3-Dichloropropene | U | | | 0.0612 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| 2,2-Dichloropropane | U | | | 0.0317 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| Di-isopropyl ether | U | | | 0.0140 | 0.0400 | 1 | 11/05/2022 23:26 | WG1955004 |
| Ethylbenzene | U | | | 0.0212 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | | 0.508 | 1.00 | 1 | 11/05/2022 23:26 | WG1955004 |
| Isopropylbenzene | U | | | 0.0345 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| p-Isopropyltoluene | U | | | 0.0932 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| 2-Butanone (MEK) | U | | | 0.500 | 1.00 | 1 | 11/05/2022 23:26 | WG1955004 |
| Methylene Chloride | U | | | 0.265 | 1.00 | 1 | 11/05/2022 23:26 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | | 0.400 | 1.00 | 1 | 11/05/2022 23:26 | WG1955004 |
| Methyl tert-butyl ether | U | | | 0.0118 | 0.0400 | 1 | 11/05/2022 23:26 | WG1955004 |
| Naphthalene | U | | | 0.124 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| n-Propylbenzene | U | | | 0.0472 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| Styrene | U | | | 0.109 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | | 0.0200 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | | 0.0156 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | | 0.0270 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| Tetrachloroethene | U | | | 0.0280 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| Toluene | 0.174 | | J | 0.0500 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | UJ | C4 | 0.0250 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | | 0.193 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,1,1-Trichloroethane | U | | | 0.0110 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,1,2-Trichloroethane | U | | | 0.0353 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| Trichloroethene | U | | | 0.0160 | 0.0400 | 1 | 11/05/2022 23:26 | WG1955004 |
| Trichlorofluoromethane | U | | | 0.0200 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,2,3-Trichloropropane | U | | | 0.204 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | | 0.0464 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | | 0.0460 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | | 0.0432 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| Vinyl chloride | U | | | 0.0273 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| Xylenes, Total | U | | | 0.191 | 0.260 | 1 | 11/05/2022 23:26 | WG1955004 |
| Ethyl Ether | U | | | 0.0170 | 0.100 | 1 | 11/05/2022 23:26 | WG1955004 |
| Tetrahydrofuran | U | | | 0.0900 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| Iodomethane | U | | | 0.242 | 0.500 | 1 | 11/05/2022 23:26 | WG1955004 |
| Allyl chloride | U | | | 0.580 | 1.00 | 1 | 11/05/2022 23:26 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | | 0.0560 | 0.200 | 1 | 11/05/2022 23:26 | WG1955004 |
| *(S) Toluene-d8* | *105* | | | | *75.0-131* | | *11/05/2022 23:26* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *101* | | | | *67.0-138* | | *11/05/2022 23:26* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *99.0* | | | | *70.0-130* | | *11/05/2022 23:26* | WG1955004 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 174000 | | 8450 | 20000 | 1 | 11/11/2022 15:32 | WG1957551 |

Sample Narrative:

L1552392-07 WG1957551: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 17300 | | 379 | 1000 | 1 | 11/01/2022 20:19 | WG1952474 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/01/2022 20:19 | WG1952474 |
| Sulfate | 40200 | | 594 | 5000 | 1 | 11/01/2022 20:19 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 5820 | | 102 | 1000 | 1 | 11/15/2022 18:50 | WG1959754 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1750 | | 28.1 | 100 | 1 | 11/12/2022 15:56 | WG1957860 |
| Manganese | 861 | | 0.704 | 5.00 | 1 | 11/12/2022 15:56 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 6190 | | 0.287 | 0.678 | 1 | 11/03/2022 11:55 | WG1953648 |
| Ethane | 8.53 | | 0.296 | 1.29 | 1 | 11/03/2022 11:55 | WG1953648 |
| Ethene | 26.9 | | 0.422 | 1.27 | 1 | 11/03/2022 11:55 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.53 | | 0.548 | 1.00 | 1 | 11/05/2022 23:45 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 23:45 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 23:45 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| Chloroethane | 0.816 | | 0.0432 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,1-Dichloroethene | 0.156 | | 0.0200 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| cis-1,2-Dichloroethene | 78.7 | | 0.0276 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| trans-1,2-Dichloroethene | 0.0980 | J | 0.0572 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 23:45 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 23:45 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 23:45 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 23:45 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 23:45 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 23:45 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| Toluene | 0.122 | J | 0.0500 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 23:45 | WG1955004 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| Vinyl chloride | 64.4 | | 0.0273 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 23:45 | WG1955004 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/05/2022 23:45 | WG1955004 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 23:45 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 23:45 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/05/2022 23:45 | WG1955004 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/05/2022 23:45* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *98.6* | | | *67.0-138* | | *11/05/2022 23:45* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *97.8* | | | *70.0-130* | | *11/05/2022 23:45* | WG1955004 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 252000 | | 8450 | 20000 | 1 | 11/11/2022 15:37 | WG1957551 |

Sample Narrative:

L1552392-08 WG1957551: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 20700 | | 379 | 1000 | 1 | 11/01/2022 20:32 | WG1952474 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/01/2022 20:32 | WG1952474 |
| Sulfate | 46800 | | 594 | 5000 | 1 | 11/01/2022 20:32 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 6060 | | 102 | 1000 | 1 | 11/15/2022 20:01 | WG1959754 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 1660 | | 28.1 | 100 | 1 | 11/12/2022 15:59 | WG1957860 |
| Manganese | 1170 | | 0.704 | 5.00 | 1 | 11/12/2022 15:59 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 3830 | | 0.287 | 0.678 | 1 | 11/03/2022 11:58 | WG1953648 |
| Ethane | 7.34 | | 0.296 | 1.29 | 1 | 11/03/2022 11:58 | WG1953648 |
| Ethene | 59.3 | | 0.422 | 1.27 | 1 | 11/03/2022 11:58 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 2.48 | | 0.548 | 1.00 | 1 | 11/06/2022 00:04 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 00:04 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/06/2022 00:04 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| cis-1,2-Dichloroethene | 3.00 | | 0.0276 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/06/2022 00:04 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/06/2022 00:04 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/06/2022 00:04 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/06/2022 00:04 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/06/2022 00:04 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/06/2022 00:04 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| Toluene | 0.0870 | J | 0.0500 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 00:04 | WG1955004 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| Vinyl chloride | 26.8 | | 0.0273 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/06/2022 00:04 | WG1955004 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/06/2022 00:04 | WG1955004 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/06/2022 00:04 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/06/2022 00:04 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/06/2022 00:04 | WG1955004 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/06/2022 00:04* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *99.9* | | | *67.0-138* | | *11/06/2022 00:04* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *101* | | | *70.0-130* | | *11/06/2022 00:04* | WG1955004 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 557000 | | 8450 | 20000 | 1 | 11/11/2022 15:41 | WG1957551 |

Sample Narrative:

L1552408-01 WG1957551: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 32600 | | 379 | 1000 | 1 | 11/01/2022 20:45 | WG1952474 |
| Nitrate | 1040 | | 48.0 | 100 | 1 | 11/01/2022 20:45 | WG1952474 |
| Sulfate | 9080 | | 594 | 5000 | 1 | 11/01/2022 20:45 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4250 | | 102 | 1000 | 1 | 11/15/2022 21:01 | WG1959754 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 12800 | | 28.1 | 100 | 1 | 11/12/2022 16:10 | WG1957860 |
| Manganese | 2810 | | 0.704 | 5.00 | 1 | 11/12/2022 16:10 | WG1957860 |

## Volatile Organic Compounds (GC) by Method NWTPHGX

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | U | | 31.6 | 100 | 1 | 11/05/2022 02:03 | WG1954579 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *94.7* | | | *78.0-120* | | *11/05/2022 02:03* | WG1954579 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 187 | | 0.287 | 0.678 | 1 | 11/03/2022 12:01 | WG1953648 |
| Ethane | 1.67 | | 0.296 | 1.29 | 1 | 11/03/2022 12:01 | WG1953648 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/03/2022 12:01 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.38 J+ | C5 | 0.548 | 1.00 | 1 | 11/03/2022 17:53 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| Benzene | 0.0280 | J | 0.0160 | 0.0400 | 1 | 11/03/2022 17:53 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 17:53 | WG1953994 |
| Bromomethane | U UJ | C3 | 0.148 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| cis-1,2-Dichloroethene | 0.0970 | J | 0.0276 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 17:53 | WG1953994 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 17:53 | WG1953994 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 17:53 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 17:53 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 17:53 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 17:53 | WG1953994 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 17:53 | WG1953994 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| Vinyl chloride | 0.342 | | 0.0273 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 17:53 | WG1953994 |
| Ethyl Ether | 0.220 | | 0.0170 | 0.100 | 1 | 11/03/2022 17:53 | WG1953994 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 17:53 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 17:53 | WG1953994 |

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1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 17:53 | WG1953994 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *11/03/2022 17:53* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/03/2022 17:53* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *97.7* | | | *70.0-130* | | *11/03/2022 17:53* | WG1953994 |



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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 354000 | | 8450 | 20000 | 1 | 11/11/2022 15:45 | WG1957551 |

Sample Narrative:

L1552408-02 WG1957551: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 43600 | | 379 | 1000 | 1 | 11/01/2022 20:58 | WG1952474 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/01/2022 20:58 | WG1952474 |
| Sulfate | 49500 | | 594 | 5000 | 1 | 11/01/2022 20:58 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 8450 | | 102 | 1000 | 1 | 11/15/2022 21:20 | WG1959754 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 4320 | | 28.1 | 100 | 1 | 11/12/2022 16:13 | WG1957860 |
| Manganese | 3630 | | 0.704 | 5.00 | 1 | 11/12/2022 16:13 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 19900 | | 2.87 | 6.78 | 10 | 11/03/2022 15:07 | WG1953876 |
| Ethane | 65.1 | | 0.296 | 1.29 | 1 | 11/03/2022 12:04 | WG1953648 |
| Ethene | 3.63 | | 0.422 | 1.27 | 1 | 11/03/2022 12:04 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/03/2022 18:12 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| Benzene | 0.184 | | 0.0160 | 0.0400 | 1 | 11/03/2022 18:12 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 18:12 | WG1953994 |
| Bromomethane | U | UJ C3 | 0.148 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| Dichlorodifluoromethane | U UJ | C3 | 0.0327 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,1-Dichloroethane | 0.111 | | 0.0230 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,1-Dichloroethene | 2.32 | | 0.0200 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| cis-1,2-Dichloroethene | 523 | | 0.552 | 2.00 | 20 | 11/09/2022 04:28 | WG1955442 |
| trans-1,2-Dichloroethene | 3.23 | | 0.0572 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,2-Dichloropropane | 0.167 | J | 0.0508 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 18:12 | WG1953994 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 18:12 | WG1953994 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 18:12 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 18:12 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 18:12 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 18:12 | WG1953994 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| Tetrachloroethene | 648 | | 0.560 | 2.00 | 20 | 11/09/2022 04:28 | WG1955442 |
| Toluene | 0.0580 | J | 0.0500 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,2,3-Trichlorobenzene | U UJ | C4 | 0.0250 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,2,4-Trichlorobenzene | U UJ | C4 | 0.193 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| Trichloroethene | 249 | | 0.320 | 0.800 | 20 | 11/09/2022 04:28 | WG1955442 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| Vinyl chloride | 0.757 | | 0.0273 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 18:12 | WG1953994 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 18:12 | WG1953994 |
| Tetrahydrofuran | 0.943 | | 0.0900 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 18:12 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 18:12 | WG1953994 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 18:12 | WG1953994 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/03/2022 18:12* | WG1953994 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/09/2022 04:28* | WG1955442 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/03/2022 18:12* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *11/09/2022 04:28* | WG1955442 |
| *(S) 1,2-Dichloroethane-d4* | *95.6* | | | *70.0-130* | | *11/03/2022 18:12* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *97.4* | | | *70.0-130* | | *11/09/2022 04:28* | WG1955442 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 189000 | | 8450 | 20000 | 1 | 11/11/2022 15:49 | WG1957551 |

Sample Narrative:

L1552408-03 WG1957551: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 20700 | | 379 | 1000 | 1 | 11/01/2022 21:11 | WG1952474 |
| Nitrate | 1420 | | 48.0 | 100 | 1 | 11/01/2022 21:11 | WG1952474 |
| Sulfate | 79600 | | 594 | 5000 | 1 | 11/01/2022 21:11 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1580 | B | 102 | 1000 | 1 | 11/15/2022 21:36 | WG1959754 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 5000 | | 28.1 | 100 | 1 | 11/12/2022 16:16 | WG1957860 |
| Manganese | 407 | | 0.704 | 5.00 | 1 | 11/12/2022 16:16 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 117 | | 0.287 | 0.678 | 1 | 11/03/2022 12:07 | WG1953648 |
| Ethane | 1.35 | | 0.296 | 1.29 | 1 | 11/03/2022 12:07 | WG1953648 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/03/2022 12:07 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/03/2022 18:31 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 18:31 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 18:31 | WG1953994 |
| Bromomethane | U | UJ C3 | 0.148 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| Chloroform | 0.100 | U J | 0.0166 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,1-Dichloroethane | 1.63 | | 0.0230 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,2-Dichloroethane | 0.260 | | 0.0190 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,1-Dichloroethene | 0.337 | | 0.0200 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| cis-1,2-Dichloroethene | 24.9 | | 0.0276 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| trans-1,2-Dichloroethene | 0.173 | J | 0.0572 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,2-Dichloropropane | 0.612 | | 0.0508 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 18:31 | WG1953994 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 18:31 | WG1953994 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 18:31 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 18:31 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 18:31 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 18:31 | WG1953994 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | 0.358 | | 0.0270 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| Tetrachloroethene | 61.8 | | 0.0280 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,1,1-Trichloroethane | 0.214 | | 0.0110 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| Trichloroethene | 17.7 | | 0.0160 | 0.0400 | 1 | 11/03/2022 18:31 | WG1953994 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| Vinyl chloride | 0.397 | | 0.0273 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 18:31 | WG1953994 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 18:31 | WG1953994 |
| Tetrahydrofuran | 0.373 | J | 0.0900 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 18:31 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 18:31 | WG1953994 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 18:31 | WG1953994 |
| *(S) Toluene-d8* | *103* | | | *75.0-131* | | *11/03/2022 18:31* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/03/2022 18:31* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *98.0* | | | *70.0-130* | | *11/03/2022 18:31* | WG1953994 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 1010000 | | 8450 | 20000 | 1 | 11/11/2022 16:00 | WG1957551 |

Sample Narrative:

L1552408-04 WG1957551: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 30900 | | 379 | 1000 | 1 | 11/01/2022 21:23 | WG1952474 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/01/2022 21:23 | WG1952474 |
| Sulfate | 15500 | | 594 | 5000 | 1 | 11/01/2022 21:23 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 16000 | | 102 | 1000 | 1 | 11/15/2022 21:58 | WG1959754 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 9360 | | 28.1 | 100 | 1 | 11/12/2022 16:20 | WG1957860 |
| Manganese | 5100 | | 0.704 | 5.00 | 1 | 11/12/2022 16:20 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 9630 | | 2.87 | 6.78 | 10 | 11/03/2022 15:10 | WG1953876 |
| Ethane | 37.3 | | 0.296 | 1.29 | 1 | 11/03/2022 12:10 | WG1953648 |
| Ethene | 13.1 | | 0.422 | 1.27 | 1 | 11/03/2022 12:10 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 2.33 J+ | C5 | 0.548 | 1.00 | 1 | 11/03/2022 18:50 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| Benzene | 0.263 | | 0.0160 | 0.0400 | 1 | 11/03/2022 18:50 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 18:50 | WG1953994 |
| Bromomethane | U UJ | C3 | 0.148 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| Dichlorodifluoromethane | U UJ | C3 | 0.0327 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,1-Dichloroethene | 0.0900 | J | 0.0200 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| cis-1,2-Dichloroethene | 19.1 | | 0.0276 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| trans-1,2-Dichloroethene | 0.233 | | 0.0572 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 18:50 | WG1953994 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 18:50 | WG1953994 |
| Isopropylbenzene | 0.0360 | J | 0.0345 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 18:50 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 18:50 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 18:50 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 18:50 | WG1953994 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 03:11 | WG1955442 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,2,3-Trichlorobenzene | U UJ | C4 | 0.0250 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,2,4-Trichlorobenzene | U UJ | C4 | 0.193 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| Trichloroethene | 0.0850 | | 0.0160 | 0.0400 | 1 | 11/09/2022 03:11 | WG1955442 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| Vinyl chloride | 40.0 | | 0.0273 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 18:50 | WG1953994 |
| Ethyl Ether | 0.109 | | 0.0170 | 0.100 | 1 | 11/03/2022 18:50 | WG1953994 |
| Tetrahydrofuran | 1.16 | | 0.0900 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 18:50 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 18:50 | WG1953994 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 18:50 | WG1953994 |
| *(S) Toluene-d8* | *103* | | | *75.0-131* | | *11/03/2022 18:50* | WG1953994 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/09/2022 03:11* | WG1955442 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/03/2022 18:50* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/09/2022 03:11* | WG1955442 |
| *(S) 1,2-Dichloroethane-d4* | *94.9* | | | *70.0-130* | | *11/03/2022 18:50* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *96.4* | | | *70.0-130* | | *11/09/2022 03:11* | WG1955442 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 1020000 | | 8450 | 20000 | 1 | 11/11/2022 16:04 | WG1957551 |

Sample Narrative:
L1552408-05 WG1957551: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 31200 | | 379 | 1000 | 1 | 11/01/2022 21:36 | WG1952474 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/01/2022 21:36 | WG1952474 |
| Sulfate | 16000 | | 594 | 5000 | 1 | 11/01/2022 21:36 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 15700 | | 102 | 1000 | 1 | 11/15/2022 22:23 | WG1959754 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 9210 | | 28.1 | 100 | 1 | 11/12/2022 16:23 | WG1957860 |
| Manganese | 5130 | | 0.704 | 5.00 | 1 | 11/12/2022 16:23 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 9280 | | 2.87 | 6.78 | 10 | 11/03/2022 15:12 | WG1953876 |
| Ethane | 37.1 | | 0.296 | 1.29 | 1 | 11/03/2022 12:13 | WG1953648 |
| Ethene | 12.8 | | 0.422 | 1.27 | 1 | 11/03/2022 12:13 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 2.74 | 5.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Acrylonitrile | U | | 0.380 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| Benzene | U | | 0.0800 | 0.200 | 5 | 11/09/2022 04:48 | WG1955442 |
| Bromobenzene | U | | 0.210 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| Bromodichloromethane | U | | 0.158 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| Bromoform | U | | 1.20 | 5.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Bromomethane | U | ~~J3~~ | 0.740 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| n-Butylbenzene | U | | 0.765 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| sec-Butylbenzene | U | | 0.505 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| tert-Butylbenzene | U | | 0.310 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Carbon tetrachloride | U | | 0.216 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Chlorobenzene | U | | 0.115 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| Chlorodibromomethane | U | | 0.0900 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| Chloroethane | U | ~~J3~~ | 0.216 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Chloroform | U | | 0.0830 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| Chloromethane | U | UJ C3 | 0.278 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| 2-Chlorotoluene | U | ~~J3~~ | 0.184 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| 4-Chlorotoluene | U | | 0.226 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,2-Dibromo-3-Chloropropane | U | | 1.02 | 5.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,2-Dibromoethane | U | | 0.105 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.200 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,2-Dichlorobenzene | U | | 0.290 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,3-Dichlorobenzene | U | | 0.340 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,4-Dichlorobenzene | U | | 0.394 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Dichlorodifluoromethane | U | UJ C3 | 0.164 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,1-Dichloroethane | U | | 0.115 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,2-Dichloroethane | U | | 0.0950 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,1-Dichloroethene | U | | 0.100 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| cis-1,2-Dichloroethene | 22.3 | | 0.138 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| trans-1,2-Dichloroethene | U | | 0.286 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,2-Dichloropropane | U | | 0.254 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,1-Dichloropropene | U | | 0.140 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,3-Dichloropropane | U | | 0.350 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| cis-1,3-Dichloropropene | U | | 0.136 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| trans-1,3-Dichloropropene | U | | 0.306 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 2,2-Dichloropropane | U | | 0.159 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| Di-isopropyl ether | U | | 0.0700 | 0.200 | 5 | 11/09/2022 04:48 | WG1955442 |
| Ethylbenzene | U | | 0.106 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| Hexachloro-1,3-butadiene | U | | 2.54 | 5.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Isopropylbenzene | U | | 0.173 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| p-Isopropyltoluene | U | | 0.466 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 2-Butanone (MEK) | U | | 2.50 | 5.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Methylene Chloride | U | | 1.33 | 5.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 4-Methyl-2-pentanone (MIBK) | U | | 2.00 | 5.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Methyl tert-butyl ether | U | | 0.0590 | 0.200 | 5 | 11/09/2022 04:48 | WG1955442 |
| Naphthalene | U | | 0.620 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| n-Propylbenzene | U | | 0.236 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Styrene | U | | 0.545 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,1,1,2-Tetrachloroethane | U | | 0.100 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0780 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.135 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| Tetrachloroethene | 0.785 | | 0.140 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| Toluene | U | | 0.250 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.125 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.965 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,1,1-Trichloroethane | U | | 0.0550 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,1,2-Trichloroethane | U | | 0.177 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| Trichloroethene | U | | 0.0800 | 0.200 | 5 | 11/09/2022 04:48 | WG1955442 |
| Trichlorofluoromethane | U | | 0.100 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,2,3-Trichloropropane | U | | 1.02 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,2,4-Trimethylbenzene | U | | 0.232 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,2,3-Trimethylbenzene | U | | 0.230 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| 1,3,5-Trimethylbenzene | U | | 0.216 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Vinyl chloride | 43.2 | | 0.137 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| Xylenes, Total | U | | 0.955 | 1.30 | 5 | 11/09/2022 04:48 | WG1955442 |
| Ethyl Ether | U | | 0.0850 | 0.500 | 5 | 11/09/2022 04:48 | WG1955442 |
| Tetrahydrofuran | 1.35 | J | 0.450 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| Iodomethane | U | | 1.21 | 2.50 | 5 | 11/09/2022 04:48 | WG1955442 |
| Allyl chloride | U | | 2.90 | 5.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| Trans-1,4-Dichloro-2-butene | U | | 0.280 | 1.00 | 5 | 11/09/2022 04:48 | WG1955442 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/09/2022 04:48* | WG1955442 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/09/2022 04:48* | WG1955442 |
| *(S) 1,2-Dichloroethane-d4* | *93.8* | | | *70.0-130* | | *11/09/2022 04:48* | WG1955442 |

**Sample Narrative:**

L1552408-05 WG1955442: Lowest possible dilution due to sample foaming.

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 325000 | | 8450 | 20000 | 1 | 11/11/2022 16:08 | WG1957551 |

Sample Narrative:
L1552408-06 WG1957551: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 11600 | | 379 | 1000 | 1 | 11/01/2022 21:49 | WG1952474 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/01/2022 21:49 | WG1952474 |
| Sulfate | U | | 594 | 5000 | 1 | 11/01/2022 21:49 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 5260 | | 102 | 1000 | 1 | 11/19/2022 21:16 | WG1962430 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 6810 | | 28.1 | 100 | 1 | 11/12/2022 16:26 | WG1957860 |
| Manganese | 3700 | | 0.704 | 5.00 | 1 | 11/12/2022 16:26 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 12800 | | 2.87 | 6.78 | 10 | 11/03/2022 15:15 | WG1953876 |
| Ethane | 21.1 | | 0.296 | 1.29 | 1 | 11/03/2022 12:19 | WG1953648 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/03/2022 12:19 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 03:31 | WG1955442 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 03:31 | WG1955442 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 03:31 | WG1955442 |
| Bromomethane | U | ~~J3~~ | 0.148 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| Chloroethane | U | ~~J3~~ | 0.0432 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| Chloromethane | U | UJ C3 | 0.0556 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| 2-Chlorotoluene | U | ~~J3~~ | 0.0368 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| cis-1,2-Dichloroethene | 0.448 | | 0.0276 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 03:31 | WG1955442 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 03:31 | WG1955442 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 03:31 | WG1955442 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 03:31 | WG1955442 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 03:31 | WG1955442 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 03:31 | WG1955442 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 03:31 | WG1955442 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| Vinyl chloride | 0.0960 | J | 0.0273 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 03:31 | WG1955442 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 03:31 | WG1955442 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 03:31 | WG1955442 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 03:31 | WG1955442 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/09/2022 03:31 | WG1955442 |
| *(S) Toluene-d8* | *110* | | | *75.0-131* | | *11/09/2022 03:31* | WG1955442 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *11/09/2022 03:31* | WG1955442 |
| *(S) 1,2-Dichloroethane-d4* | *96.1* | | | *70.0-130* | | *11/09/2022 03:31* | WG1955442 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 144000 | | 8450 | 20000 | 1 | 11/11/2022 16:12 | WG1957551 |

Sample Narrative:
L1552408-07 WG1957551: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 26900 | | 379 | 1000 | 1 | 11/01/2022 22:28 | WG1952474 |
| Nitrate | 870 | | 48.0 | 100 | 1 | 11/01/2022 22:28 | WG1952474 |
| Sulfate | 53000 | | 594 | 5000 | 1 | 11/01/2022 22:28 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1180 | B | 102 | 1000 | 1 | 11/19/2022 22:12 | WG1962430 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 91.0 | J | 28.1 | 100 | 1 | 11/12/2022 16:30 | WG1957860 |
| Manganese | 158 | | 0.704 | 5.00 | 1 | 11/12/2022 16:30 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 7.97 | | 0.287 | 0.678 | 1 | 11/03/2022 12:22 | WG1953648 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/03/2022 12:22 | WG1953648 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/03/2022 12:22 | WG1953648 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/03/2022 19:09 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 19:09 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 19:09 | WG1953994 |
| Bromomethane | U | UJ C3 | 0.148 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| Dichlorodifluoromethane | U UJ | C3 | 0.0327 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,1-Dichloroethane | 0.397 | | 0.0230 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,1-Dichloroethene | 0.0480 | J | 0.0200 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| cis-1,2-Dichloroethene | 0.635 | | 0.0276 | 0.100 | 1 | 11/09/2022 03:50 | WG1955442 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,2-Dichloropropane | 0.0800 | J | 0.0508 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 19:09 | WG1953994 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 19:09 | WG1953994 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 19:09 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 19:09 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 19:09 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 19:09 | WG1953994 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 03:50 | WG1955442 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,2,3-Trichlorobenzene | U UJ | C4 | 0.0250 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,2,4-Trichlorobenzene | U UJ | C4 | 0.193 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,1,1-Trichloroethane | 0.0990 | J | 0.0110 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 03:50 | WG1955442 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| Vinyl chloride | 0.169 | | 0.0273 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 19:09 | WG1953994 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 19:09 | WG1953994 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 19:09 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 19:09 | WG1953994 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 19:09 | WG1953994 |
| *(S) Toluene-d8* | *103* | | | *75.0-131* | | *11/03/2022 19:09* | WG1953994 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/09/2022 03:50* | WG1955442 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/03/2022 19:09* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *98.6* | | | *67.0-138* | | *11/09/2022 03:50* | WG1955442 |
| *(S) 1,2-Dichloroethane-d4* | *93.9* | | | *70.0-130* | | *11/03/2022 19:09* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *96.0* | | | *70.0-130* | | *11/09/2022 03:50* | WG1955442 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 366000 | | 8450 | 20000 | 1 | 11/13/2022 07:00 | WG1957556 |

Sample Narrative:

L1552408-08 WG1957556: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 18600 | | 379 | 1000 | 1 | 11/01/2022 22:40 | WG1952474 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/01/2022 22:40 | WG1952474 |
| Sulfate | U | | 594 | 5000 | 1 | 11/01/2022 22:40 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 7920 | | 102 | 1000 | 1 | 11/19/2022 23:05 | WG1962430 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 9340 | | 28.1 | 100 | 1 | 11/12/2022 16:33 | WG1957860 |
| Manganese | 3220 | | 0.704 | 5.00 | 1 | 11/12/2022 16:33 | WG1957860 |

## Volatile Organic Compounds (GC) by Method NWTPHGX

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | 64.0 U | ~~B J~~ | 31.6 | 100 | 1 | 11/10/2022 07:48 | WG1956886 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *101* | | | *78.0-120* | | *11/10/2022 07:48* | WG1956886 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 5620 | | 0.287 | 0.678 | 1 | 11/03/2022 15:23 | WG1953876 |
| Ethane | 1.70 | | 0.296 | 1.29 | 1 | 11/03/2022 15:23 | WG1953876 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/03/2022 15:23 | WG1953876 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 04:09 | WG1955442 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 04:09 | WG1955442 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 04:09 | WG1955442 |
| Bromomethane | U | ~~J3~~ | 0.148 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|---|
| | ug/l | | | ug/l | ug/l | | date / time | |
| Chloroethane | U | | J3 | 0.0432 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| Chloroform | U | | | 0.0166 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| Chloromethane | U | UJ | C3 | 0.0556 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| 2-Chlorotoluene | U | | J3 | 0.0368 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| 4-Chlorotoluene | U | | | 0.0452 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,2-Dibromo-3-Chloropropane | U | | | 0.204 | 1.00 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,2-Dibromoethane | U | | | 0.0210 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| Dibromomethane | U | | | 0.0400 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,2-Dichlorobenzene | U | | | 0.0580 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,3-Dichlorobenzene | U | | | 0.0680 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,4-Dichlorobenzene | U | | | 0.0788 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| Dichlorodifluoromethane | U | UJ | C3 | 0.0327 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,1-Dichloroethane | U | | | 0.0230 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,2-Dichloroethane | U | | | 0.0190 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,1-Dichloroethene | U | | | 0.0200 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| cis-1,2-Dichloroethene | U | | | 0.0276 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| trans-1,2-Dichloroethene | U | | | 0.0572 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,2-Dichloropropane | U | | | 0.0508 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,1-Dichloropropene | U | | | 0.0280 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,3-Dichloropropane | U | | | 0.0700 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| cis-1,3-Dichloropropene | U | | | 0.0271 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| trans-1,3-Dichloropropene | U | | | 0.0612 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| 2,2-Dichloropropane | U | | | 0.0317 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| Di-isopropyl ether | U | | | 0.0140 | 0.0400 | 1 | 11/09/2022 04:09 | WG1955442 |
| Ethylbenzene | U | | | 0.0212 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| Hexachloro-1,3-butadiene | U | | | 0.508 | 1.00 | 1 | 11/09/2022 04:09 | WG1955442 |
| Isopropylbenzene | U | | | 0.0345 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| p-Isopropyltoluene | U | | | 0.0932 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| 2-Butanone (MEK) | U | | | 0.500 | 1.00 | 1 | 11/09/2022 04:09 | WG1955442 |
| Methylene Chloride | U | | | 0.265 | 1.00 | 1 | 11/09/2022 04:09 | WG1955442 |
| 4-Methyl-2-pentanone (MIBK) | U | | | 0.400 | 1.00 | 1 | 11/09/2022 04:09 | WG1955442 |
| Methyl tert-butyl ether | U | | | 0.0118 | 0.0400 | 1 | 11/09/2022 04:09 | WG1955442 |
| Naphthalene | U | | | 0.124 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| n-Propylbenzene | U | | | 0.0472 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| Styrene | U | | | 0.109 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,1,1,2-Tetrachloroethane | U | | | 0.0200 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,1,2,2-Tetrachloroethane | U | | | 0.0156 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,1,2-Trichlorotrifluoroethane | U | | | 0.0270 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| Tetrachloroethene | U | | | 0.0280 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| Toluene | U | | | 0.0500 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,2,3-Trichlorobenzene | U | UJ | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,2,4-Trichlorobenzene | U | UJ | C4 | 0.193 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,1,1-Trichloroethane | U | | | 0.0110 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,1,2-Trichloroethane | U | | | 0.0353 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| Trichloroethene | U | | | 0.0160 | 0.0400 | 1 | 11/09/2022 04:09 | WG1955442 |
| Trichlorofluoromethane | U | | | 0.0200 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,2,3-Trichloropropane | U | | | 0.204 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,2,4-Trimethylbenzene | U | | | 0.0464 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,2,3-Trimethylbenzene | U | | | 0.0460 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| 1,3,5-Trimethylbenzene | U | | | 0.0432 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| Vinyl chloride | U | | | 0.0273 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| Xylenes, Total | U | | | 0.191 | 0.260 | 1 | 11/09/2022 04:09 | WG1955442 |
| Ethyl Ether | U | | | 0.0170 | 0.100 | 1 | 11/09/2022 04:09 | WG1955442 |
| Tetrahydrofuran | U | | | 0.0900 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| Iodomethane | U | | | 0.242 | 0.500 | 1 | 11/09/2022 04:09 | WG1955442 |
| Allyl chloride | U | | | 0.580 | 1.00 | 1 | 11/09/2022 04:09 | WG1955442 |

JC 11/29/2022

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/09/2022 04:09 | WG1955442 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/09/2022 04:09* | WG1955442 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/09/2022 04:09* | WG1955442 |
| *(S) 1,2-Dichloroethane-d4* | *94.6* | | | *70.0-130* | | *11/09/2022 04:09* | WG1955442 |



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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 237000 | | 8450 | 20000 | 1 | 11/13/2022 07:03 | WG1957556 |

Sample Narrative:
L1552420-01 WG1957556: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 16900 | | 379 | 1000 | 1 | 11/01/2022 22:53 | WG1952474 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/01/2022 22:53 | WG1952474 |
| Sulfate | 8050 | | 594 | 5000 | 1 | 11/01/2022 22:53 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1860 | B | 102 | 1000 | 1 | 11/20/2022 00:13 | WG1962430 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1370 | | 28.1 | 100 | 1 | 11/12/2022 16:36 | WG1957860 |
| Manganese | 779 | | 0.704 | 5.00 | 1 | 11/12/2022 16:36 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 369 | | 0.287 | 0.678 | 1 | 11/03/2022 15:26 | WG1953876 |
| Ethane | 1.50 | | 0.296 | 1.29 | 1 | 11/03/2022 15:26 | WG1953876 |
| Ethene | 2.01 | P1 | 0.422 | 1.27 | 1 | 11/03/2022 15:26 | WG1953876 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/03/2022 19:28 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 19:28 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 19:28 | WG1953994 |
| Bromomethane | U | UJ C3 | 0.148 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| Chloroethane | 0.329 | | 0.0432 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,1-Dichloroethene | 1.06 | | 0.0200 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| cis-1,2-Dichloroethene | 31.3 | | 0.0276 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| trans-1,2-Dichloroethene | 0.451 | | 0.0572 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 19:28 | WG1953994 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 19:28 | WG1953994 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 19:28 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 19:28 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 19:28 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 19:28 | WG1953994 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| Tetrachloroethene | 0.407 | | 0.0280 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| Trichloroethene | 0.545 | | 0.0160 | 0.0400 | 1 | 11/03/2022 19:28 | WG1953994 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| Vinyl chloride | 8.13 | | 0.0273 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 19:28 | WG1953994 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 19:28 | WG1953994 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 19:28 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 19:28 | WG1953994 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 19:28 | WG1953994 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *11/03/2022 19:28* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *98.9* | | | *67.0-138* | | *11/03/2022 19:28* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *94.6* | | | *70.0-130* | | *11/03/2022 19:28* | WG1953994 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 174000 | | 8450 | 20000 | 1 | 11/13/2022 07:08 | WG1957556 |

Sample Narrative:

L1552420-02 WG1957556: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 6660 | | 379 | 1000 | 1 | 11/01/2022 23:06 | WG1952474 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/01/2022 23:06 | WG1952474 |
| Sulfate | 1960 | J | 594 | 5000 | 1 | 11/01/2022 23:06 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1030 | ~~B~~ | 102 | 1000 | 1 | 11/20/2022 00:45 | WG1962430 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 3910 | | 28.1 | 100 | 1 | 11/12/2022 16:40 | WG1957860 |
| Manganese | 420 | | 0.704 | 5.00 | 1 | 11/12/2022 16:40 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 408 | | 0.287 | 0.678 | 1 | 11/06/2022 08:47 | WG1954320 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/06/2022 08:47 | WG1954320 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 08:47 | WG1954320 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.02 U | ~~C5~~ | 0.548 | 1.00 | 1 | 11/03/2022 19:47 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 19:47 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 19:47 | WG1953994 |
| Bromomethane | U UJ | C3 | 0.148 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| Dichlorodifluoromethane | U UJ | C3 | 0.0327 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| cis-1,2-Dichloroethene | 1.11 | | 0.0276 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 19:47 | WG1953994 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 19:47 | WG1953994 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 19:47 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 19:47 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 19:47 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 19:47 | WG1953994 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| Tetrachloroethene | 0.0990 | J | 0.0280 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,2,3-Trichlorobenzene | U UJ | C4 | 0.0250 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,2,4-Trichlorobenzene | U UJ | C4 | 0.193 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| Trichloroethene | 0.0530 | | 0.0160 | 0.0400 | 1 | 11/03/2022 19:47 | WG1953994 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| Vinyl chloride | 1.47 | | 0.0273 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 19:47 | WG1953994 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 19:47 | WG1953994 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 19:47 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 19:47 | WG1953994 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 19:47 | WG1953994 |
| *(S) Toluene-d8* | *102* | | | *75.0-131* | | *11/03/2022 19:47* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/03/2022 19:47* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *99.2* | | | *70.0-130* | | *11/03/2022 19:47* | WG1953994 |

JC 11/29/2022

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 241000 | | 8450 | 20000 | 1 | 11/13/2022 07:13 | WG1957556 |

Sample Narrative:
L1552420-03 WG1957556: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 17100 | | 379 | 1000 | 1 | 11/01/2022 23:19 | WG1952474 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/01/2022 23:19 | WG1952474 |
| Sulfate | 8120 | | 594 | 5000 | 1 | 11/01/2022 23:19 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1810 | B | 102 | 1000 | 1 | 11/20/2022 00:59 | WG1962430 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1080 | | 28.1 | 100 | 1 | 11/12/2022 16:50 | WG1957860 |
| Manganese | 777 | | 0.704 | 5.00 | 1 | 11/12/2022 16:50 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 416 | | 0.287 | 0.678 | 1 | 11/06/2022 08:51 | WG1954320 |
| Ethane | 1.81 | | 0.296 | 1.29 | 1 | 11/06/2022 08:51 | WG1954320 |
| Ethene | 2.50 | | 0.422 | 1.27 | 1 | 11/06/2022 08:51 | WG1954320 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/03/2022 20:06 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 20:06 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 20:06 | WG1953994 |
| Bromomethane | U | UJ C3 | 0.148 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| Chloroethane | 0.260 | | 0.0432 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |

JC 11/29/2022

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,1-Dichloroethene | 1.11 | | 0.0200 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| cis-1,2-Dichloroethene | 30.3 | | 0.0276 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| trans-1,2-Dichloroethene | 0.441 | | 0.0572 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 20:06 | WG1953994 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 20:06 | WG1953994 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 20:06 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 20:06 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 20:06 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 20:06 | WG1953994 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| Tetrachloroethene | 0.307 | | 0.0280 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| Trichloroethene | 0.557 | | 0.0160 | 0.0400 | 1 | 11/03/2022 20:06 | WG1953994 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| Vinyl chloride | 7.90 | | 0.0273 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 20:06 | WG1953994 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 20:06 | WG1953994 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 20:06 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 20:06 | WG1953994 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 20:06 | WG1953994 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/03/2022 20:06* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/03/2022 20:06* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *96.9* | | | *70.0-130* | | *11/03/2022 20:06* | WG1953994 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 674000 | | 8450 | 20000 | 1 | 11/13/2022 07:18 | WG1957556 |

Sample Narrative:
L1552420-04 WG1957556: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 79100 | | 379 | 1000 | 1 | 11/01/2022 23:32 | WG1952474 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/01/2022 23:32 | WG1952474 |
| Sulfate | U | | 594 | 5000 | 1 | 11/01/2022 23:32 | WG1952474 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 11400 | | 102 | 1000 | 1 | 11/20/2022 01:16 | WG1962430 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 589 | | 28.1 | 100 | 1 | 11/12/2022 16:53 | WG1957860 |
| Manganese | 171 | | 0.704 | 5.00 | 1 | 11/12/2022 16:53 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 27500 | | 2.87 | 6.78 | 10 | 11/06/2022 14:07 | WG1955151 |
| Ethane | 314 | | 0.296 | 1.29 | 1 | 11/06/2022 08:55 | WG1954320 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 08:55 | WG1954320 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/03/2022 20:25 | WG1953994 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| Benzene | 0.0900 | | 0.0160 | 0.0400 | 1 | 11/03/2022 20:25 | WG1953994 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 20:25 | WG1953994 |
| Bromomethane | U | UJ C3 | 0.148 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| Dichlorodifluoromethane | U UJ | C3 | 0.0327 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,2-Dichloroethane | 0.0860 | J | 0.0190 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| cis-1,2-Dichloroethene | 4.05 | | 0.0276 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| trans-1,2-Dichloroethene | 3.69 | | 0.0572 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 20:25 | WG1953994 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 20:25 | WG1953994 |
| Isopropylbenzene | 0.113 | | 0.0345 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 20:25 | WG1953994 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 20:25 | WG1953994 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 20:25 | WG1953994 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 20:25 | WG1953994 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| Tetrachloroethene | 0.101 | | 0.0280 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| Toluene | 0.312 | | 0.0500 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,2,3-Trichlorobenzene | U UJ | C4 | 0.0250 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,2,4-Trichlorobenzene | U UJ | C4 | 0.193 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| Trichloroethene | 0.125 | | 0.0160 | 0.0400 | 1 | 11/03/2022 20:25 | WG1953994 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| Vinyl chloride | 2.74 | | 0.0273 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 20:25 | WG1953994 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 20:25 | WG1953994 |
| Tetrahydrofuran | 14.2 | | 0.0900 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 20:25 | WG1953994 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 20:25 | WG1953994 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 20:25 | WG1953994 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *11/03/2022 20:25* | WG1953994 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/03/2022 20:25* | WG1953994 |
| *(S) 1,2-Dichloroethane-d4* | *97.8* | | | *70.0-130* | | *11/03/2022 20:25* | WG1953994 |

JC 11/29/2022

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 1440000 | | 8450 | 20000 | 1 | 11/13/2022 07:22 | WG1957556 |

Sample Narrative:
L1552420-05 WG1957556: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 28100 | | 379 | 1000 | 1 | 11/02/2022 00:17 | WG1952561 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 00:17 | WG1952561 |
| Sulfate | 948 | J | 594 | 5000 | 1 | 11/02/2022 00:17 | WG1952561 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 8730 | ~~B~~ | 102 | 1000 | 1 | 11/17/2022 19:31 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 17300 | | 28.1 | 100 | 1 | 11/12/2022 16:57 | WG1957860 |
| Manganese | 4340 | | 0.704 | 5.00 | 1 | 11/12/2022 16:57 | WG1957860 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 31600 | | 2.87 | 6.78 | 10 | 11/06/2022 14:12 | WG1955151 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/06/2022 09:03 | WG1954320 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 09:03 | WG1954320 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 7.46 | | 0.548 | 1.00 | 1 | 11/03/2022 21:35 | WG1954134 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/03/2022 21:35 | WG1954134 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/03/2022 21:35 | WG1954134 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |

JC 11/29/2022

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| cis-1,2-Dichloroethene | 0.405 | ~~B~~ | 0.0276 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| 2,2-Dichloropropane | U | UJ C3 | 0.0317 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/03/2022 21:35 | WG1954134 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/03/2022 21:35 | WG1954134 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/03/2022 21:35 | WG1954134 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/03/2022 21:35 | WG1954134 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/03/2022 21:35 | WG1954134 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/03/2022 21:35 | WG1954134 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| Toluene | 0.178 | U ~~J~~ | 0.0500 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,2,4-Trichlorobenzene | U | ~~J4~~ | 0.193 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| Trichloroethene | 0.0870 | | 0.0160 | 0.0400 | 1 | 11/03/2022 21:35 | WG1954134 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| Vinyl chloride | 1.61 | | 0.0273 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/03/2022 21:35 | WG1954134 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/03/2022 21:35 | WG1954134 |
| Tetrahydrofuran | 6.61 | | 0.0900 | 0.500 | 1 | 11/04/2022 15:36 | WG1954379 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/03/2022 21:35 | WG1954134 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/03/2022 21:35 | WG1954134 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/03/2022 21:35 | WG1954134 |
| *(S) Toluene-d8* | *100* | | | *75.0-131* | | *11/03/2022 21:35* | WG1954134 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/04/2022 15:36* | WG1954379 |
| *(S) 4-Bromofluorobenzene* | *85.6* | | | *67.0-138* | | *11/03/2022 21:35* | WG1954134 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/04/2022 15:36* | WG1954379 |
| *(S) 1,2-Dichloroethane-d4* | *98.4* | | | *70.0-130* | | *11/03/2022 21:35* | WG1954134 |
| *(S) 1,2-Dichloroethane-d4* | *97.3* | | | *70.0-130* | | *11/04/2022 15:36* | WG1954379 |

JC 11/29/2022

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 870000 | | 8450 | 20000 | 1 | 11/11/2022 13:13 | WG1957558 |

Sample Narrative:

L1552983-01 WG1957558: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 9860 | | 379 | 1000 | 1 | 11/02/2022 22:06 | WG1953073 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 22:06 | WG1953073 |
| Sulfate | 612 | J | 594 | 5000 | 1 | 11/02/2022 22:06 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 6420 | B | 102 | 1000 | 1 | 11/18/2022 15:42 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 4740 | | 28.1 | 100 | 1 | 11/13/2022 12:40 | WG1957861 |
| Manganese | 516 | | 0.704 | 5.00 | 1 | 11/13/2022 12:40 | WG1957861 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 2430 | | 0.287 | 0.678 | 1 | 11/06/2022 11:38 | WG1954322 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/06/2022 11:38 | WG1954322 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 11:38 | WG1954322 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/05/2022 16:00 | WG1954601 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 16:00 | WG1954601 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 16:00 | WG1954601 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| 2,2-Dichloropropane | U | ~~J3~~ | 0.0317 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 16:00 | WG1954601 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 16:00 | WG1954601 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 16:00 | WG1954601 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 16:00 | WG1954601 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 16:00 | WG1954601 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 16:00 | WG1954601 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| Toluene | 0.102 | J | 0.0500 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,2,3-Trichlorobenzene | U UJ | C4 | 0.0250 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 16:00 | WG1954601 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 16:00 | WG1954601 |
| Ethyl Ether | 0.147 | | 0.0170 | 0.100 | 1 | 11/05/2022 16:00 | WG1954601 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 16:00 | WG1954601 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 16:00 | WG1954601 |
| Trans-1,4-Dichloro-2-butene | U UJ | C3 | 0.0560 | 0.200 | 1 | 11/05/2022 16:00 | WG1954601 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/05/2022 16:00* | WG1954601 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/05/2022 16:00* | WG1954601 |
| *(S) 1,2-Dichloroethane-d4* | *101* | | | *70.0-130* | | *11/05/2022 16:00* | WG1954601 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 190000 | | 8450 | 20000 | 1 | 11/11/2022 13:21 | WG1957558 |

Sample Narrative:

L1552983-02 WG1957558: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 26900 | | 379 | 1000 | 1 | 11/02/2022 22:18 | WG1953073 |
| Nitrate | 81.7 | J | 48.0 | 100 | 1 | 11/02/2022 22:18 | WG1953073 |
| Sulfate | 15700 | | 594 | 5000 | 1 | 11/02/2022 22:18 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 677 U | ~~B J~~ | 102 | 1000 | 1 | 11/18/2022 15:55 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 655 | | 28.1 | 100 | 1 | 11/13/2022 12:43 | WG1957861 |
| Manganese | 257 | | 0.704 | 5.00 | 1 | 11/13/2022 12:43 | WG1957861 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 182 | | 0.287 | 0.678 | 1 | 11/06/2022 11:47 | WG1954322 |
| Ethane | 14.4 | | 0.296 | 1.29 | 1 | 11/06/2022 11:47 | WG1954322 |
| Ethene | 3.63 | | 0.422 | 1.27 | 1 | 11/06/2022 11:47 | WG1954322 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/05/2022 16:19 | WG1954601 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 16:19 | WG1954601 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 16:19 | WG1954601 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| cis-1,2-Dichloroethene | 0.639 | | 0.0276 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| 2,2-Dichloropropane | U | ~~J3~~ | 0.0317 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 16:19 | WG1954601 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 16:19 | WG1954601 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 16:19 | WG1954601 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 16:19 | WG1954601 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 16:19 | WG1954601 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 16:19 | WG1954601 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 16:19 | WG1954601 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| Vinyl chloride | 8.22 | | 0.0273 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 16:19 | WG1954601 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/05/2022 16:19 | WG1954601 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 16:19 | WG1954601 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 16:19 | WG1954601 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/05/2022 16:19 | WG1954601 |
| *(S) Toluene-d8* | *110* | | | *75.0-131* | | *11/05/2022 16:19* | WG1954601 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/05/2022 16:19* | WG1954601 |
| *(S) 1,2-Dichloroethane-d4* | *98.5* | | | *70.0-130* | | *11/05/2022 16:19* | WG1954601 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 311000 | | 8450 | 20000 | 1 | 11/11/2022 13:27 | WG1957558 |

Sample Narrative:

L1552983-03 WG1957558: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 36100 | | 379 | 1000 | 1 | 11/02/2022 22:31 | WG1953073 |
| Nitrate | 107 | | 48.0 | 100 | 1 | 11/02/2022 22:31 | WG1953073 |
| Sulfate | 27900 | | 594 | 5000 | 1 | 11/02/2022 22:31 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 960 U | B J | 102 | 1000 | 1 | 11/18/2022 16:11 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 881 | | 28.1 | 100 | 1 | 11/13/2022 12:46 | WG1957861 |
| Manganese | 1010 | | 0.704 | 5.00 | 1 | 11/13/2022 12:46 | WG1957861 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 277 | | 0.287 | 0.678 | 1 | 11/06/2022 11:51 | WG1954322 |
| Ethane | 20.6 | | 0.296 | 1.29 | 1 | 11/06/2022 11:51 | WG1954322 |
| Ethene | 28.1 | | 0.422 | 1.27 | 1 | 11/06/2022 11:51 | WG1954322 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/05/2022 16:38 | WG1954601 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 16:38 | WG1954601 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 16:38 | WG1954601 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,1-Dichloroethene | 0.968 | | 0.0200 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| cis-1,2-Dichloroethene | 98.5 | | 0.0276 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| trans-1,2-Dichloroethene | 0.144 | J | 0.0572 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| 2,2-Dichloropropane | U | ~~J3~~ | 0.0317 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 16:38 | WG1954601 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 16:38 | WG1954601 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 16:38 | WG1954601 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 16:38 | WG1954601 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 16:38 | WG1954601 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 16:38 | WG1954601 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| Trichloroethene | 1.29 | | 0.0160 | 0.0400 | 1 | 11/05/2022 16:38 | WG1954601 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,2,4-Trimethylbenzene | 0.0900 | J | 0.0464 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| Vinyl chloride | 55.1 | | 0.0273 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 16:38 | WG1954601 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/05/2022 16:38 | WG1954601 |
| Tetrahydrofuran | 0.165 | J | 0.0900 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 16:38 | WG1954601 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 16:38 | WG1954601 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/05/2022 16:38 | WG1954601 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/05/2022 16:38* | WG1954601 |
| *(S) 4-Bromofluorobenzene* | *97.9* | | | *67.0-138* | | *11/05/2022 16:38* | WG1954601 |
| *(S) 1,2-Dichloroethane-d4* | *101* | | | *70.0-130* | | *11/05/2022 16:38* | WG1954601 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 497000 | | 8450 | 20000 | 1 | 11/11/2022 13:32 | WG1957558 |

Sample Narrative:
L1552983-04 WG1957558: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 7520 | | 379 | 1000 | 1 | 11/02/2022 23:08 | WG1953073 |
| Nitrate | 105 | | 48.0 | 100 | 1 | 11/02/2022 23:08 | WG1953073 |
| Sulfate | 5220 | | 594 | 5000 | 1 | 11/02/2022 23:08 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4290 | ~~B~~ | 102 | 1000 | 1 | 11/18/2022 17:08 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 12300 | | 28.1 | 100 | 1 | 11/13/2022 12:50 | WG1957861 |
| Manganese | 3180 | | 0.704 | 5.00 | 1 | 11/13/2022 12:50 | WG1957861 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 2190 | | 0.287 | 0.678 | 1 | 11/06/2022 11:55 | WG1954322 |
| Ethane | 8.63 | | 0.296 | 1.29 | 1 | 11/06/2022 11:55 | WG1954322 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 11:55 | WG1954322 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.46 | | 0.548 | 1.00 | 1 | 11/05/2022 16:58 | WG1954601 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 16:58 | WG1954601 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 16:58 | WG1954601 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| cis-1,2-Dichloroethene | 20.9 | | 0.0276 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| 2,2-Dichloropropane | U | J3 | 0.0317 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 16:58 | WG1954601 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 16:58 | WG1954601 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 16:58 | WG1954601 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 16:58 | WG1954601 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 16:58 | WG1954601 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 16:58 | WG1954601 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 16:58 | WG1954601 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| Vinyl chloride | 4.26 | | 0.0273 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 16:58 | WG1954601 |
| Ethyl Ether | 0.245 | | 0.0170 | 0.100 | 1 | 11/05/2022 16:58 | WG1954601 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 16:58 | WG1954601 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 16:58 | WG1954601 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/05/2022 16:58 | WG1954601 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/05/2022 16:58* | WG1954601 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/05/2022 16:58* | WG1954601 |
| *(S) 1,2-Dichloroethane-d4* | *99.5* | | | *70.0-130* | | *11/05/2022 16:58* | WG1954601 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 367000 | | 8450 | 20000 | 1 | 11/11/2022 13:36 | WG1957558 |

Sample Narrative:

L1552983-05 WG1957558: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 48700 | | 379 | 1000 | 1 | 11/02/2022 23:21 | WG1953073 |
| Nitrate | 107 | | 48.0 | 100 | 1 | 11/02/2022 23:21 | WG1953073 |
| Sulfate | 27700 | | 594 | 5000 | 1 | 11/02/2022 23:21 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1700 | ~~B~~ | 102 | 1000 | 1 | 11/18/2022 17:21 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 543 | | 28.1 | 100 | 1 | 11/13/2022 12:59 | WG1957861 |
| Manganese | 310 | | 0.704 | 5.00 | 1 | 11/13/2022 12:59 | WG1957861 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 111 | | 0.287 | 0.678 | 1 | 11/06/2022 11:59 | WG1954322 |
| Ethane | 7.11 | | 0.296 | 1.29 | 1 | 11/06/2022 11:59 | WG1954322 |
| Ethene | 3.79 | | 0.422 | 1.27 | 1 | 11/06/2022 11:59 | WG1954322 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/05/2022 17:17 | WG1954601 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 17:17 | WG1954601 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 17:17 | WG1954601 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| cis-1,2-Dichloroethene | 0.267 | | 0.0276 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| 2,2-Dichloropropane | U | ~~J3~~ | 0.0317 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 17:17 | WG1954601 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 17:17 | WG1954601 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 17:17 | WG1954601 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 17:17 | WG1954601 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 17:17 | WG1954601 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 17:17 | WG1954601 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| Trichloroethene | 0.162 | | 0.0160 | 0.0400 | 1 | 11/05/2022 17:17 | WG1954601 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| Vinyl chloride | 1.37 | | 0.0273 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 17:17 | WG1954601 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/05/2022 17:17 | WG1954601 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 17:17 | WG1954601 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 17:17 | WG1954601 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/05/2022 17:17 | WG1954601 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/05/2022 17:17* | WG1954601 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/05/2022 17:17* | WG1954601 |
| *(S) 1,2-Dichloroethane-d4* | *99.6* | | | *70.0-130* | | *11/05/2022 17:17* | WG1954601 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 518000 | | 8450 | 20000 | 1 | 11/11/2022 13:41 | WG1957558 |

Sample Narrative:

L1552983-06 WG1957558: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 22400 | | 379 | 1000 | 1 | 11/02/2022 23:33 | WG1953073 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 23:33 | WG1953073 |
| Sulfate | 35000 | | 594 | 5000 | 1 | 11/02/2022 23:33 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4220 | B | 102 | 1000 | 1 | 11/18/2022 17:38 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 12100 | | 28.1 | 100 | 1 | 11/13/2022 13:03 | WG1957861 |
| Manganese | 1560 | | 0.704 | 5.00 | 1 | 11/13/2022 13:03 | WG1957861 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 3350 | | 0.287 | 0.678 | 1 | 11/06/2022 12:02 | WG1954322 |
| Ethane | 34.2 | | 0.296 | 1.29 | 1 | 11/06/2022 12:02 | WG1954322 |
| Ethene | 7.87 | | 0.422 | 1.27 | 1 | 11/06/2022 12:02 | WG1954322 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 2.08 | | 0.548 | 1.00 | 1 | 11/05/2022 17:36 | WG1954601 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| Benzene | 3.23 | | 0.0160 | 0.0400 | 1 | 11/05/2022 17:36 | WG1954601 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 17:36 | WG1954601 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|---|
| | ug/l | | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | | 0.0400 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,2-Dichlorobenzene | U | | | 0.0580 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,3-Dichlorobenzene | U | | | 0.0680 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,4-Dichlorobenzene | U | | | 0.0788 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| Dichlorodifluoromethane | U | | | 0.0327 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,1-Dichloroethane | 0.0600 | | J | 0.0230 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,2-Dichloroethane | U | | | 0.0190 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,1-Dichloroethene | 1.16 | | | 0.0200 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| cis-1,2-Dichloroethene | 455 | | | 0.552 | 2.00 | 20 | 11/11/2022 16:58 | WG1957539 |
| trans-1,2-Dichloroethene | 2.80 | | | 0.0572 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,2-Dichloropropane | U | | | 0.0508 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,1-Dichloropropene | U | | | 0.0280 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,3-Dichloropropane | U | | | 0.0700 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| cis-1,3-Dichloropropene | U | | | 0.0271 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| trans-1,3-Dichloropropene | U | | | 0.0612 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| 2,2-Dichloropropane | U | | ~~J3~~ | 0.0317 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| Di-isopropyl ether | U | | | 0.0140 | 0.0400 | 1 | 11/05/2022 17:36 | WG1954601 |
| Ethylbenzene | U | | | 0.0212 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| Hexachloro-1,3-butadiene | U | | | 0.508 | 1.00 | 1 | 11/05/2022 17:36 | WG1954601 |
| Isopropylbenzene | U | | | 0.0345 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| p-Isopropyltoluene | U | | | 0.0932 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| 2-Butanone (MEK) | U | | | 0.500 | 1.00 | 1 | 11/05/2022 17:36 | WG1954601 |
| Methylene Chloride | U | | | 0.265 | 1.00 | 1 | 11/05/2022 17:36 | WG1954601 |
| 4-Methyl-2-pentanone (MIBK) | U | | | 0.400 | 1.00 | 1 | 11/05/2022 17:36 | WG1954601 |
| Methyl tert-butyl ether | U | | | 0.0118 | 0.0400 | 1 | 11/05/2022 17:36 | WG1954601 |
| Naphthalene | U | | | 0.124 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| n-Propylbenzene | U | | | 0.0472 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| Styrene | U | | | 0.109 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,1,1,2-Tetrachloroethane | U | | | 0.0200 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,1,2,2-Tetrachloroethane | U | | | 0.0156 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,1,2-Trichlorotrifluoroethane | U | | | 0.0270 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| Tetrachloroethene | 97.7 | | | 0.0280 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| Toluene | 0.184 | | J | 0.0500 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,2,3-Trichlorobenzene | U | UJ | C4 | 0.0250 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,2,4-Trichlorobenzene | U | | | 0.193 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,1,1-Trichloroethane | U | | | 0.0110 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,1,2-Trichloroethane | U | | | 0.0353 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| Trichloroethene | 42.7 | | | 0.0160 | 0.0400 | 1 | 11/05/2022 17:36 | WG1954601 |
| Trichlorofluoromethane | U | | | 0.0200 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,2,3-Trichloropropane | U | | | 0.204 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,2,4-Trimethylbenzene | U | | | 0.0464 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,2,3-Trimethylbenzene | U | | | 0.0460 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| 1,3,5-Trimethylbenzene | U | | | 0.0432 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| Vinyl chloride | 115 | | | 0.546 | 2.00 | 20 | 11/11/2022 16:58 | WG1957539 |
| Xylenes, Total | U | | | 0.191 | 0.260 | 1 | 11/05/2022 17:36 | WG1954601 |
| Ethyl Ether | 0.310 | | | 0.0170 | 0.100 | 1 | 11/05/2022 17:36 | WG1954601 |
| Tetrahydrofuran | 0.958 | | | 0.0900 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| Iodomethane | U | | | 0.242 | 0.500 | 1 | 11/05/2022 17:36 | WG1954601 |
| Allyl chloride | U | | | 0.580 | 1.00 | 1 | 11/05/2022 17:36 | WG1954601 |
| Trans-1,4-Dichloro-2-butene | U | UJ | C3 | 0.0560 | 0.200 | 1 | 11/05/2022 17:36 | WG1954601 |
| *(S) Toluene-d8* | *105* | | | | *75.0-131* | | *11/05/2022 17:36* | WG1954601 |
| *(S) Toluene-d8* | *115* | | | | *75.0-131* | | *11/11/2022 16:58* | WG1957539 |
| *(S) 4-Bromofluorobenzene* | *101* | | | | *67.0-138* | | *11/05/2022 17:36* | WG1954601 |
| *(S) 4-Bromofluorobenzene* | *105* | | | | *67.0-138* | | *11/11/2022 16:58* | WG1957539 |
| *(S) 1,2-Dichloroethane-d4* | *101* | | | | *70.0-130* | | *11/05/2022 17:36* | WG1954601 |
| *(S) 1,2-Dichloroethane-d4* | *103* | | | | *70.0-130* | | *11/11/2022 16:58* | WG1957539 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 665000 | | 8450 | 20000 | 1 | 11/11/2022 13:45 | WG1957558 |

Sample Narrative:

L1552983-07 WG1957558: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 8190 | | 379 | 1000 | 1 | 11/02/2022 23:46 | WG1953073 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 23:46 | WG1953073 |
| Sulfate | 45900 | | 594 | 5000 | 1 | 11/02/2022 23:46 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 5880 | B | 102 | 1000 | 1 | 11/18/2022 17:56 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 14200 | | 28.1 | 100 | 1 | 11/12/2022 16:08 | WG1957862 |
| Manganese | 1370 | | 0.704 | 5.00 | 1 | 11/12/2022 16:08 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 538 | | 0.287 | 0.678 | 1 | 11/06/2022 12:05 | WG1954322 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/06/2022 12:05 | WG1954322 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 12:05 | WG1954322 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 1.93 | | 0.548 | 1.00 | 1 | 11/05/2022 17:55 | WG1954601 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 17:55 | WG1954601 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 17:55 | WG1954601 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| sec-Butylbenzene | 0.191 | J | 0.101 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| cis-1,2-Dichloroethene | 0.109 | | 0.0276 | 0.100 | 1 | 11/11/2022 14:21 | WG1957539 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| 2,2-Dichloropropane | U | ~~J3~~ | 0.0317 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 17:55 | WG1954601 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 17:55 | WG1954601 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 17:55 | WG1954601 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 17:55 | WG1954601 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 17:55 | WG1954601 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 17:55 | WG1954601 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 14:21 | WG1957539 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 17:55 | WG1954601 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/11/2022 14:21 | WG1957539 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 17:55 | WG1954601 |
| Ethyl Ether | 0.0810 | J | 0.0170 | 0.100 | 1 | 11/05/2022 17:55 | WG1954601 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 17:55 | WG1954601 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 17:55 | WG1954601 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/05/2022 17:55 | WG1954601 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/05/2022 17:55* | WG1954601 |
| *(S) Toluene-d8* | *115* | | | *75.0-131* | | *11/11/2022 14:21* | WG1957539 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/05/2022 17:55* | WG1954601 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/11/2022 14:21* | WG1957539 |
| *(S) 1,2-Dichloroethane-d4* | *98.6* | | | *70.0-130* | | *11/05/2022 17:55* | WG1954601 |
| *(S) 1,2-Dichloroethane-d4* | *110* | | | *70.0-130* | | *11/11/2022 14:21* | WG1957539 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 203000 | | 8450 | 20000 | 1 | 11/11/2022 13:56 | WG1957558 |

Sample Narrative:

L1552983-08 WG1957558: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 6770 | | 379 | 1000 | 1 | 11/02/2022 23:58 | WG1953073 |
| Nitrate | 87.9 | J | 48.0 | 100 | 1 | 11/02/2022 23:58 | WG1953073 |
| Sulfate | 2690 | J | 594 | 5000 | 1 | 11/02/2022 23:58 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1510 | B | 102 | 1000 | 1 | 11/18/2022 18:09 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 208 | | 28.1 | 100 | 1 | 11/12/2022 16:11 | WG1957862 |
| Manganese | 55.9 | | 0.704 | 5.00 | 1 | 11/12/2022 16:11 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 115 | | 0.287 | 0.678 | 1 | 11/06/2022 12:11 | WG1954322 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/06/2022 12:11 | WG1954322 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 12:11 | WG1954322 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/05/2022 18:14 | WG1954601 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 18:14 | WG1954601 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 18:14 | WG1954601 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|---|
| | ug/l | | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | | 0.0400 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,2-Dichlorobenzene | U | | | 0.0580 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,3-Dichlorobenzene | U | | | 0.0680 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,4-Dichlorobenzene | U | | | 0.0788 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| Dichlorodifluoromethane | U | | | 0.0327 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,1-Dichloroethane | U | | | 0.0230 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,2-Dichloroethane | U | | | 0.0190 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,1-Dichloroethene | U | | | 0.0200 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| cis-1,2-Dichloroethene | U | | | 0.0276 | 0.100 | 1 | 11/11/2022 14:41 | WG1957539 |
| trans-1,2-Dichloroethene | U | | | 0.0572 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,2-Dichloropropane | U | | | 0.0508 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,1-Dichloropropene | U | | | 0.0280 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,3-Dichloropropane | U | | | 0.0700 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| cis-1,3-Dichloropropene | U | | | 0.0271 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| trans-1,3-Dichloropropene | U | | | 0.0612 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| 2,2-Dichloropropane | U | | ~~J3~~ | 0.0317 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| Di-isopropyl ether | U | | | 0.0140 | 0.0400 | 1 | 11/05/2022 18:14 | WG1954601 |
| Ethylbenzene | U | | | 0.0212 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| Hexachloro-1,3-butadiene | U | | | 0.508 | 1.00 | 1 | 11/05/2022 18:14 | WG1954601 |
| Isopropylbenzene | U | | | 0.0345 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| p-Isopropyltoluene | U | | | 0.0932 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| 2-Butanone (MEK) | U | | | 0.500 | 1.00 | 1 | 11/05/2022 18:14 | WG1954601 |
| Methylene Chloride | U | | | 0.265 | 1.00 | 1 | 11/05/2022 18:14 | WG1954601 |
| 4-Methyl-2-pentanone (MIBK) | U | | | 0.400 | 1.00 | 1 | 11/05/2022 18:14 | WG1954601 |
| Methyl tert-butyl ether | U | | | 0.0118 | 0.0400 | 1 | 11/05/2022 18:14 | WG1954601 |
| Naphthalene | U | | | 0.124 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| n-Propylbenzene | U | | | 0.0472 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| Styrene | U | | | 0.109 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,1,1,2-Tetrachloroethane | U | | | 0.0200 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,1,2,2-Tetrachloroethane | U | | | 0.0156 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,1,2-Trichlorotrifluoroethane | U | | | 0.0270 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| Tetrachloroethene | U | | | 0.0280 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| Toluene | U | | | 0.0500 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,2,3-Trichlorobenzene | U | UJ | C4 | 0.0250 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,2,4-Trichlorobenzene | U | | | 0.193 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,1,1-Trichloroethane | U | | | 0.0110 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,1,2-Trichloroethane | U | | | 0.0353 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| Trichloroethene | U | | | 0.0160 | 0.0400 | 1 | 11/05/2022 18:14 | WG1954601 |
| Trichlorofluoromethane | U | | | 0.0200 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,2,3-Trichloropropane | U | | | 0.204 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,2,4-Trimethylbenzene | U | | | 0.0464 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,2,3-Trimethylbenzene | U | | | 0.0460 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| 1,3,5-Trimethylbenzene | U | | | 0.0432 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| Vinyl chloride | U | | | 0.0273 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| Xylenes, Total | U | | | 0.191 | 0.260 | 1 | 11/05/2022 18:14 | WG1954601 |
| Ethyl Ether | U | | | 0.0170 | 0.100 | 1 | 11/05/2022 18:14 | WG1954601 |
| Tetrahydrofuran | U | | | 0.0900 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| Iodomethane | U | | | 0.242 | 0.500 | 1 | 11/05/2022 18:14 | WG1954601 |
| Allyl chloride | U | | | 0.580 | 1.00 | 1 | 11/05/2022 18:14 | WG1954601 |
| Trans-1,4-Dichloro-2-butene | U | UJ | C3 | 0.0560 | 0.200 | 1 | 11/05/2022 18:14 | WG1954601 |
| *(S) Toluene-d8* | *106* | | | | *75.0-131* | | *11/05/2022 18:14* | WG1954601 |
| *(S) Toluene-d8* | *112* | | | | *75.0-131* | | *11/11/2022 14:41* | WG1957539 |
| *(S) 4-Bromofluorobenzene* | *99.5* | | | | *67.0-138* | | *11/05/2022 18:14* | WG1954601 |
| *(S) 4-Bromofluorobenzene* | *97.6* | | | | *67.0-138* | | *11/11/2022 14:41* | WG1957539 |
| *(S) 1,2-Dichloroethane-d4* | *96.7* | | | | *70.0-130* | | *11/05/2022 18:14* | WG1954601 |
| *(S) 1,2-Dichloroethane-d4* | *102* | | | | *70.0-130* | | *11/11/2022 14:41* | WG1957539 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 275000 | | 8450 | 20000 | 1 | 11/11/2022 14:02 | WG1957558 |

Sample Narrative:

L1552983-09 WG1957558: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 34300 | | 379 | 1000 | 1 | 11/03/2022 00:11 | WG1953073 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/03/2022 00:11 | WG1953073 |
| Sulfate | 227000 | | 5940 | 50000 | 10 | 11/03/2022 00:23 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1830 | B | 102 | 1000 | 1 | 11/18/2022 18:25 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 10400 | | 28.1 | 100 | 1 | 11/12/2022 16:14 | WG1957862 |
| Manganese | 640 | | 0.704 | 5.00 | 1 | 11/12/2022 16:14 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 88.9 | | 0.287 | 0.678 | 1 | 11/06/2022 12:17 | WG1954322 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/06/2022 12:17 | WG1954322 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 12:17 | WG1954322 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.67 | | 0.548 | 1.00 | 1 | 11/05/2022 18:34 | WG1954601 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 18:34 | WG1954601 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 18:34 | WG1954601 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|---|
| | ug/l | | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | | 0.0400 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,2-Dichlorobenzene | U | | | 0.0580 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,3-Dichlorobenzene | U | | | 0.0680 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,4-Dichlorobenzene | U | | | 0.0788 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| Dichlorodifluoromethane | U | | | 0.0327 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,1-Dichloroethane | 0.863 | | | 0.0230 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,2-Dichloroethane | U | | | 0.0190 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,1-Dichloroethene | U | | | 0.0200 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| cis-1,2-Dichloroethene | U | | | 0.0276 | 0.100 | 1 | 11/11/2022 15:00 | WG1957539 |
| trans-1,2-Dichloroethene | U | | | 0.0572 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,2-Dichloropropane | U | | | 0.0508 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,1-Dichloropropene | U | | | 0.0280 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,3-Dichloropropane | U | | | 0.0700 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| cis-1,3-Dichloropropene | U | | | 0.0271 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| trans-1,3-Dichloropropene | U | | | 0.0612 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| 2,2-Dichloropropane | U | | ~~J3~~ | 0.0317 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| Di-isopropyl ether | U | | | 0.0140 | 0.0400 | 1 | 11/05/2022 18:34 | WG1954601 |
| Ethylbenzene | U | | | 0.0212 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| Hexachloro-1,3-butadiene | U | | | 0.508 | 1.00 | 1 | 11/05/2022 18:34 | WG1954601 |
| Isopropylbenzene | U | | | 0.0345 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| p-Isopropyltoluene | U | | | 0.0932 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| 2-Butanone (MEK) | U | | | 0.500 | 1.00 | 1 | 11/05/2022 18:34 | WG1954601 |
| Methylene Chloride | U | | | 0.265 | 1.00 | 1 | 11/05/2022 18:34 | WG1954601 |
| 4-Methyl-2-pentanone (MIBK) | U | | | 0.400 | 1.00 | 1 | 11/05/2022 18:34 | WG1954601 |
| Methyl tert-butyl ether | U | | | 0.0118 | 0.0400 | 1 | 11/05/2022 18:34 | WG1954601 |
| Naphthalene | U | | | 0.124 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| n-Propylbenzene | U | | | 0.0472 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| Styrene | U | | | 0.109 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,1,1,2-Tetrachloroethane | U | | | 0.0200 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,1,2,2-Tetrachloroethane | U | | | 0.0156 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,1,2-Trichlorotrifluoroethane | U | | | 0.0270 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| Tetrachloroethene | U | | | 0.0280 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| Toluene | U | | | 0.0500 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,2,3-Trichlorobenzene | U | UJ | C4 | 0.0250 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,2,4-Trichlorobenzene | U | | | 0.193 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,1,1-Trichloroethane | U | | | 0.0110 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,1,2-Trichloroethane | U | | | 0.0353 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| Trichloroethene | U | | | 0.0160 | 0.0400 | 1 | 11/05/2022 18:34 | WG1954601 |
| Trichlorofluoromethane | U | | | 0.0200 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,2,3-Trichloropropane | U | | | 0.204 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,2,4-Trimethylbenzene | U | | | 0.0464 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,2,3-Trimethylbenzene | U | | | 0.0460 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| 1,3,5-Trimethylbenzene | U | | | 0.0432 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| Vinyl chloride | 0.258 | | | 0.0273 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| Xylenes, Total | U | | | 0.191 | 0.260 | 1 | 11/05/2022 18:34 | WG1954601 |
| Ethyl Ether | U | | | 0.0170 | 0.100 | 1 | 11/05/2022 18:34 | WG1954601 |
| Tetrahydrofuran | 0.209 | | J | 0.0900 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| Iodomethane | U | | | 0.242 | 0.500 | 1 | 11/05/2022 18:34 | WG1954601 |
| Allyl chloride | U | | | 0.580 | 1.00 | 1 | 11/05/2022 18:34 | WG1954601 |
| Trans-1,4-Dichloro-2-butene | U | UJ | C3 | 0.0560 | 0.200 | 1 | 11/05/2022 18:34 | WG1954601 |
| *(S) Toluene-d8* | *106* | | | | *75.0-131* | | *11/05/2022 18:34* | WG1954601 |
| *(S) Toluene-d8* | *112* | | | | *75.0-131* | | *11/11/2022 15:00* | WG1957539 |
| *(S) 4-Bromofluorobenzene* | *99.1* | | | | *67.0-138* | | *11/05/2022 18:34* | WG1954601 |
| *(S) 4-Bromofluorobenzene* | *100* | | | | *67.0-138* | | *11/11/2022 15:00* | WG1957539 |
| *(S) 1,2-Dichloroethane-d4* | *97.8* | | | | *70.0-130* | | *11/05/2022 18:34* | WG1954601 |
| *(S) 1,2-Dichloroethane-d4* | *111* | | | | *70.0-130* | | *11/11/2022 15:00* | WG1957539 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 394000 | | 8450 | 20000 | 1 | 11/11/2022 14:07 | WG1957558 |

Sample Narrative:

L1552983-10 WG1957558: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 20400 | | 379 | 1000 | 1 | 11/03/2022 00:36 | WG1953073 |
| Nitrate | 185 | | 48.0 | 100 | 1 | 11/03/2022 00:36 | WG1953073 |
| Sulfate | 105000 | | 594 | 5000 | 1 | 11/03/2022 00:36 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 3350 | B | 102 | 1000 | 1 | 11/18/2022 18:41 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 10600 | | 28.1 | 100 | 1 | 11/12/2022 16:18 | WG1957862 |
| Manganese | 2830 | | 0.704 | 5.00 | 1 | 11/12/2022 16:18 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 850 | | 0.287 | 0.678 | 1 | 11/06/2022 12:27 | WG1954322 |
| Ethane | 8.88 | | 0.296 | 1.29 | 1 | 11/06/2022 12:27 | WG1954322 |
| Ethene | 2.62 | | 0.422 | 1.27 | 1 | 11/06/2022 12:27 | WG1954322 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/05/2022 18:53 | WG1954601 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| Benzene | 50.1 | | 0.0160 | 0.0400 | 1 | 11/05/2022 18:53 | WG1954601 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 18:53 | WG1954601 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,1-Dichloroethane | 0.384 | | 0.0230 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,2-Dichloroethane | 0.347 | | 0.0190 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| cis-1,2-Dichloroethene | 5.50 | | 0.0276 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,2-Dichloropropane | 0.180 | J | 0.0508 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| 2,2-Dichloropropane | U | ~~J3~~ | 0.0317 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 18:53 | WG1954601 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 18:53 | WG1954601 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 18:53 | WG1954601 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 18:53 | WG1954601 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 18:53 | WG1954601 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 18:53 | WG1954601 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| Toluene | 0.189 | J | 0.0500 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,2,3-Trichlorobenzene | U UJ | C4 | 0.0250 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 18:53 | WG1954601 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| Vinyl chloride | 46.1 | | 0.0273 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| Xylenes, Total | 0.210 | J | 0.191 | 0.260 | 1 | 11/05/2022 18:53 | WG1954601 |
| Ethyl Ether | 0.133 | | 0.0170 | 0.100 | 1 | 11/05/2022 18:53 | WG1954601 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 18:53 | WG1954601 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 18:53 | WG1954601 |
| Trans-1,4-Dichloro-2-butene | U UJ | C3 | 0.0560 | 0.200 | 1 | 11/05/2022 18:53 | WG1954601 |
| *(S) Toluene-d8* | *110* | | | *75.0-131* | | *11/05/2022 18:53* | WG1954601 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/05/2022 18:53* | WG1954601 |
| *(S) 1,2-Dichloroethane-d4* | *101* | | | *70.0-130* | | *11/05/2022 18:53* | WG1954601 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 294000 | | 8450 | 20000 | 1 | 11/11/2022 14:12 | WG1957558 |

Sample Narrative:

L1552983-11 WG1957558: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 16000 | | 379 | 1000 | 1 | 11/03/2022 00:48 | WG1953073 |
| Nitrate | 547 | | 48.0 | 100 | 1 | 11/03/2022 00:48 | WG1953073 |
| Sulfate | 49200 | | 594 | 5000 | 1 | 11/03/2022 00:48 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2040 | ~~B~~ | 102 | 1000 | 1 | 11/18/2022 19:01 | WG1959765 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 699 | | 28.1 | 100 | 1 | 11/12/2022 16:27 | WG1957862 |
| Manganese | 659 | | 0.704 | 5.00 | 1 | 11/12/2022 16:27 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 435 | | 0.287 | 0.678 | 1 | 11/06/2022 12:30 | WG1954322 |
| Ethane | 1.65 | | 0.296 | 1.29 | 1 | 11/06/2022 12:30 | WG1954322 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 12:30 | WG1954322 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/05/2022 19:39 | WG1954601 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| Benzene | 0.351 | | 0.0160 | 0.0400 | 1 | 11/05/2022 19:39 | WG1954601 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/05/2022 19:39 | WG1954601 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| cis-1,2-Dichloroethene | 0.255 | | 0.0276 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| 2,2-Dichloropropane | U | J3 | 0.0317 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/05/2022 19:39 | WG1954601 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/05/2022 19:39 | WG1954601 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/05/2022 19:39 | WG1954601 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/05/2022 19:39 | WG1954601 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/05/2022 19:39 | WG1954601 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/05/2022 19:39 | WG1954601 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| Toluene | 0.107 | J | 0.0500 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,2,3-Trichlorobenzene | U UJ | C4 | 0.0250 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/05/2022 19:39 | WG1954601 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| Vinyl chloride | 13.1 | | 0.0273 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/05/2022 19:39 | WG1954601 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/05/2022 19:39 | WG1954601 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/05/2022 19:39 | WG1954601 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/05/2022 19:39 | WG1954601 |
| Trans-1,4-Dichloro-2-butene | U UJ | C3 | 0.0560 | 0.200 | 1 | 11/05/2022 19:39 | WG1954601 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/05/2022 19:39* | WG1954601 |
| *(S) 4-Bromofluorobenzene* | *98.7* | | | *67.0-138* | | *11/05/2022 19:39* | WG1954601 |
| *(S) 1,2-Dichloroethane-d4* | *98.6* | | | *70.0-130* | | *11/05/2022 19:39* | WG1954601 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 651000 | | 8450 | 20000 | 1 | 11/11/2022 14:18 | WG1957558 |

Sample Narrative:

L1552983-12 WG1957558: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 15300 | | 379 | 1000 | 1 | 11/03/2022 01:01 | WG1953073 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/03/2022 01:01 | WG1953073 |
| Sulfate | 38000 | | 594 | 5000 | 1 | 11/03/2022 01:01 | WG1953073 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 6850 | | 102 | 1000 | 1 | 11/19/2022 13:02 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 13800 | | 28.1 | 100 | 1 | 11/12/2022 16:31 | WG1957862 |
| Manganese | 2750 | | 0.704 | 5.00 | 1 | 11/12/2022 16:31 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 2600 | | 0.287 | 0.678 | 1 | 11/06/2022 10:17 | WG1954320 |
| Ethane | 16.5 | | 0.296 | 1.29 | 1 | 11/06/2022 10:17 | WG1954320 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 10:17 | WG1954320 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/06/2022 00:24 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| Benzene | 9.53 | | 0.0160 | 0.0400 | 1 | 11/06/2022 00:24 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/06/2022 00:24 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,1-Dichloroethane | 0.142 | | 0.0230 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,1-Dichloroethene | 0.152 | | 0.0200 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| cis-1,2-Dichloroethene | 72.7 | | 0.0276 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| trans-1,2-Dichloroethene | 1.28 | | 0.0572 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/06/2022 00:24 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/06/2022 00:24 | WG1955004 |
| Isopropylbenzene | 0.133 | | 0.0345 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/06/2022 00:24 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/06/2022 00:24 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/06/2022 00:24 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/06/2022 00:24 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| Toluene | 0.120 | J | 0.0500 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 00:24 | WG1955004 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| Vinyl chloride | 31.1 | | 0.0273 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/06/2022 00:24 | WG1955004 |
| Ethyl Ether | 0.219 | | 0.0170 | 0.100 | 1 | 11/06/2022 00:24 | WG1955004 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/06/2022 00:24 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/06/2022 00:24 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/06/2022 00:24 | WG1955004 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/06/2022 00:24* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/06/2022 00:24* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *99.3* | | | *70.0-130* | | *11/06/2022 00:24* | WG1955004 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 187000 | | 8450 | 20000 | 1 | 11/11/2022 14:22 | WG1957558 |

Sample Narrative:

L1552983-13 WG1957558: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 7610 | | 379 | 1000 | 1 | 11/05/2022 20:01 | WG1954904 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 19:18 | WG1953376 |
| Sulfate | 3260 | J | 594 | 5000 | 1 | 11/02/2022 19:18 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1490 | B | 102 | 1000 | 1 | 11/19/2022 13:58 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 203 | | 28.1 | 100 | 1 | 11/12/2022 16:34 | WG1957862 |
| Manganese | 533 | | 0.704 | 5.00 | 1 | 11/12/2022 16:34 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 81.5 | | 0.287 | 0.678 | 1 | 11/06/2022 10:24 | WG1954320 |
| Ethane | 4.98 | | 0.296 | 1.29 | 1 | 11/06/2022 10:24 | WG1954320 |
| Ethene | 2.39 | | 0.422 | 1.27 | 1 | 11/06/2022 10:24 | WG1954320 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/06/2022 00:43 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 00:43 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/06/2022 00:43 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| cis-1,2-Dichloroethene | 0.0810 | J | 0.0276 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/06/2022 00:43 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/06/2022 00:43 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/06/2022 00:43 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/06/2022 00:43 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/06/2022 00:43 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/06/2022 00:43 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 00:43 | WG1955004 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/06/2022 00:43 | WG1955004 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/06/2022 00:43 | WG1955004 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/06/2022 00:43 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/06/2022 00:43 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/06/2022 00:43 | WG1955004 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/06/2022 00:43* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/06/2022 00:43* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *100* | | | *70.0-130* | | *11/06/2022 00:43* | WG1955004 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 327000 | | 8450 | 20000 | 1 | 11/11/2022 14:29 | WG1957558 |

Sample Narrative:

L1552983-14 WG1957558: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 24800 | | 379 | 1000 | 1 | 11/02/2022 19:30 | WG1953376 |
| Nitrate | 55.5 | J | 48.0 | 100 | 1 | 11/02/2022 19:30 | WG1953376 |
| Sulfate | 15400 | | 594 | 5000 | 1 | 11/02/2022 19:30 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2670 | B | 102 | 1000 | 1 | 11/19/2022 15:03 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 2330 | | 28.1 | 100 | 1 | 11/12/2022 16:37 | WG1957862 |
| Manganese | 404 | | 0.704 | 5.00 | 1 | 11/12/2022 16:37 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 1660 | | 0.287 | 0.678 | 1 | 11/06/2022 10:27 | WG1954320 |
| Ethane | 2.72 | | 0.296 | 1.29 | 1 | 11/06/2022 10:27 | WG1954320 |
| Ethene | 2.87 | | 0.422 | 1.27 | 1 | 11/06/2022 10:27 | WG1954320 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/06/2022 01:02 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:02 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/06/2022 01:02 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| cis-1,2-Dichloroethene | 0.107 | | 0.0276 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/06/2022 01:02 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/06/2022 01:02 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/06/2022 01:02 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/06/2022 01:02 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/06/2022 01:02 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/06/2022 01:02 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| Toluene | 0.138 | J | 0.0500 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| Trichloroethene | 0.0940 | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:02 | WG1955004 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| Vinyl chloride | 0.250 | | 0.0273 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/06/2022 01:02 | WG1955004 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/06/2022 01:02 | WG1955004 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/06/2022 01:02 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/06/2022 01:02 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/06/2022 01:02 | WG1955004 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/06/2022 01:02* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *99.1* | | | *67.0-138* | | *11/06/2022 01:02* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *100* | | | *70.0-130* | | *11/06/2022 01:02* | WG1955004 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 339000 | | 8450 | 20000 | 1 | 11/11/2022 14:35 | WG1957558 |

Sample Narrative:

L1552983-15 WG1957558: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 25400 | | 379 | 1000 | 1 | 11/02/2022 19:43 | WG1953376 |
| Nitrate | 2800 | | 48.0 | 100 | 1 | 11/02/2022 19:43 | WG1953376 |
| Sulfate | 15700 | | 594 | 5000 | 1 | 11/02/2022 19:43 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2630 | B | 102 | 1000 | 1 | 11/19/2022 15:29 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 2480 | | 28.1 | 100 | 1 | 11/12/2022 16:41 | WG1957862 |
| Manganese | 398 | | 0.704 | 5.00 | 1 | 11/12/2022 16:41 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 1280 | | 0.287 | 0.678 | 1 | 11/06/2022 14:46 | WG1955151 |
| Ethane | 3.10 | | 0.296 | 1.29 | 1 | 11/06/2022 14:46 | WG1955151 |
| Ethene | 3.06 | | 0.422 | 1.27 | 1 | 11/06/2022 14:46 | WG1955151 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/06/2022 01:21 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:21 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/06/2022 01:21 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|---|
| | ug/l | | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | | 0.0400 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,2-Dichlorobenzene | U | | | 0.0580 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,3-Dichlorobenzene | U | | | 0.0680 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,4-Dichlorobenzene | U | | | 0.0788 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| Dichlorodifluoromethane | U | UJ | C3 | 0.0327 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,1-Dichloroethane | U | | | 0.0230 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,2-Dichloroethane | U | | | 0.0190 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,1-Dichloroethene | U | | | 0.0200 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| cis-1,2-Dichloroethene | 0.100 | | J | 0.0276 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| trans-1,2-Dichloroethene | U | | | 0.0572 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,2-Dichloropropane | U | | | 0.0508 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,1-Dichloropropene | U | | | 0.0280 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,3-Dichloropropane | U | | | 0.0700 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| cis-1,3-Dichloropropene | U | | | 0.0271 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| trans-1,3-Dichloropropene | U | | | 0.0612 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| 2,2-Dichloropropane | U | | | 0.0317 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| Di-isopropyl ether | U | | | 0.0140 | 0.0400 | 1 | 11/06/2022 01:21 | WG1955004 |
| Ethylbenzene | U | | | 0.0212 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | | 0.508 | 1.00 | 1 | 11/06/2022 01:21 | WG1955004 |
| Isopropylbenzene | U | | | 0.0345 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| p-Isopropyltoluene | U | | | 0.0932 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| 2-Butanone (MEK) | U | | | 0.500 | 1.00 | 1 | 11/06/2022 01:21 | WG1955004 |
| Methylene Chloride | U | | | 0.265 | 1.00 | 1 | 11/06/2022 01:21 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | | 0.400 | 1.00 | 1 | 11/06/2022 01:21 | WG1955004 |
| Methyl tert-butyl ether | U | | | 0.0118 | 0.0400 | 1 | 11/06/2022 01:21 | WG1955004 |
| Naphthalene | U | | | 0.124 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| n-Propylbenzene | U | | | 0.0472 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| Styrene | U | | | 0.109 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | | 0.0200 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | | 0.0156 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | | 0.0270 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| Tetrachloroethene | U | | | 0.0280 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| Toluene | 0.128 | | J | 0.0500 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | UJ | C4 | 0.0250 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | | 0.193 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,1,1-Trichloroethane | U | | | 0.0110 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,1,2-Trichloroethane | U | | | 0.0353 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| Trichloroethene | U | | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:21 | WG1955004 |
| Trichlorofluoromethane | U | | | 0.0200 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,2,3-Trichloropropane | U | | | 0.204 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | | 0.0464 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | | 0.0460 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | | 0.0432 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| Vinyl chloride | 0.274 | | | 0.0273 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| Xylenes, Total | U | | | 0.191 | 0.260 | 1 | 11/06/2022 01:21 | WG1955004 |
| Ethyl Ether | U | | | 0.0170 | 0.100 | 1 | 11/06/2022 01:21 | WG1955004 |
| Tetrahydrofuran | U | | | 0.0900 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| Iodomethane | U | | | 0.242 | 0.500 | 1 | 11/06/2022 01:21 | WG1955004 |
| Allyl chloride | U | | | 0.580 | 1.00 | 1 | 11/06/2022 01:21 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | | 0.0560 | 0.200 | 1 | 11/06/2022 01:21 | WG1955004 |
| *(S) Toluene-d8* | *108* | | | | *75.0-131* | | *11/06/2022 01:21* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *102* | | | | *67.0-138* | | *11/06/2022 01:21* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *99.0* | | | | *70.0-130* | | *11/06/2022 01:21* | WG1955004 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 482000 | | 8450 | 20000 | 1 | 11/11/2022 14:41 | WG1957558 |

Sample Narrative:

L1552983-16 WG1957558: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 17900 | | 379 | 1000 | 1 | 11/02/2022 19:56 | WG1953376 |
| Nitrate | 26400 | | 240 | 500 | 5 | 11/02/2022 20:09 | WG1953376 |
| Sulfate | 164000 | | 594 | 5000 | 1 | 11/02/2022 19:56 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1750 | B | 102 | 1000 | 1 | 11/19/2022 16:04 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1870 | | 28.1 | 100 | 1 | 11/12/2022 16:44 | WG1957862 |
| Manganese | 2290 | | 0.704 | 5.00 | 1 | 11/12/2022 16:44 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 934 | | 0.287 | 0.678 | 1 | 11/06/2022 14:50 | WG1955151 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/06/2022 14:50 | WG1955151 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 14:50 | WG1955151 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/06/2022 01:40 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:40 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/06/2022 01:40 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| cis-1,2-Dichloroethene | 9.77 | | 0.0276 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| trans-1,2-Dichloroethene | 0.144 | J | 0.0572 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/06/2022 01:40 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/06/2022 01:40 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/06/2022 01:40 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/06/2022 01:40 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/06/2022 01:40 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/06/2022 01:40 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| Toluene | 0.0900 | J | 0.0500 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:40 | WG1955004 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| Vinyl chloride | 0.580 | | 0.0273 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/06/2022 01:40 | WG1955004 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/06/2022 01:40 | WG1955004 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/06/2022 01:40 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/06/2022 01:40 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/06/2022 01:40 | WG1955004 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/06/2022 01:40* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *98.4* | | | *67.0-138* | | *11/06/2022 01:40* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *97.9* | | | *70.0-130* | | *11/06/2022 01:40* | WG1955004 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 210000 | | 8450 | 20000 | 1 | 11/11/2022 14:55 | WG1957558 |

Sample Narrative:

L1552983-17 WG1957558: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 17700 | | 379 | 1000 | 1 | 11/02/2022 20:47 | WG1953376 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 20:47 | WG1953376 |
| Sulfate | 270000 | | 2970 | 25000 | 5 | 11/05/2022 20:46 | WG1954904 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2020 | B | 102 | 1000 | 1 | 11/19/2022 16:35 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1260 | | 28.1 | 100 | 1 | 11/12/2022 16:47 | WG1957862 |
| Manganese | 660 | | 0.704 | 5.00 | 1 | 11/12/2022 16:47 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 848 | | 0.287 | 0.678 | 1 | 11/06/2022 14:56 | WG1955151 |
| Ethane | 7.60 | | 0.296 | 1.29 | 1 | 11/06/2022 14:56 | WG1955151 |
| Ethene | 3.90 | | 0.422 | 1.27 | 1 | 11/06/2022 14:56 | WG1955151 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/06/2022 01:59 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:59 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/06/2022 01:59 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|---|
| | ug/l | | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | | 0.0400 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,2-Dichlorobenzene | U | | | 0.0580 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,3-Dichlorobenzene | U | | | 0.0680 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,4-Dichlorobenzene | U | | | 0.0788 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| Dichlorodifluoromethane | U | UJ | C3 | 0.0327 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,1-Dichloroethane | U | | | 0.0230 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,2-Dichloroethane | U | | | 0.0190 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,1-Dichloroethene | 3.25 | | | 0.0200 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| cis-1,2-Dichloroethene | 576 | J | Q | 0.552 | 2.00 | 20 | 11/16/2022 15:26 | WG1960796 |
| trans-1,2-Dichloroethene | 2.77 | | | 0.0572 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,2-Dichloropropane | U | | | 0.0508 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,1-Dichloropropene | U | | | 0.0280 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,3-Dichloropropane | U | | | 0.0700 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| cis-1,3-Dichloropropene | U | | | 0.0271 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| trans-1,3-Dichloropropene | U | | | 0.0612 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| 2,2-Dichloropropane | U | | | 0.0317 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| Di-isopropyl ether | U | | | 0.0140 | 0.0400 | 1 | 11/06/2022 01:59 | WG1955004 |
| Ethylbenzene | U | | | 0.0212 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | | 0.508 | 1.00 | 1 | 11/06/2022 01:59 | WG1955004 |
| Isopropylbenzene | U | | | 0.0345 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| p-Isopropyltoluene | U | | | 0.0932 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| 2-Butanone (MEK) | U | | | 0.500 | 1.00 | 1 | 11/06/2022 01:59 | WG1955004 |
| Methylene Chloride | U | | | 0.265 | 1.00 | 1 | 11/06/2022 01:59 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | | 0.400 | 1.00 | 1 | 11/06/2022 01:59 | WG1955004 |
| Methyl tert-butyl ether | U | | | 0.0118 | 0.0400 | 1 | 11/06/2022 01:59 | WG1955004 |
| Naphthalene | U | | | 0.124 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| n-Propylbenzene | U | | | 0.0472 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| Styrene | U | | | 0.109 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | | 0.0200 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | | 0.0156 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | | 0.0270 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| Tetrachloroethene | 2.85 | | | 0.0280 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| Toluene | 0.198 | | J | 0.0500 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | UJ | C4 | 0.0250 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | | 0.193 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,1,1-Trichloroethane | U | | | 0.0110 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,1,2-Trichloroethane | U | | | 0.0353 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| Trichloroethene | 44.7 | | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:59 | WG1955004 |
| Trichlorofluoromethane | U | | | 0.0200 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,2,3-Trichloropropane | U | | | 0.204 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | | 0.0464 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | | 0.0460 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | | 0.0432 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| Vinyl chloride | 32.0 | | | 0.0273 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| Xylenes, Total | U | | | 0.191 | 0.260 | 1 | 11/06/2022 01:59 | WG1955004 |
| Ethyl Ether | U | | | 0.0170 | 0.100 | 1 | 11/06/2022 01:59 | WG1955004 |
| Tetrahydrofuran | 0.347 | | J | 0.0900 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| Iodomethane | U | | | 0.242 | 0.500 | 1 | 11/06/2022 01:59 | WG1955004 |
| Allyl chloride | U | | | 0.580 | 1.00 | 1 | 11/06/2022 01:59 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | | 0.0560 | 0.200 | 1 | 11/06/2022 01:59 | WG1955004 |
| *(S) Toluene-d8* | *106* | | | | *75.0-131* | | *11/06/2022 01:59* | WG1955004 |
| *(S) Toluene-d8* | *107* | | | | *75.0-131* | | *11/16/2022 15:26* | WG1960796 |
| *(S) 4-Bromofluorobenzene* | *97.8* | | | | *67.0-138* | | *11/06/2022 01:59* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *97.6* | | | | *67.0-138* | | *11/16/2022 15:26* | WG1960796 |
| *(S) 1,2-Dichloroethane-d4* | *103* | | | | *70.0-130* | | *11/06/2022 01:59* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *93.8* | | | | *70.0-130* | | *11/16/2022 15:26* | WG1960796 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 356000 | | 8450 | 20000 | 1 | 11/11/2022 15:00 | WG1957558 |

Sample Narrative:

L1552983-18 WG1957558: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 14100 | | 379 | 1000 | 1 | 11/02/2022 20:59 | WG1953376 |
| Nitrate | 142 | | 48.0 | 100 | 1 | 11/02/2022 20:59 | WG1953376 |
| Sulfate | 75000 | | 594 | 5000 | 1 | 11/02/2022 20:59 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2480 | ~~B~~ | 102 | 1000 | 1 | 11/19/2022 17:00 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 161 | | 28.1 | 100 | 1 | 11/12/2022 16:50 | WG1957862 |
| Manganese | 2830 | | 0.704 | 5.00 | 1 | 11/12/2022 16:50 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 6950 | | 2.87 | 6.78 | 10 | 11/07/2022 09:31 | WG1955208 |
| Ethane | 8.24 | | 0.296 | 1.29 | 1 | 11/06/2022 15:03 | WG1955151 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 15:03 | WG1955151 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/06/2022 01:18 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| Benzene | 0.0970 | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:18 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/06/2022 01:18 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|---|
| | ug/l | | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | | 0.0400 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,2-Dichlorobenzene | U | | | 0.0580 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,3-Dichlorobenzene | U | | | 0.0680 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,4-Dichlorobenzene | U | | | 0.0788 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| Dichlorodifluoromethane | U | UJ | C3 | 0.0327 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,1-Dichloroethane | U | | | 0.0230 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,2-Dichloroethane | U | | | 0.0190 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,1-Dichloroethene | 2.42 | | | 0.0200 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| cis-1,2-Dichloroethene | 359 | J | Q | 0.552 | 2.00 | 20 | 11/16/2022 15:46 | WG1960796 |
| trans-1,2-Dichloroethene | 2.28 | | | 0.0572 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,2-Dichloropropane | U | | | 0.0508 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,1-Dichloropropene | U | | | 0.0280 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,3-Dichloropropane | U | | | 0.0700 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| cis-1,3-Dichloropropene | U | | | 0.0271 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| trans-1,3-Dichloropropene | U | | | 0.0612 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| 2,2-Dichloropropane | U | | | 0.0317 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| Di-isopropyl ether | U | | | 0.0140 | 0.0400 | 1 | 11/06/2022 01:18 | WG1955004 |
| Ethylbenzene | U | | | 0.0212 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | | 0.508 | 1.00 | 1 | 11/06/2022 01:18 | WG1955004 |
| Isopropylbenzene | U | | | 0.0345 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| p-Isopropyltoluene | U | | | 0.0932 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| 2-Butanone (MEK) | U | | | 0.500 | 1.00 | 1 | 11/06/2022 01:18 | WG1955004 |
| Methylene Chloride | U | | | 0.265 | 1.00 | 1 | 11/06/2022 01:18 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | | 0.400 | 1.00 | 1 | 11/06/2022 01:18 | WG1955004 |
| Methyl tert-butyl ether | U | | | 0.0118 | 0.0400 | 1 | 11/06/2022 01:18 | WG1955004 |
| Naphthalene | U | | | 0.124 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| n-Propylbenzene | U | | | 0.0472 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| Styrene | U | | | 0.109 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | | 0.0200 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | | 0.0156 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | | 0.0270 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| Tetrachloroethene | 513 | J | Q | 0.560 | 2.00 | 20 | 11/16/2022 15:46 | WG1960796 |
| Toluene | 0.121 | | J | 0.0500 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | UJ | C4 | 0.0250 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | | 0.193 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,1,1-Trichloroethane | U | | | 0.0110 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,1,2-Trichloroethane | U | | | 0.0353 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| Trichloroethene | 248 | J | Q | 0.320 | 0.800 | 20 | 11/16/2022 15:46 | WG1960796 |
| Trichlorofluoromethane | U | | | 0.0200 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,2,3-Trichloropropane | U | | | 0.204 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | | 0.0464 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | | 0.0460 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | | 0.0432 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| Vinyl chloride | 0.344 | | | 0.0273 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| Xylenes, Total | U | | | 0.191 | 0.260 | 1 | 11/06/2022 01:18 | WG1955004 |
| Ethyl Ether | U | | | 0.0170 | 0.100 | 1 | 11/06/2022 01:18 | WG1955004 |
| Tetrahydrofuran | 0.533 | | | 0.0900 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| Iodomethane | U | | | 0.242 | 0.500 | 1 | 11/06/2022 01:18 | WG1955004 |
| Allyl chloride | U | | | 0.580 | 1.00 | 1 | 11/06/2022 01:18 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | | 0.0560 | 0.200 | 1 | 11/06/2022 01:18 | WG1955004 |
| *(S) Toluene-d8* | *106* | | | | *75.0-131* | | *11/06/2022 01:18* | WG1955004 |
| *(S) Toluene-d8* | *105* | | | | *75.0-131* | | *11/16/2022 15:46* | WG1960796 |
| *(S) 4-Bromofluorobenzene* | *98.6* | | | | *67.0-138* | | *11/06/2022 01:18* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *100* | | | | *67.0-138* | | *11/16/2022 15:46* | WG1960796 |
| *(S) 1,2-Dichloroethane-d4* | *97.4* | | | | *70.0-130* | | *11/06/2022 01:18* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *96.0* | | | | *70.0-130* | | *11/16/2022 15:46* | WG1960796 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 198000 | | 8450 | 20000 | 1 | 11/11/2022 15:05 | WG1957558 |

Sample Narrative:

L1552983-19 WG1957558: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 10300 | | 379 | 1000 | 1 | 11/05/2022 21:01 | WG1954904 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 21:12 | WG1953376 |
| Sulfate | 1360 | J | 594 | 5000 | 1 | 11/02/2022 21:12 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2490 | B | 102 | 1000 | 1 | 11/19/2022 18:21 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1550 | | 28.1 | 100 | 1 | 11/12/2022 16:54 | WG1957862 |
| Manganese | 1640 | | 0.704 | 5.00 | 1 | 11/12/2022 16:54 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 212 | | 0.287 | 0.678 | 1 | 11/06/2022 15:06 | WG1955151 |
| Ethane | 1.39 | | 0.296 | 1.29 | 1 | 11/06/2022 15:06 | WG1955151 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/06/2022 15:06 | WG1955151 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/06/2022 01:37 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:37 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/06/2022 01:37 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| cis-1,2-Dichloroethene | 18.3 | J Q | 0.0276 | 0.100 | 1 | 11/16/2022 15:07 | WG1960796 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/06/2022 01:37 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/06/2022 01:37 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/06/2022 01:37 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/06/2022 01:37 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/06/2022 01:37 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/06/2022 01:37 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| Tetrachloroethene | 0.0650 | J J Q | 0.0280 | 0.100 | 1 | 11/16/2022 15:07 | WG1960796 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| Trichloroethene | U | UJ Q | 0.0160 | 0.0400 | 1 | 11/16/2022 15:07 | WG1960796 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| Vinyl chloride | 0.103 | | 0.0273 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/06/2022 01:37 | WG1955004 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/06/2022 01:37 | WG1955004 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/06/2022 01:37 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/06/2022 01:37 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/06/2022 01:37 | WG1955004 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/06/2022 01:37* | WG1955004 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/16/2022 15:07* | WG1960796 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/06/2022 01:37* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *99.6* | | | *67.0-138* | | *11/16/2022 15:07* | WG1960796 |
| *(S) 1,2-Dichloroethane-d4* | *99.5* | | | *70.0-130* | | *11/06/2022 01:37* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *95.6* | | | *70.0-130* | | *11/16/2022 15:07* | WG1960796 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 502000 | | 8450 | 20000 | 1 | 11/11/2022 15:10 | WG1957558 |

Sample Narrative:

L1552983-20 WG1957558: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 18800 | | 379 | 1000 | 1 | 11/02/2022 21:25 | WG1953376 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 21:25 | WG1953376 |
| Sulfate | U | | 594 | 5000 | 1 | 11/02/2022 21:25 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4070 | B | 102 | 1000 | 1 | 11/19/2022 19:38 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 12100 | | 28.1 | 100 | 1 | 11/12/2022 16:57 | WG1957862 |
| Manganese | 570 | | 0.704 | 5.00 | 1 | 11/12/2022 16:57 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 12900 | | 2.87 | 6.78 | 10 | 11/07/2022 14:39 | WG1955668 |
| Ethane | 13.4 | | 0.296 | 1.29 | 1 | 11/07/2022 09:38 | WG1955208 |
| Ethene | 33.9 | | 0.422 | 1.27 | 1 | 11/07/2022 09:38 | WG1955208 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/06/2022 01:56 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| Benzene | 4.47 | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:56 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/06/2022 01:56 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| Dichlorodifluoromethane | U UJ | C3 | 0.0327 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| cis-1,2-Dichloroethene | 0.181 J | Q | 0.0276 | 0.100 | 1 | 11/16/2022 14:48 | WG1960796 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| Di-isopropyl ether | 0.0980 | | 0.0140 | 0.0400 | 1 | 11/06/2022 01:56 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/06/2022 01:56 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/06/2022 01:56 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/06/2022 01:56 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/06/2022 01:56 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/06/2022 01:56 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| Tetrachloroethene | 0.0980 J | J Q | 0.0280 | 0.100 | 1 | 11/16/2022 14:48 | WG1960796 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,2,3-Trichlorobenzene | U UJ | C4 | 0.0250 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 01:56 | WG1955004 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| Vinyl chloride | 8.19 | | 0.0273 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/06/2022 01:56 | WG1955004 |
| Ethyl Ether | 0.0960 | J | 0.0170 | 0.100 | 1 | 11/06/2022 01:56 | WG1955004 |
| Tetrahydrofuran | 0.153 | J | 0.0900 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/06/2022 01:56 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/06/2022 01:56 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/06/2022 01:56 | WG1955004 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/06/2022 01:56* | WG1955004 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *11/16/2022 14:48* | WG1960796 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/06/2022 01:56* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/16/2022 14:48* | WG1960796 |
| *(S) 1,2-Dichloroethane-d4* | *99.6* | | | *70.0-130* | | *11/06/2022 01:56* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *96.9* | | | *70.0-130* | | *11/16/2022 14:48* | WG1960796 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 343000 | | 8450 | 20000 | 1 | 11/13/2022 07:00 | WG1957561 |

Sample Narrative:

L1552983-21 WG1957561: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 25000 | | 379 | 1000 | 1 | 11/02/2022 21:38 | WG1953376 |
| Nitrate | 65.6 | J | 48.0 | 100 | 1 | 11/02/2022 21:38 | WG1953376 |
| Sulfate | 10300 | | 594 | 5000 | 1 | 11/02/2022 21:38 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2700 | ~~B~~ | 102 | 1000 | 1 | 11/19/2022 20:54 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1290 | | 28.1 | 100 | 1 | 11/12/2022 17:07 | WG1957862 |
| Manganese | 2770 | | 0.704 | 5.00 | 1 | 11/12/2022 17:07 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 186 | | 0.287 | 0.678 | 1 | 11/07/2022 09:42 | WG1955208 |
| Ethane | 1.37 | | 0.296 | 1.29 | 1 | 11/07/2022 09:42 | WG1955208 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/07/2022 09:42 | WG1955208 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/06/2022 09:18 | WG1955004 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 09:18 | WG1955004 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/06/2022 09:18 | WG1955004 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| cis-1,2-Dichloroethene | 9.81 | | 0.0276 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| Di-isopropyl ether | 0.121 | | 0.0140 | 0.0400 | 1 | 11/06/2022 09:18 | WG1955004 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/06/2022 09:18 | WG1955004 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/06/2022 09:18 | WG1955004 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/06/2022 09:18 | WG1955004 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/06/2022 09:18 | WG1955004 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/06/2022 09:18 | WG1955004 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| Tetrachloroethene | 0.146 | | 0.0280 | 0.100 | 1 | 11/11/2022 15:39 | WG1957616 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/06/2022 09:18 | WG1955004 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/06/2022 09:18 | WG1955004 |
| Ethyl Ether | 0.108 | | 0.0170 | 0.100 | 1 | 11/06/2022 09:18 | WG1955004 |
| Tetrahydrofuran | 0.274 | J | 0.0900 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/06/2022 09:18 | WG1955004 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/06/2022 09:18 | WG1955004 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/06/2022 09:18 | WG1955004 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/06/2022 09:18* | WG1955004 |
| *(S) Toluene-d8* | *114* | | | *75.0-131* | | *11/11/2022 15:39* | WG1957616 |
| *(S) 4-Bromofluorobenzene* | *99.9* | | | *67.0-138* | | *11/06/2022 09:18* | WG1955004 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/11/2022 15:39* | WG1957616 |
| *(S) 1,2-Dichloroethane-d4* | *95.4* | | | *70.0-130* | | *11/06/2022 09:18* | WG1955004 |
| *(S) 1,2-Dichloroethane-d4* | *105* | | | *70.0-130* | | *11/11/2022 15:39* | WG1957616 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 302000 | | 8450 | 20000 | 1 | 11/13/2022 07:13 | WG1957561 |

Sample Narrative:

L1552983-22 WG1957561: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 18400 | | 379 | 1000 | 1 | 11/02/2022 21:50 | WG1953376 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 21:50 | WG1953376 |
| Sulfate | U | | 594 | 5000 | 1 | 11/02/2022 21:50 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2610 | B | 102 | 1000 | 1 | 11/19/2022 21:29 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 4870 | | 28.1 | 100 | 1 | 11/12/2022 15:55 | WG1957862 |
| Manganese | 436 | | 0.704 | 5.00 | 1 | 11/12/2022 15:55 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 12000 | | 2.87 | 6.78 | 10 | 11/07/2022 14:43 | WG1955668 |
| Ethane | 6.62 | | 0.296 | 1.29 | 1 | 11/07/2022 09:45 | WG1955208 |
| Ethene | 18.0 | | 0.422 | 1.27 | 1 | 11/07/2022 09:45 | WG1955208 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/08/2022 23:01 | WG1956115 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| Benzene | 0.980 | | 0.0160 | 0.0400 | 1 | 11/08/2022 23:01 | WG1956115 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/08/2022 23:01 | WG1956115 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| Chloroethane | U | J3 | 0.0432 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| Chloromethane | U | UJ C3 | 0.0556 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| 2-Chlorotoluene | U | J3 | 0.0368 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| Dichlorodifluoromethane | U | ~~C3~~ | 0.0327 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| cis-1,2-Dichloroethene | 4.60 | | 0.0276 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| trans-1,2-Dichloroethene | 0.0930 | J | 0.0572 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/08/2022 23:01 | WG1956115 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/08/2022 23:01 | WG1956115 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/08/2022 23:01 | WG1956115 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/08/2022 23:01 | WG1956115 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/08/2022 23:01 | WG1956115 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/08/2022 23:01 | WG1956115 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/08/2022 23:01 | WG1956115 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| Vinyl chloride | 8.88 | | 0.0273 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/08/2022 23:01 | WG1956115 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/08/2022 23:01 | WG1956115 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/08/2022 23:01 | WG1956115 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/08/2022 23:01 | WG1956115 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/08/2022 23:01 | WG1956115 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/08/2022 23:01* | WG1956115 |
| *(S) 4-Bromofluorobenzene* | *106* | | | *67.0-138* | | *11/08/2022 23:01* | WG1956115 |
| *(S) 1,2-Dichloroethane-d4* | *95.1* | | | *70.0-130* | | *11/08/2022 23:01* | WG1956115 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 388000 | | 8450 | 20000 | 1 | 11/13/2022 07:19 | WG1957561 |

Sample Narrative:
L1552983-23 WG1957561: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 32100 | | 379 | 1000 | 1 | 11/02/2022 22:03 | WG1953376 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 22:03 | WG1953376 |
| Sulfate | U | | 594 | 5000 | 1 | 11/02/2022 22:03 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2940 | B | 102 | 1000 | 1 | 11/19/2022 21:55 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 5820 | | 28.1 | 100 | 1 | 11/12/2022 17:10 | WG1957862 |
| Manganese | 2110 | | 0.704 | 5.00 | 1 | 11/12/2022 17:10 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 2130 | | 0.287 | 0.678 | 1 | 11/07/2022 09:48 | WG1955208 |
| Ethane | 4.33 | | 0.296 | 1.29 | 1 | 11/07/2022 09:48 | WG1955208 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/07/2022 09:48 | WG1955208 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/08/2022 23:20 | WG1956115 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| Benzene | 0.119 | | 0.0160 | 0.0400 | 1 | 11/08/2022 23:20 | WG1956115 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/08/2022 23:20 | WG1956115 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| Chloroethane | U | J3 | 0.0432 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| Chloromethane | U | UJ C3 | 0.0556 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| 2-Chlorotoluene | U | J3 | 0.0368 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| cis-1,2-Dichloroethene | 2.90 | | 0.0276 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/08/2022 23:20 | WG1956115 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/08/2022 23:20 | WG1956115 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/08/2022 23:20 | WG1956115 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/08/2022 23:20 | WG1956115 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/08/2022 23:20 | WG1956115 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/08/2022 23:20 | WG1956115 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/08/2022 23:20 | WG1956115 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| Vinyl chloride | 4.58 | | 0.0273 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/08/2022 23:20 | WG1956115 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/08/2022 23:20 | WG1956115 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/08/2022 23:20 | WG1956115 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/08/2022 23:20 | WG1956115 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/08/2022 23:20 | WG1956115 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/08/2022 23:20* | WG1956115 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/08/2022 23:20* | WG1956115 |
| *(S) 1,2-Dichloroethane-d4* | *96.8* | | | *70.0-130* | | *11/08/2022 23:20* | WG1956115 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 499000 | | 8450 | 20000 | 1 | 11/13/2022 07:24 | WG1957561 |

Sample Narrative:
L1552983-24 WG1957561: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 48300 | | 379 | 1000 | 1 | 11/02/2022 22:16 | WG1953376 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 22:16 | WG1953376 |
| Sulfate | 18900 | | 594 | 5000 | 1 | 11/02/2022 22:16 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 3830 | ~~B~~ | 102 | 1000 | 1 | 11/19/2022 23:20 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 4010 | | 28.1 | 100 | 1 | 11/12/2022 17:13 | WG1957862 |
| Manganese | 2210 | | 0.704 | 5.00 | 1 | 11/12/2022 17:13 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 404 | | 0.287 | 0.678 | 1 | 11/07/2022 09:51 | WG1955208 |
| Ethane | 21.4 | | 0.296 | 1.29 | 1 | 11/07/2022 09:51 | WG1955208 |
| Ethene | 2.58 | | 0.422 | 1.27 | 1 | 11/07/2022 09:51 | WG1955208 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/08/2022 23:40 | WG1956115 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| Benzene | 0.176 | | 0.0160 | 0.0400 | 1 | 11/08/2022 23:40 | WG1956115 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/08/2022 23:40 | WG1956115 |
| Bromomethane | U | ~~J3~~ | 0.148 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| Chloroethane | U | ~~J3~~ | 0.0432 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| Chloromethane | U | UJ C3 | 0.0556 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| 2-Chlorotoluene | U | ~~J3~~ | 0.0368 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|---|
| | ug/l | | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | | 0.0400 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,2-Dichlorobenzene | U | | | 0.0580 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,3-Dichlorobenzene | U | | | 0.0680 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,4-Dichlorobenzene | U | | | 0.0788 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| Dichlorodifluoromethane | U | UJ | C3 | 0.0327 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,1-Dichloroethane | U | | | 0.0230 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,2-Dichloroethane | U | | | 0.0190 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,1-Dichloroethene | U | | | 0.0200 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| cis-1,2-Dichloroethene | 8.51 | | | 0.0276 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| trans-1,2-Dichloroethene | U | | | 0.0572 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,2-Dichloropropane | U | | | 0.0508 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,1-Dichloropropene | U | | | 0.0280 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,3-Dichloropropane | U | | | 0.0700 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| cis-1,3-Dichloropropene | U | | | 0.0271 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| trans-1,3-Dichloropropene | U | | | 0.0612 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| 2,2-Dichloropropane | U | | | 0.0317 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| Di-isopropyl ether | U | | | 0.0140 | 0.0400 | 1 | 11/08/2022 23:40 | WG1956115 |
| Ethylbenzene | U | | | 0.0212 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| Hexachloro-1,3-butadiene | U | | | 0.508 | 1.00 | 1 | 11/08/2022 23:40 | WG1956115 |
| Isopropylbenzene | U | | | 0.0345 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| p-Isopropyltoluene | U | | | 0.0932 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| 2-Butanone (MEK) | U | | | 0.500 | 1.00 | 1 | 11/08/2022 23:40 | WG1956115 |
| Methylene Chloride | U | | | 0.265 | 1.00 | 1 | 11/08/2022 23:40 | WG1956115 |
| 4-Methyl-2-pentanone (MIBK) | U | | | 0.400 | 1.00 | 1 | 11/08/2022 23:40 | WG1956115 |
| Methyl tert-butyl ether | U | | | 0.0118 | 0.0400 | 1 | 11/08/2022 23:40 | WG1956115 |
| Naphthalene | U | | | 0.124 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| n-Propylbenzene | U | | | 0.0472 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| Styrene | U | | | 0.109 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,1,1,2-Tetrachloroethane | U | | | 0.0200 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,1,2,2-Tetrachloroethane | U | | | 0.0156 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,1,2-Trichlorotrifluoroethane | U | | | 0.0270 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| Tetrachloroethene | U | | | 0.0280 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| Toluene | U | | | 0.0500 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,2,3-Trichlorobenzene | U | UJ | C4 | 0.0250 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,2,4-Trichlorobenzene | U | UJ | C4 | 0.193 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,1,1-Trichloroethane | U | | | 0.0110 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,1,2-Trichloroethane | U | | | 0.0353 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| Trichloroethene | U | | | 0.0160 | 0.0400 | 1 | 11/08/2022 23:40 | WG1956115 |
| Trichlorofluoromethane | U | | | 0.0200 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,2,3-Trichloropropane | U | | | 0.204 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,2,4-Trimethylbenzene | U | | | 0.0464 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,2,3-Trimethylbenzene | U | | | 0.0460 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| 1,3,5-Trimethylbenzene | U | | | 0.0432 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| Vinyl chloride | 23.6 | | | 0.0273 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| Xylenes, Total | U | | | 0.191 | 0.260 | 1 | 11/08/2022 23:40 | WG1956115 |
| Ethyl Ether | 0.0940 | | J | 0.0170 | 0.100 | 1 | 11/08/2022 23:40 | WG1956115 |
| Tetrahydrofuran | U | | | 0.0900 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| Iodomethane | U | | | 0.242 | 0.500 | 1 | 11/08/2022 23:40 | WG1956115 |
| Allyl chloride | U | | | 0.580 | 1.00 | 1 | 11/08/2022 23:40 | WG1956115 |
| Trans-1,4-Dichloro-2-butene | U | | | 0.0560 | 0.200 | 1 | 11/08/2022 23:40 | WG1956115 |
| *(S) Toluene-d8* | *108* | | | | *75.0-131* | | *11/08/2022 23:40* | WG1956115 |
| *(S) 4-Bromofluorobenzene* | *104* | | | | *67.0-138* | | *11/08/2022 23:40* | WG1956115 |
| *(S) 1,2-Dichloroethane-d4* | *93.8* | | | | *70.0-130* | | *11/08/2022 23:40* | WG1956115 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 480000 | | 8450 | 20000 | 1 | 11/13/2022 07:29 | WG1957561 |

Sample Narrative:

L1552983-25 WG1957561: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 18200 | | 379 | 1000 | 1 | 11/02/2022 22:29 | WG1953376 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/02/2022 22:29 | WG1953376 |
| Sulfate | U | | 594 | 5000 | 1 | 11/02/2022 22:29 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 3940 | ~~B~~ | 102 | 1000 | 1 | 11/19/2022 23:45 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 10000 | | 28.1 | 100 | 1 | 11/12/2022 17:17 | WG1957862 |
| Manganese | 333 | | 0.704 | 5.00 | 1 | 11/12/2022 17:17 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 13300 | | 2.87 | 6.78 | 10 | 11/07/2022 14:46 | WG1955668 |
| Ethane | 10.9 | | 0.296 | 1.29 | 1 | 11/07/2022 09:54 | WG1955208 |
| Ethene | 32.8 | | 0.422 | 1.27 | 1 | 11/07/2022 09:54 | WG1955208 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/08/2022 23:59 | WG1956115 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| Benzene | 11.9 | | 0.0160 | 0.0400 | 1 | 11/08/2022 23:59 | WG1956115 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/08/2022 23:59 | WG1956115 |
| Bromomethane | U | ~~J3~~ | 0.148 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| Chloroethane | U | ~~J3~~ | 0.0432 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| Chloromethane | U | UJ C3 | 0.0556 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| 2-Chlorotoluene | U | ~~J3~~ | 0.0368 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| cis-1,2-Dichloroethene | 0.222 | | 0.0276 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| Di-isopropyl ether | 0.103 | | 0.0140 | 0.0400 | 1 | 11/08/2022 23:59 | WG1956115 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/08/2022 23:59 | WG1956115 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/08/2022 23:59 | WG1956115 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/08/2022 23:59 | WG1956115 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/08/2022 23:59 | WG1956115 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/08/2022 23:59 | WG1956115 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/08/2022 23:59 | WG1956115 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| Vinyl chloride | 2.99 | | 0.0273 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/08/2022 23:59 | WG1956115 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/08/2022 23:59 | WG1956115 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/08/2022 23:59 | WG1956115 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/08/2022 23:59 | WG1956115 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/08/2022 23:59 | WG1956115 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/08/2022 23:59* | WG1956115 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/08/2022 23:59* | WG1956115 |
| *(S) 1,2-Dichloroethane-d4* | *94.9* | | | *70.0-130* | | *11/08/2022 23:59* | WG1956115 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 330000 | | 8450 | 20000 | 1 | 11/13/2022 07:35 | WG1957561 |

Sample Narrative:

L1552983-26 WG1957561: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 36100 | | 379 | 1000 | 1 | 11/02/2022 23:07 | WG1953376 |
| Nitrate | 86.8 | J | 48.0 | 100 | 1 | 11/02/2022 23:07 | WG1953376 |
| Sulfate | 40300 | | 594 | 5000 | 1 | 11/02/2022 23:07 | WG1953376 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 12000 | | 102 | 1000 | 1 | 11/20/2022 00:11 | WG1960009 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 12900 | | 28.1 | 100 | 1 | 11/12/2022 17:20 | WG1957862 |
| Manganese | 3480 | | 0.704 | 5.00 | 1 | 11/12/2022 17:20 | WG1957862 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 3200 | | 0.287 | 0.678 | 1 | 11/07/2022 09:57 | WG1955208 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/07/2022 09:57 | WG1955208 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/07/2022 09:57 | WG1955208 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 10.4 | | 2.74 | 5.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Acrylonitrile | U | | 0.380 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| Benzene | U | | 0.0800 | 0.200 | 5 | 11/09/2022 05:07 | WG1956115 |
| Bromobenzene | U | | 0.210 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| Bromodichloromethane | U | | 0.158 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| Bromoform | U | | 1.20 | 5.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Bromomethane | U | J3 | 0.740 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| n-Butylbenzene | U | | 0.765 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| sec-Butylbenzene | U | | 0.505 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| tert-Butylbenzene | U | | 0.310 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Carbon tetrachloride | U | | 0.216 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Chlorobenzene | U | | 0.115 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| Chlorodibromomethane | U | | 0.0900 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| Chloroethane | U | J3 | 0.216 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Chloroform | U | | 0.0830 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| Chloromethane | U | UJ C3 | 0.278 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| 2-Chlorotoluene | U | J3 | 0.184 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| 4-Chlorotoluene | U | | 0.226 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,2-Dibromo-3-Chloropropane | U | | 1.02 | 5.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,2-Dibromoethane | U | | 0.105 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.200 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,2-Dichlorobenzene | U | | 0.290 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,3-Dichlorobenzene | U | | 0.340 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,4-Dichlorobenzene | U | | 0.394 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Dichlorodifluoromethane | U | UJ C3 | 0.164 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,1-Dichloroethane | U | | 0.115 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,2-Dichloroethane | U | | 0.0950 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,1-Dichloroethene | U | | 0.100 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| cis-1,2-Dichloroethene | U | | 0.138 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| trans-1,2-Dichloroethene | U | | 0.286 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,2-Dichloropropane | U | | 0.254 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,1-Dichloropropene | U | | 0.140 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,3-Dichloropropane | U | | 0.350 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| cis-1,3-Dichloropropene | U | | 0.136 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| trans-1,3-Dichloropropene | U | | 0.306 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 2,2-Dichloropropane | U | | 0.159 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| Di-isopropyl ether | U | | 0.0700 | 0.200 | 5 | 11/09/2022 05:07 | WG1956115 |
| Ethylbenzene | U | | 0.106 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| Hexachloro-1,3-butadiene | U | | 2.54 | 5.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Isopropylbenzene | U | | 0.173 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| p-Isopropyltoluene | U | | 0.466 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 2-Butanone (MEK) | U | | 2.50 | 5.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Methylene Chloride | U | | 1.33 | 5.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 4-Methyl-2-pentanone (MIBK) | U | | 2.00 | 5.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Methyl tert-butyl ether | U | | 0.0590 | 0.200 | 5 | 11/09/2022 05:07 | WG1956115 |
| Naphthalene | U | | 0.620 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| n-Propylbenzene | U | | 0.236 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Styrene | U | | 0.545 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,1,1,2-Tetrachloroethane | U | | 0.100 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0780 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.135 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| Tetrachloroethene | U | | 0.140 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| Toluene | U | | 0.250 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.125 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.965 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,1,1-Trichloroethane | U | | 0.0550 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,1,2-Trichloroethane | U | | 0.177 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| Trichloroethene | U | | 0.0800 | 0.200 | 5 | 11/09/2022 05:07 | WG1956115 |
| Trichlorofluoromethane | U | | 0.100 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,2,3-Trichloropropane | U | | 1.02 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,2,4-Trimethylbenzene | U | | 0.232 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,2,3-Trimethylbenzene | U | | 0.230 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| 1,3,5-Trimethylbenzene | U | | 0.216 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Vinyl chloride | U | | 0.137 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| Xylenes, Total | U | | 0.955 | 1.30 | 5 | 11/09/2022 05:07 | WG1956115 |
| Ethyl Ether | U | | 0.0850 | 0.500 | 5 | 11/09/2022 05:07 | WG1956115 |
| Tetrahydrofuran | U | | 0.450 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| Iodomethane | U | | 1.21 | 2.50 | 5 | 11/09/2022 05:07 | WG1956115 |
| Allyl chloride | U | | 2.90 | 5.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| Trans-1,4-Dichloro-2-butene | U | | 0.280 | 1.00 | 5 | 11/09/2022 05:07 | WG1956115 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/09/2022 05:07* | WG1956115 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/09/2022 05:07* | WG1956115 |
| *(S) 1,2-Dichloroethane-d4* | *94.9* | | | *70.0-130* | | *11/09/2022 05:07* | WG1956115 |

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 193000 | | 8450 | 20000 | 1 | 11/13/2022 12:00 | WG1958273 |

Sample Narrative:

L1553859-01 WG1958273: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 8980 | | 379 | 1000 | 1 | 11/04/2022 14:09 | WG1954319 |
| Nitrate | 362 | | 48.0 | 100 | 1 | 11/04/2022 14:09 | WG1954319 |
| Sulfate | 25000 | | 594 | 5000 | 1 | 11/04/2022 14:09 | WG1954319 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 931 U | ~~B J~~ | 102 | 1000 | 1 | 11/20/2022 00:16 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1230 | | 28.1 | 100 | 1 | 11/16/2022 15:33 | WG1959228 |
| Manganese | 160 | | 0.704 | 5.00 | 1 | 11/16/2022 15:33 | WG1959228 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 36.2 | | 0.287 | 0.678 | 1 | 11/09/2022 09:43 | WG1956350 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 09:43 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 09:43 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 15:41 | WG1956117 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 15:41 | WG1956117 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 15:41 | WG1956117 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 15:41 | WG1956117 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 15:41 | WG1956117 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 15:41 | WG1956117 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 15:41 | WG1956117 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 15:41 | WG1956117 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 15:41 | WG1956117 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| Toluene | 0.0830 | J | 0.0500 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 15:41 | WG1956117 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 15:41 | WG1956117 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 15:41 | WG1956117 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 15:41 | WG1956117 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 15:41 | WG1956117 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/09/2022 15:41 | WG1956117 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/09/2022 15:41* | WG1956117 |
| *(S) 4-Bromofluorobenzene* | *98.3* | | | *67.0-138* | | *11/09/2022 15:41* | WG1956117 |
| *(S) 1,2-Dichloroethane-d4* | *97.3* | | | *70.0-130* | | *11/09/2022 15:41* | WG1956117 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 119000 | | 8450 | 20000 | 1 | 11/13/2022 12:08 | WG1958273 |

Sample Narrative:

L1553859-02 WG1958273: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 5990 | | 379 | 1000 | 1 | 11/04/2022 12:54 | WG1954319 |
| Nitrate | 373 | | 48.0 | 100 | 1 | 11/04/2022 12:54 | WG1954319 |
| Sulfate | 32400 | | 594 | 5000 | 1 | 11/04/2022 12:54 | WG1954319 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 643 U | ~~B J~~ | 102 | 1000 | 1 | 11/20/2022 00:30 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 909 | | 28.1 | 100 | 1 | 11/16/2022 15:37 | WG1959228 |
| Manganese | 165 | | 0.704 | 5.00 | 1 | 11/16/2022 15:37 | WG1959228 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 10.2 | | 0.287 | 0.678 | 1 | 11/09/2022 09:50 | WG1956350 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 09:50 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 09:50 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 16:16 | WG1956117 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 16:16 | WG1956117 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 16:16 | WG1956117 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 16:16 | WG1956117 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 16:16 | WG1956117 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 16:16 | WG1956117 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 16:16 | WG1956117 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 16:16 | WG1956117 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 16:16 | WG1956117 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 16:16 | WG1956117 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 16:16 | WG1956117 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 16:16 | WG1956117 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 16:16 | WG1956117 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 16:16 | WG1956117 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/09/2022 16:16 | WG1956117 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/09/2022 16:16* | WG1956117 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/09/2022 16:16* | WG1956117 |
| *(S) 1,2-Dichloroethane-d4* | *96.5* | | | *70.0-130* | | *11/09/2022 16:16* | WG1956117 |

JC 11/29/2022

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 265000 | | 8450 | 20000 | 1 | 11/13/2022 12:15 | WG1958273 |

Sample Narrative:
L1553859-03 WG1958273: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 22200 | | 379 | 1000 | 1 | 11/04/2022 11:20 | WG1954319 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/04/2022 11:20 | WG1954319 |
| Sulfate | 108000 | | 594 | 5000 | 1 | 11/04/2022 11:20 | WG1954319 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1220 | B | 102 | 1000 | 1 | 11/20/2022 00:48 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 3210 | | 28.1 | 100 | 1 | 11/16/2022 15:40 | WG1959228 |
| Manganese | 1070 | | 0.704 | 5.00 | 1 | 11/16/2022 15:40 | WG1959228 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 166 | | 0.287 | 0.678 | 1 | 11/09/2022 09:56 | WG1956350 |
| Ethane | 2.09 | | 0.296 | 1.29 | 1 | 11/09/2022 09:56 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 09:56 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 16:35 | WG1956117 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 16:35 | WG1956117 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 16:35 | WG1956117 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |

JC 11/29/2022

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| Dichlorodifluoromethane | U UJ | C3 | 0.0327 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,1-Dichloroethane | 0.439 | | 0.0230 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,1-Dichloroethene | 0.267 | | 0.0200 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| cis-1,2-Dichloroethene | 64.0 | | 0.0276 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| trans-1,2-Dichloroethene | 0.152 | J | 0.0572 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 16:35 | WG1956117 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 16:35 | WG1956117 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 16:35 | WG1956117 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 16:35 | WG1956117 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 16:35 | WG1956117 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 16:35 | WG1956117 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| Tetrachloroethene | 0.0920 | J | 0.0280 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,2,3-Trichlorobenzene | U UJ | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,2,4-Trichlorobenzene | U UJ | C4 | 0.193 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| Trichloroethene | 5.28 | | 0.0160 | 0.0400 | 1 | 11/09/2022 16:35 | WG1956117 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| Vinyl chloride | 5.65 | | 0.0273 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 16:35 | WG1956117 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 16:35 | WG1956117 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 16:35 | WG1956117 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 16:35 | WG1956117 |
| Trans-1,4-Dichloro-2-butene | U UJ | C3 | 0.0560 | 0.200 | 1 | 11/09/2022 16:35 | WG1956117 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/09/2022 16:35* | WG1956117 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *11/09/2022 16:35* | WG1956117 |
| *(S) 1,2-Dichloroethane-d4* | *96.4* | | | *70.0-130* | | *11/09/2022 16:35* | WG1956117 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 265000 | | 8450 | 20000 | 1 | 11/13/2022 09:22 | WG1958280 |

Sample Narrative:
L1553859-04 WG1958280: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 22200 | | 379 | 1000 | 1 | 11/04/2022 12:20 | WG1954319 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/04/2022 12:20 | WG1954319 |
| Sulfate | 108000 | | 594 | 5000 | 1 | 11/04/2022 12:20 | WG1954319 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1340 | ~~B~~ | 102 | 1000 | 1 | 11/20/2022 01:04 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 2980 | | 28.1 | 100 | 1 | 11/16/2022 00:47 | WG1959244 |
| Manganese | 1020 | | 0.704 | 5.00 | 1 | 11/16/2022 00:47 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 169 | | 0.287 | 0.678 | 1 | 11/09/2022 10:00 | WG1956350 |
| Ethane | 1.61 | | 0.296 | 1.29 | 1 | 11/09/2022 10:00 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 10:00 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 16:54 | WG1956117 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 16:54 | WG1956117 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 16:54 | WG1956117 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,1-Dichloroethane | 0.385 | | 0.0230 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,2-Dichloroethane | 0.141 | | 0.0190 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,1-Dichloroethene | 0.212 | | 0.0200 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| cis-1,2-Dichloroethene | 58.9 | | 0.0276 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| trans-1,2-Dichloroethene | 0.139 | J | 0.0572 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 16:54 | WG1956117 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 16:54 | WG1956117 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 16:54 | WG1956117 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 16:54 | WG1956117 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 16:54 | WG1956117 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 16:54 | WG1956117 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| Tetrachloroethene | 0.0880 | J | 0.0280 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| Trichloroethene | 4.81 | | 0.0160 | 0.0400 | 1 | 11/09/2022 16:54 | WG1956117 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| Vinyl chloride | 4.96 | | 0.0273 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 16:54 | WG1956117 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 16:54 | WG1956117 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 16:54 | WG1956117 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 16:54 | WG1956117 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/09/2022 16:54 | WG1956117 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/09/2022 16:54* | WG1956117 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/09/2022 16:54* | WG1956117 |
| *(S) 1,2-Dichloroethane-d4* | *98.0* | | | *70.0-130* | | *11/09/2022 16:54* | WG1956117 |

JC 11/29/2022

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 263000 | | 8450 | 20000 | 1 | 11/13/2022 09:26 | WG1958280 |

Sample Narrative:

L1553859-05 WG1958280: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 22200 | | 379 | 1000 | 1 | 11/04/2022 12:06 | WG1954319 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/04/2022 12:06 | WG1954319 |
| Sulfate | 108000 | | 594 | 5000 | 1 | 11/04/2022 12:06 | WG1954319 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1430 | B | 102 | 1000 | 1 | 11/20/2022 02:31 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 3110 | | 28.1 | 100 | 1 | 11/16/2022 01:00 | WG1959244 |
| Manganese | 1030 | | 0.704 | 5.00 | 1 | 11/16/2022 01:00 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 145 | | 0.287 | 0.678 | 1 | 11/09/2022 10:04 | WG1956350 |
| Ethane | 1.69 | | 0.296 | 1.29 | 1 | 11/09/2022 10:04 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 10:04 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 21:46 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 21:46 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 21:46 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |

JC 11/29/2022

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,1-Dichloroethane | 0.375 | | 0.0230 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,1-Dichloroethene | 0.265 | | 0.0200 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| cis-1,2-Dichloroethene | 60.8 | | 0.0276 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| trans-1,2-Dichloroethene | 0.138 | J | 0.0572 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 21:46 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 21:46 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 21:46 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 21:46 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 21:46 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 21:46 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| Tetrachloroethene | 0.0900 | J | 0.0280 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,2,3-Trichlorobenzene | U UJ | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,2,4-Trichlorobenzene | U UJ | C4 | 0.193 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| Trichloroethene | 4.72 | | 0.0160 | 0.0400 | 1 | 11/09/2022 21:46 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| Vinyl chloride | 5.83 | | 0.0273 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 21:46 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 21:46 | WG1956792 |
| Tetrahydrofuran | 0.151 | J | 0.0900 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 21:46 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 21:46 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U UJ | C3 | 0.0560 | 0.200 | 1 | 11/09/2022 21:46 | WG1956792 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/09/2022 21:46* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/09/2022 21:46* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *95.1* | | | *70.0-130* | | *11/09/2022 21:46* | WG1956792 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 265000 | | 8450 | 20000 | 1 | 11/13/2022 09:30 | WG1958280 |

Sample Narrative:
L1553859-06 WG1958280: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 22200 | ~~T8~~ | 379 | 1000 | 1 | 11/04/2022 15:08 | WG1954319 |
| Nitrate | U | UJ T8 | 48.0 | 100 | 1 | 11/04/2022 15:08 | WG1954319 |
| Sulfate | 109000 | ~~T8~~ | 594 | 5000 | 1 | 11/04/2022 15:08 | WG1954319 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1300 | ~~B~~ | 102 | 1000 | 1 | 11/20/2022 02:48 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 3030 | | 28.1 | 100 | 1 | 11/16/2022 01:03 | WG1959244 |
| Manganese | 1010 | | 0.704 | 5.00 | 1 | 11/16/2022 01:03 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 161 | | 0.287 | 0.678 | 1 | 11/09/2022 10:07 | WG1956350 |
| Ethane | 1.99 | | 0.296 | 1.29 | 1 | 11/09/2022 10:07 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 10:07 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 22:05 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 22:05 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 22:05 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,1-Dichloroethane | 0.403 | | 0.0230 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,1-Dichloroethene | 0.266 | | 0.0200 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| cis-1,2-Dichloroethene | 59.8 | | 0.0276 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| trans-1,2-Dichloroethene | 0.136 | J | 0.0572 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 22:05 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 22:05 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 22:05 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 22:05 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 22:05 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 22:05 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| Tetrachloroethene | 0.0890 | J | 0.0280 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,2,3-Trichlorobenzene | U UJ | C4 | 0.0250 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,2,4-Trichlorobenzene | U UJ | C4 | 0.193 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| Trichloroethene | 5.11 | | 0.0160 | 0.0400 | 1 | 11/09/2022 22:05 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| Vinyl chloride | 5.60 | | 0.0273 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 22:05 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 22:05 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 22:05 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 22:05 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U UJ | C3 | 0.0560 | 0.200 | 1 | 11/09/2022 22:05 | WG1956792 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/09/2022 22:05* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *98.5* | | | *67.0-138* | | *11/09/2022 22:05* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *94.9* | | | *70.0-130* | | *11/09/2022 22:05* | WG1956792 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 181000 | | 8450 | 20000 | 1 | 11/13/2022 09:35 | WG1958280 |

Sample Narrative:
L1553859-07 WG1958280: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 14500 | | 379 | 1000 | 1 | 11/04/2022 15:23 | WG1954319 |
| Nitrate | 1380 J | T8 | 48.0 | 100 | 1 | 11/04/2022 15:23 | WG1954319 |
| Sulfate | 61000 | | 594 | 5000 | 1 | 11/04/2022 15:23 | WG1954319 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1120 | B | 102 | 1000 | 1 | 11/20/2022 03:05 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1010 | | 28.1 | 100 | 1 | 11/16/2022 01:07 | WG1959244 |
| Manganese | 613 | | 0.704 | 5.00 | 1 | 11/16/2022 01:07 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 1.77 | | 0.287 | 0.678 | 1 | 11/09/2022 10:11 | WG1956350 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 10:11 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 10:11 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 22:24 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 22:24 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 22:24 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |

JC 11/29/2022

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| cis-1,2-Dichloroethene | 1.12 | | 0.0276 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 22:24 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 22:24 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 22:24 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 22:24 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 22:24 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 22:24 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| Toluene | 0.0950 | J | 0.0500 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 22:24 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 22:24 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 22:24 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 22:24 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 22:24 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/09/2022 22:24 | WG1956792 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/09/2022 22:24* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/09/2022 22:24* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *94.6* | | | *70.0-130* | | *11/09/2022 22:24* | WG1956792 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 188000 | | 8450 | 20000 | 1 | 11/13/2022 09:39 | WG1958280 |

Sample Narrative:
L1553859-08 WG1958280: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 16000 | | 379 | 1000 | 1 | 11/04/2022 15:38 | WG1954319 |
| Nitrate | 219 J | T8 | 48.0 | 100 | 1 | 11/04/2022 15:38 | WG1954319 |
| Sulfate | 62700 | | 594 | 5000 | 1 | 11/04/2022 15:38 | WG1954319 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 470 U | B J | 102 | 1000 | 1 | 11/20/2022 03:21 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 440 | | 28.1 | 100 | 1 | 11/16/2022 01:17 | WG1959244 |
| Manganese | 427 | | 0.704 | 5.00 | 1 | 11/16/2022 01:17 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 1.84 | | 0.287 | 0.678 | 1 | 11/09/2022 10:14 | WG1956350 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 10:14 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 10:14 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 22:43 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 22:43 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 22:43 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |

JC 11/29/2022

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| cis-1,2-Dichloroethene | 8.75 | | 0.0276 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 22:43 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 22:43 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 22:43 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 22:43 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 22:43 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 22:43 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| Tetrachloroethene | 0.114 | | 0.0280 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| Toluene | 0.236 | | 0.0500 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| Trichloroethene | 0.774 | | 0.0160 | 0.0400 | 1 | 11/09/2022 22:43 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 22:43 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 22:43 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 22:43 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 22:43 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/09/2022 22:43 | WG1956792 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/09/2022 22:43* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/09/2022 22:43* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *98.6* | | | *70.0-130* | | *11/09/2022 22:43* | WG1956792 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 194000 | | 8450 | 20000 | 1 | 11/13/2022 09:43 | WG1958280 |

Sample Narrative:
L1553859-09 WG1958280: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 15900 | | 379 | 1000 | 1 | 11/04/2022 11:35 | WG1954319 |
| Nitrate | U | UJ | 48.0 | 100 | 1 | 11/04/2022 11:35 | WG1954319 |
| Sulfate | 63600 | | 594 | 5000 | 1 | 11/04/2022 11:35 | WG1954319 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 384 | U ~~B J~~ | 102 | 1000 | 1 | 11/20/2022 03:34 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 454 | | 28.1 | 100 | 1 | 11/16/2022 01:20 | WG1959244 |
| Manganese | 428 | | 0.704 | 5.00 | 1 | 11/16/2022 01:20 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 2.18 | | 0.287 | 0.678 | 1 | 11/09/2022 10:17 | WG1956350 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 10:17 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 10:17 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.53 | | 0.548 | 1.00 | 1 | 11/09/2022 23:02 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 23:02 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 23:02 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| cis-1,2-Dichloroethene | 8.77 | | 0.0276 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 23:02 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 23:02 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 23:02 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 23:02 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 23:02 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 23:02 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| Tetrachloroethene | 0.133 | | 0.0280 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| Toluene | 0.185 | J | 0.0500 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| Trichloroethene | 0.780 | | 0.0160 | 0.0400 | 1 | 11/09/2022 23:02 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 23:02 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 23:02 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 23:02 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 23:02 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/09/2022 23:02 | WG1956792 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/09/2022 23:02* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/09/2022 23:02* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *96.0* | | | *70.0-130* | | *11/09/2022 23:02* | WG1956792 |

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# MEMORANDUM

**TO:** Project File **DATE:** December 7, 2022

**FROM:** Jessie Compeau

**SUBJECT:** Laboratory Data Validation Review

**PROJECT:** American Linen Data Validation

**PROJECT #:** 443022-1413001.10.701.04

**TASK:** EIM Data Validation Level EPA2A for 4th Quarter Monitoring 2022 – Groundwater Samples – Group 3

**LAB:** Pace Sample Delivery Groups (SDGs)**:** L1553833, L1553890, L1553923, L1553987, and L1554324

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Thirty-four (34) groundwater samples, one equipment blank, and one trip blank were collected as part of the 4th Quarterly Monitoring Round for 2022 for the ongoing Remedial Investigation (RI) sampling at the Former American Linen Supply Site, in Seattle, Washington. The samples were collected November 2-3, 2022, shipped, and delivered to Pace Lab Sciences (Pace) of Mount Juliet, TN for laboratory analysis. Selected samples were analyzed for the following:

- Volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260D;
- VOCs (dissolved gases – methane, ethane, and ethene) by EPA SOP RSK 175;
- Alkalinity by Method 2320 B-2011;
- Anions (chloride, nitrate, and sulfate) by USEPA Method 9056A;
- Total Organic Carbon (TOC) by USEPA Method 9060A; and
- Metals (iron and manganese) by USEPA Method 6020B.

Results are reported in multiple SDGs and reviewed in small groups for each data validation report. Group 3 analytical results are reported in five SDGs. The quality assurance review of the laboratory data associated with Group 3 is summarized below.

## DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation review of analytical data along with Pace control limit criteria were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2020) and USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2020). Following Guidelines, non-project-specific laboratory duplicates and matrix spike results were not evaluated as part of this data validation.

## DATA VALIDATION

### Completeness

All samples were collected and analyzed as requested with the following discussions:

- SDGs L1553833 and L1553890: Samples were shipped on November 2 and received by Pace on November 4, 2022. Seven samples were analyzed for nitrate past the 48-hour holding time. Refer to Holding Time General Chemistry section for additional details.

### Sample Collection and Preservation

Samples were collected in laboratory-supplied sample containers preserved as appropriate for the individual analyses conducted. The samples were packed on ice in coolers and delivered by courier to the analytical laboratory. The laboratory reported that the coolers were received at a cooler temperature less than the recommended temperature preservation of 6°C. Samples were received in good condition. No data were qualified based upon the sample collection and preservation information.

### Holding Times

*USEPA Method 8260D:*
All samples were analyzed for VOCs within the EPA recommended holding time of fourteen days for preserved waters from the date of collection. All holding time criteria are met.

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
All samples were analyzed within the WA State recommended holding time of fourteen days for preserved waters from the date of sample collection. All holding time criteria are met.

*USEPA Method 6020B:*
All samples were analyzed within the USEPA recommended holding time for iron and manganese of 180 days for preserved waters from the date of sample collection. All holding time criteria are met.

*General Chemistry (Alkalinity, Chloride, Nitrate, Sulfate, and TOC):*
All samples were analyzed within the USEPA recommended holding time for alkalinity (14 days), chloride (28 days), sulfate (28 days), nitrate (48 hours), and TOC (28 days) for preserved waters from the date of sample collection. All holding time criteria are met with the following exceptions:

- SDG L1553833: Nitrate results for samples MW-340-110222 and MW104-110222 are laboratory qualified (T8) to indicate holding time exceedance. Sample holding time for nitrate is exceeded by a few hours. **Nitrate result for samples MW-340-110222 and MW104-110222 are estimated (J) due to holding time exceedance.**

- SDG L1553890: Nitrate results for samples MW-328-110222, MW-341-110222, MW-339-110222, MW-337-110222, and MW-338-110222 are laboratory qualified (T8) to

indicate holding time exceedance. Sample holding time for nitrate is exceeded by a few hours. **Nitrate result for samples MW-328-110222, MW-341-110222, MW-339-110222, MW-337-110222, and MW-338-110222 are estimated (J/UJ) due to holding time exceedance.**

**Initial and Continuing Calibration**

Calibration data for this project are not required for this deliverable however Pace's notes indicate the following:

- Multiple SDGs - *USEPA Method 8260D:* Continuing calibration verification (CCV) issues were noted by Pace for multiple compounds associated with analytical batches in associated SDGs. These compounds are qualified by the laboratory "C3" to indicate that percent difference CCV is below laboratory acceptance criteria and showing low bias. Low level reporting limit check standard (sensitivity) requirements are within criteria. **Associated sample results with laboratory qualified (C3) results are estimated with low bias and qualified (J-/UJ).** Results reported below the RDL are estimated (J) and bias is not assigned.

- Multiple SDGs - *USEPA Method 8260D:* Continuing calibration verification (CCV) issues were noted by Pace for multiple compounds associated with analytical batches in associated SDGs. These compounds are qualified by the laboratory "C4" to indicate that percent difference CCV is below laboratory acceptance criteria and showing low bias. **Associated sample results with laboratory qualified (C4) results are estimated with low bias and qualified (J-/UJ).** Results reported below the RDL are estimated (J) and bias is not assigned.

**Method Blank Results**

*USEPA Method 8260D:*
Laboratory method blanks were included with the analytical batches per method requirement. The target analytes are not detected in the method blanks at or above the reporting detection limits (RDLs) with the following exceptions:

- SDG L1553987 – Analytical batch WG1956793: cis-1,2-Dichloroethene is detected in the method blank at a low level below the RDL. No action is needed since these compounds are either not detected or detected above the RDL in the associated samples.

- SDG L1554324 – Analytical batch WG1956793: cis-1,2-Dichloroethene is detected in the method blank at a low level below the RDL. Associated cis-1,2-dichloroethene detections are below the RDL in samples MW116-110422 and MW-320-110422. **cis-1,2-Dichloroethene results for samples MW116-110422 and MW-320-110422 are qualified as not detected (U) due to method blank contamination.**

- SDG L1554324 – Analytical batch WG1958484: Chloroform is detected in the method blank at a low level above the RDL. No action is needed since chloroform is not detected in the associated samples.

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
Laboratory method blanks were included with the analytical batches per method requirement. The target analytes (dissolved gases) are not detected in the method blanks at or above the RDLs.

*USEPA Method 6020B and General Chemistry (Alkalinity, Chloride, Nitrate, Sulfate, and TOC):*
Laboratory method blanks were included with the analytical batches per method requirement. The target analytes were detected in the method blanks below the RDLs. Per Guidance, no action is taken for blank detections less than the RDL when associated sample detections are greater than the RDL. General chemistry and metal blank detections are shown below:

| SDG | Batch | Method | Analyte | Method Blank Result | Qualifier | RDL | Units | Associated Result(s) Qualified |
|---|---|---|---|---|---|---|---|---|
| L1553833 | WG1962430 | 9060A | TOC | 357 | J | 1000 | µg/L | NO |
| L1553833 | WG1962431 | 9060A | TOC | 637 | J | 1000 | µg/L | NO |
| L1553890 | WG1962434 | 9060A | TOC | 435 | J | 1000 | µg/L | NO |
| L1553923 | WG1962442 | 9060A | TOC | 751 | J | 1000 | µg/L | NO |
| L1553987 | WG1962603 | 9060A | TOC | 710 | J | 1000 | µg/L | NO |
| L1553987 | WG1962603 | 9060A | TOC | 743 | J | 1000 | µg/L | NO |
| L1553987 | WG1962603 | 9060A | TOC | 358 | J | 1000 | µg/L | NO |
| L1554324 | WG1962903 | 9060A | TOC | 396 | J | 1000 | µg/L | NO |

Target analytes were detected in method blanks at low levels with no impact to the associated samples.

## Trip Blank Results

*USEPA Method 8260D:*
One trip blank (TB-110322 associated with SDG L1553987) was collected. Six target analytes (acetone, benzene, cis-1,2-dichloroethene, tetrachloroethene, toluene, and trichloroethene) were detected in the trip blank and discussed as follows:

- Acetone was detected in the trip blank at 2.73 µg/L and above the RDL (1.00 µg/L). Sample FMW-141-110322, MW-153-110322, MW-147-110322, and MW-322-110322 acetone results are detected above the RDL and below the established action level. **Acetone results for samples FMW-141-110322, MW-153-110322, MW-147-110322, and MW-322-110322 are qualified as non-detected (U) due to trip blank contamination.**

- Benzene was detected in the trip blank at 0.0200 µg/L and below the RDL (0.0400 µg/L). Sample MW-153-110322 benzene result is detected below the RDL. Benzene was either not detected or detected above the RDL in the remaining samples. **Benzene result for sample MW-153-110322 is qualified as non-detected (U) due to trip blank contamination.**

- cis-1,2-Dichloroethene was detected in the trip blank at 0.218 µg/L and above the RDL (0.100 µg/L). cis-1,2-Dichloroethene was either not detected or detected greater than the RDL in samples associated with the trip blank.

- Tetrachloroethene was detected in the trip blank at 0.0930 µg/L and below the RDL (0.100 µg/L). Tetrachloroethene was either not detected or detected greater than the RDL in samples associated with the trip blank.

- Toluene was detected in the trip blank at 0.121 µg/L and below the RDL (0.200 µg/L). **Sample MW-146-110322, MW-147-110322, and MW-154-110322 toluene results are detected below the RDL and qualified as non-detected (U) due to trip blank contamination.**

- Trichloroethene was detected in the trip blank at 0.0310 µg/L and above the RDL (0.0400 µg/L). Trichloroethene was either not detected or detected at or greater than the action level in samples associated with the trip blank.

**Field, Rinsate, or Equipment Blank Results**

One equipment blank (EQ-110222) with SDG L1553833 was collected. Details are as follows:

The equipment blank (EQ-110222) is associated with samples MW104-111022, MW-145R-110222, and MW-144R-110222 collected from the bladder pump on November 2, 2022. Low levels of nitrate, TOC, and manganese are detected in the equipment blank. Low levels of VOCs (acetone and toluene) are detected in the equipment blank. Per Guidance, for common laboratory contaminants, if the blank concentration is greater than the RDL and less than twice the blank result the common lab contaminant is qualified as non-detect (U). Actions are as follows:

- Nitrate was detected in the equipment blank above the RDL. No action is needed since nitrate was not detected in the associated samples.

- TOC and manganese were detected in the equipment blank below the RDLs. No action is needed since TOC and manganese are detected significantly above the RDL in the associated samples.

- Acetone was detected in the equipment blank at 2.29 µg/L and above the RDL (1.00 µg/L). No action is needed since acetone is either not detected or detected greater than the established action level for acetone in the associated samples.

- Toluene is detected in the equipment blank at 0.151 µg/L and below the RDL (0.200 µg/L). No action is needed since toluene is not detected in the associated samples.

**Field Duplicate Analyses**

Field duplicate pairs were not collected. Refer to laboratory quality control for precision data.

**Laboratory Duplicate Analyses**

*USEPA Method 8260D:*

Laboratory duplicate samples were not analyzed. Refer to laboratory control sample/sample duplicate (LCS/LCSD) or matrix spike/matrix spike duplicate (MS/MSD) results for precision data.

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
Laboratory duplicate sample analyses were performed on client and on non-client samples within the analytical batches. The primary/duplicate RPDs for client samples on dissolved gas analyses are within the laboratory control limit of 20% with the following exceptions:

- SDG L1553923: Laboratory duplicate was performed on sample MW-336-110322 with methane results exceeding acceptance criteria (1X). **Sample MW-336-110322 methane result is estimated and qualified (J).**

- SDG L1553923: Laboratory duplicate was performed on sample MW115-110322 with ethane results exceeding acceptance criteria (1X). **Sample MW115-110322 methane result is estimated and qualified (J).**

*USEPA Method 6020B:*
Laboratory duplicate samples were not analyzed. Refer to MS/MSD results for precision data.

*General Chemistry (Alkalinity, Chloride, Nitrate, Sulfate, and TOC):*
Laboratory duplicate sample analyses were performed on client samples and on non-client samples within the analytical batches. The primary/duplicate RPDs for client samples on general chemistry parameters are within the laboratory control RPD limits or $\pm$ 1x RDL for groundwater results <5X the RDL.

## Surrogate Recoveries

*USEPA Method 8260D:*
The surrogate recovery results for the samples, laboratory control samples, and the method blanks are within the laboratory surrogate control limits for all the analyses.

## Laboratory Control Samples

*USEPA Method 8260D:*
Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) or laboratory control sample (LCS) were analyzed by USEPA Method 8260D method. The LCS % Rs or LCS/LCSD % Rs and RPDs for all target compounds are within the laboratory control criteria for waters with the following exceptions:

- SDGs L1553987 and L1554324 - Analytical batch WG1956793: LCS/LCSD RPD is above criteria for bromomethane and laboratory qualified (J3). No action needed since the recoveries are within criteria but are recovered wide.

- SDG L1554324 - Analytical batch WG1958484: LCS/LCSD RPD is above criteria for bromomethane and laboratory qualified (J3). No action needed since the recoveries are within criteria but are recovered wide.

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
The LCS/LCSD % Rs and RPDs for the target compound (dissolved gases) are within the laboratory control criteria for waters.

*USEPA Method 6020B:*
The LCS % Rs for the target compound (iron and manganese) are within the laboratory control criteria for waters.

*General Chemistry (Alkalinity, Chloride, Nitrate, Sulfate, and TOC):*
The LCS % Rs for general chemistry parameters are within the laboratory control criteria for waters.

**Matrix Spike/Matrix Spike Duplicates**

*USEPA Method 8260D:*
MS/MSD analyses were not performed. Refer to LCS/LCSD and field duplicate results for accuracy and precision data.

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
MS/MSD analyses were performed on non-client samples within the analytical batches. The MS/MSD % Rs and RPDs for project samples were acceptable and within laboratory control limit criteria for water.

*USEPA Method 6020B:*
MS/MSD analyses were performed on client and on non-client samples within the analytical batches. The MS/MSD % Rs and RPDs for project samples were acceptable and within laboratory control limit criteria for water samples.

*General Chemistry (Alkalinity, Chloride, Nitrate, Sulfate, and TOC):*
MS or MS/MSD analyses were performed on client and/or non-client samples within the analytical batches. In cases where MS/MSD spike analyses are not performed refer to LCS or laboratory duplicate data for accuracy and precision data. Client sample MS/MSD % Rs and RPDs are acceptable and within laboratory control limit criteria for water samples.

**Other Quality Control Issues**

No laboratory quality control issues were identified in the laboratory report with the following discussions:

- Electronic data deliverables (EDDs) for these SDGs were provided by the laboratory and data validator qualifiers were entered. In some cases, different chemical synonyms are used between the EDD and the hardcopy however associated Chemical Abstracts Service (CAS) numbers are provided in the EDD to confirm chemical identifications.

## Compound Identification and Quantitation Limits

Results of the analyses were reported based on laboratory RDLs for all compounds. RDLs for selected compounds are elevated due to method-required dilutions. No action is taken other than to note this.

## Data Assessment

The laboratory data reported for this project were reviewed based on the criteria outlined in:

- USEPA National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2020); and
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2020).

Data qualifiers are assigned and laboratory report pages with qualifiers are attached. All data, including qualified data, are judged to be acceptable for their intended use.

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 467000 | | 8450 | 20000 | 1 | 11/13/2022 11:08 | WG1958273 |

Sample Narrative:

L1553833-01 WG1958273: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 14600 | | 379 | 1000 | 1 | 11/04/2022 14:18 | WG1954382 |
| Nitrate | 724 J | T8 | 48.0 | 100 | 1 | 11/04/2022 14:18 | WG1954382 |
| Sulfate | 2570 | J | 594 | 5000 | 1 | 11/04/2022 14:18 | WG1954382 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 5100 | | 102 | 1000 | 1 | 11/20/2022 01:47 | WG1962430 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 14700 | | 28.1 | 100 | 1 | 11/16/2022 14:22 | WG1959228 |
| Manganese | 1720 | | 0.704 | 5.00 | 1 | 11/16/2022 14:22 | WG1959228 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 16000 | | 2.87 | 6.78 | 10 | 11/09/2022 13:50 | WG1956765 |
| Ethane | 3.62 | | 0.296 | 1.29 | 1 | 11/09/2022 08:55 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 08:55 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 2.30 | | 0.548 | 1.00 | 1 | 11/09/2022 12:33 | WG1956117 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 12:33 | WG1956117 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 12:33 | WG1956117 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |

JC 12/5/2022

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 12:33 | WG1956117 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 12:33 | WG1956117 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 12:33 | WG1956117 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 12:33 | WG1956117 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 12:33 | WG1956117 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 12:33 | WG1956117 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| Toluene | 0.131 | J | 0.0500 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 12:33 | WG1956117 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 12:33 | WG1956117 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 12:33 | WG1956117 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 12:33 | WG1956117 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 12:33 | WG1956117 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/09/2022 12:33 | WG1956117 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/09/2022 12:33* | WG1956117 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/09/2022 12:33* | WG1956117 |
| *(S) 1,2-Dichloroethane-d4* | *95.6* | | | *70.0-130* | | *11/09/2022 12:33* | WG1956117 |

JC 12/5/2022

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 224000 | | 8450 | 20000 | 1 | 11/13/2022 11:13 | WG1958273 |

Sample Narrative:

L1553833-02 WG1958273: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 72000 | | 379 | 1000 | 1 | 11/04/2022 11:14 | WG1954382 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/04/2022 11:14 | WG1954382 |
| Sulfate | U | | 594 | 5000 | 1 | 11/04/2022 11:14 | WG1954382 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 3110 | ~~B~~ | 102 | 1000 | 1 | 11/20/2022 02:02 | WG1962430 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 11900 | | 28.1 | 100 | 1 | 11/16/2022 14:35 | WG1959228 |
| Manganese | 786 | | 0.704 | 5.00 | 1 | 11/16/2022 14:35 | WG1959228 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 12900 | | 2.87 | 6.78 | 10 | 11/09/2022 13:53 | WG1956765 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 09:02 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 09:02 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.69 | | 0.548 | 1.00 | 1 | 11/09/2022 12:53 | WG1956117 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 12:53 | WG1956117 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 12:53 | WG1956117 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |

JC 12/5/2022

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 12:53 | WG1956117 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 12:53 | WG1956117 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 12:53 | WG1956117 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 12:53 | WG1956117 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 12:53 | WG1956117 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 12:53 | WG1956117 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 12:53 | WG1956117 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 12:53 | WG1956117 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 12:53 | WG1956117 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 12:53 | WG1956117 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 12:53 | WG1956117 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/09/2022 12:53 | WG1956117 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/09/2022 12:53* | WG1956117 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/09/2022 12:53* | WG1956117 |
| *(S) 1,2-Dichloroethane-d4* | *95.9* | | | *70.0-130* | | *11/09/2022 12:53* | WG1956117 |

JC 12/5/2022

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 182000 | | 8450 | 20000 | 1 | 11/13/2022 11:19 | WG1958273 |

Sample Narrative:

L1553833-03 WG1958273: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 7960 | | 379 | 1000 | 1 | 11/04/2022 12:01 | WG1954382 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/04/2022 12:01 | WG1954382 |
| Sulfate | 4640 | J | 594 | 5000 | 1 | 11/04/2022 12:01 | WG1954382 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 7580 | | 102 | 1000 | 1 | 11/19/2022 19:24 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 7640 | | 28.1 | 100 | 1 | 11/16/2022 14:38 | WG1959228 |
| Manganese | 2540 | | 0.704 | 5.00 | 1 | 11/16/2022 14:38 | WG1959228 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 6390 | | 0.287 | 0.678 | 1 | 11/09/2022 09:10 | WG1956350 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 09:10 | WG1956350 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 09:10 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 13:12 | WG1956117 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 13:12 | WG1956117 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 13:12 | WG1956117 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |

JC 12/5/2022

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 13:12 | WG1956117 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 13:12 | WG1956117 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 13:12 | WG1956117 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 13:12 | WG1956117 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 13:12 | WG1956117 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 13:12 | WG1956117 |
| Naphthalene | 0.372 | J | 0.124 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 13:12 | WG1956117 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 13:12 | WG1956117 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 13:12 | WG1956117 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 13:12 | WG1956117 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 13:12 | WG1956117 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/09/2022 13:12 | WG1956117 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/09/2022 13:12* | WG1956117 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/09/2022 13:12* | WG1956117 |
| *(S) 1,2-Dichloroethane-d4* | *94.4* | | | *70.0-130* | | *11/09/2022 13:12* | WG1956117 |

JC 12/5/2022

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 195000 | | 8450 | 20000 | 1 | 11/13/2022 11:26 | WG1958273 |

Sample Narrative:

L1553833-04 WG1958273: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 10200 | | 379 | 1000 | 1 | 11/04/2022 12:29 | WG1954382 |
| Nitrate | U | UJ T8 | 48.0 | 100 | 1 | 11/04/2022 12:29 | WG1954382 |
| Sulfate | 5450 | | 594 | 5000 | 1 | 11/04/2022 12:29 | WG1954382 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 2960 | ~~B~~ | 102 | 1000 | 1 | 11/19/2022 20:30 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 3830 | | 28.1 | 100 | 1 | 11/16/2022 14:41 | WG1959228 |
| Manganese | 679 | | 0.704 | 5.00 | 1 | 11/16/2022 14:41 | WG1959228 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 114 | | 0.287 | 0.678 | 1 | 11/09/2022 09:29 | WG1956350 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 09:29 | WG1956350 |
| Ethene | 8.68 | | 0.422 | 1.27 | 1 | 11/09/2022 09:29 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 14:09 | WG1956117 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 14:09 | WG1956117 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 14:09 | WG1956117 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |

JC 12/5/2022

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,1-Dichloroethene | 0.964 | | 0.0200 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| cis-1,2-Dichloroethene | 20.8 | | 0.0276 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| trans-1,2-Dichloroethene | 0.625 | | 0.0572 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 14:09 | WG1956117 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 14:09 | WG1956117 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 14:09 | WG1956117 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 14:09 | WG1956117 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 14:09 | WG1956117 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 14:09 | WG1956117 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| Trichloroethene | 0.437 | | 0.0160 | 0.0400 | 1 | 11/09/2022 14:09 | WG1956117 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| Vinyl chloride | 30.3 | | 0.0273 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 14:09 | WG1956117 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 14:09 | WG1956117 |
| Tetrahydrofuran | 0.960 | | 0.0900 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 14:09 | WG1956117 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 14:09 | WG1956117 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/09/2022 14:09 | WG1956117 |
| *(S) Toluene-d8* | *110* | | | *75.0-131* | | *11/09/2022 14:09* | WG1956117 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/09/2022 14:09* | WG1956117 |
| *(S) 1,2-Dichloroethane-d4* | *93.2* | | | *70.0-130* | | *11/09/2022 14:09* | WG1956117 |

JC 12/5/2022

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 279000 | | 8450 | 20000 | 1 | 11/13/2022 11:35 | WG1958273 |

Sample Narrative:

L1553833-05 WG1958273: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 27700 | | 379 | 1000 | 1 | 11/04/2022 12:15 | WG1954382 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/04/2022 12:15 | WG1954382 |
| Sulfate | 26500 | | 594 | 5000 | 1 | 11/04/2022 12:15 | WG1954382 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2050 | B | 102 | 1000 | 1 | 11/19/2022 21:32 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 451 | | 28.1 | 100 | 1 | 11/16/2022 14:44 | WG1959228 |
| Manganese | 317 | | 0.704 | 5.00 | 1 | 11/16/2022 14:44 | WG1959228 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 1610 | | 0.287 | 0.678 | 1 | 11/09/2022 09:33 | WG1956350 |
| Ethane | 4.52 | | 0.296 | 1.29 | 1 | 11/09/2022 09:33 | WG1956350 |
| Ethene | 1.81 | | 0.422 | 1.27 | 1 | 11/09/2022 09:33 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 14:29 | WG1956117 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 14:29 | WG1956117 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 14:29 | WG1956117 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |

JC 12/5/2022

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 14:29 | WG1956117 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 14:29 | WG1956117 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 14:29 | WG1956117 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 14:29 | WG1956117 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 14:29 | WG1956117 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 14:29 | WG1956117 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 14:29 | WG1956117 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 14:29 | WG1956117 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 14:29 | WG1956117 |
| Tetrahydrofuran | 0.183 | J | 0.0900 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 14:29 | WG1956117 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 14:29 | WG1956117 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/09/2022 14:29 | WG1956117 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/09/2022 14:29* | WG1956117 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/09/2022 14:29* | WG1956117 |
| *(S) 1,2-Dichloroethane-d4* | *96.9* | | | *70.0-130* | | *11/09/2022 14:29* | WG1956117 |

JC 12/5/2022

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 823000 | | 8450 | 20000 | 1 | 11/13/2022 11:49 | WG1958273 |

Sample Narrative:
L1553833-06 WG1958273: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 101000 | | 379 | 1000 | 1 | 11/04/2022 12:42 | WG1954382 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/04/2022 12:42 | WG1954382 |
| Sulfate | 1010 | J | 594 | 5000 | 1 | 11/04/2022 12:42 | WG1954382 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4090 | ~~B~~ | 102 | 1000 | 1 | 11/19/2022 21:55 | WG1962431 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 2810 | | 28.1 | 100 | 1 | 11/16/2022 15:27 | WG1959228 |
| Manganese | 1420 | | 0.704 | 5.00 | 1 | 11/16/2022 15:27 | WG1959228 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 27900 | | 2.87 | 6.78 | 10 | 11/09/2022 13:56 | WG1956765 |
| Ethane | 50.4 | | 0.296 | 1.29 | 1 | 11/09/2022 09:36 | WG1956350 |
| Ethene | 2.45 | | 0.422 | 1.27 | 1 | 11/09/2022 09:36 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 5.80 | | 0.548 | 1.00 | 1 | 11/09/2022 15:03 | WG1956117 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 15:03 | WG1956117 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 15:03 | WG1956117 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |

JC 12/5/2022

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| cis-1,2-Dichloroethene | 0.131 | | 0.0276 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 15:03 | WG1956117 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 15:03 | WG1956117 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 15:03 | WG1956117 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 15:03 | WG1956117 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 15:03 | WG1956117 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 15:03 | WG1956117 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| Trichloroethene | 0.0830 | | 0.0160 | 0.0400 | 1 | 11/09/2022 15:03 | WG1956117 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| Vinyl chloride | 0.124 | | 0.0273 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 15:03 | WG1956117 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 15:03 | WG1956117 |
| Tetrahydrofuran | 0.190 | J | 0.0900 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 15:03 | WG1956117 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 15:03 | WG1956117 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/09/2022 15:03 | WG1956117 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/09/2022 15:03* | WG1956117 |
| *(S) 4-Bromofluorobenzene* | *99.9* | | | *67.0-138* | | *11/09/2022 15:03* | WG1956117 |
| *(S) 1,2-Dichloroethane-d4* | *95.4* | | | *70.0-130* | | *11/09/2022 15:03* | WG1956117 |

JC 12/5/2022

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 509000 | | 8450 | 20000 | 1 | 11/13/2022 09:54 | WG1958280 |

Sample Narrative:

L1553890-01 WG1958280: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 14000 | | 379 | 1000 | 1 | 11/04/2022 17:10 | WG1954449 |
| Nitrate | U | UJ T8 | 48.0 | 100 | 1 | 11/04/2022 17:10 | WG1954449 |
| Sulfate | U | | 594 | 5000 | 1 | 11/04/2022 17:10 | WG1954449 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 4420 | | 102 | 1000 | 1 | 11/20/2022 15:16 | WG1962434 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 9310 | | 28.1 | 100 | 1 | 11/16/2022 01:23 | WG1959244 |
| Manganese | 253 | | 0.704 | 5.00 | 1 | 11/16/2022 01:23 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 22600 | | 2.87 | 6.78 | 10 | 11/09/2022 14:00 | WG1956765 |
| Ethane | 17.0 | | 0.296 | 1.29 | 1 | 11/09/2022 10:20 | WG1956350 |
| Ethene | 15.1 | | 0.422 | 1.27 | 1 | 11/09/2022 10:20 | WG1956350 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 23:21 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| Benzene | 8.47 | | 0.0160 | 0.0400 | 1 | 11/09/2022 23:21 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 23:21 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |

JC 12/6/2022

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| cis-1,2-Dichloroethene | 0.344 | | 0.0276 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/09/2022 23:21 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 23:21 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 23:21 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 23:21 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 23:21 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 23:21 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 23:21 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| Vinyl chloride | 2.18 | | 0.0273 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 23:21 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/09/2022 23:21 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 23:21 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 23:21 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/09/2022 23:21 | WG1956792 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/09/2022 23:21* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/09/2022 23:21* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *97.0* | | | *70.0-130* | | *11/09/2022 23:21* | WG1956792 |

JC 12/6/2022

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 387000 | | 8450 | 20000 | 1 | 11/13/2022 09:58 | WG1958280 |

Sample Narrative:
L1553890-02 WG1958280: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 21100 | | 379 | 1000 | 1 | 11/04/2022 17:47 | WG1954449 |
| Nitrate | 162 J | T8 | 48.0 | 100 | 1 | 11/04/2022 17:47 | WG1954449 |
| Sulfate | 31500 | | 594 | 5000 | 1 | 11/04/2022 17:47 | WG1954449 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2700 | ~~B~~ | 102 | 1000 | 1 | 11/20/2022 15:35 | WG1962434 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 7610 | | 28.1 | 100 | 1 | 11/16/2022 01:26 | WG1959244 |
| Manganese | 552 | | 0.704 | 5.00 | 1 | 11/16/2022 01:26 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 872 | | 0.287 | 0.678 | 1 | 11/09/2022 11:01 | WG1956352 |
| Ethane | 6.26 | | 0.296 | 1.29 | 1 | 11/09/2022 11:01 | WG1956352 |
| Ethene | 10.5 | | 0.422 | 1.27 | 1 | 11/09/2022 11:01 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/09/2022 23:41 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| Benzene | 25.7 | | 0.0160 | 0.0400 | 1 | 11/09/2022 23:41 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/09/2022 23:41 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| cis-1,2-Dichloroethene | 6.29 | | 0.0276 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| Di-isopropyl ether | 0.237 | | 0.0140 | 0.0400 | 1 | 11/09/2022 23:41 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/09/2022 23:41 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/09/2022 23:41 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/09/2022 23:41 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/09/2022 23:41 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/09/2022 23:41 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/09/2022 23:41 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| Vinyl chloride | 26.5 | | 0.0273 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/09/2022 23:41 | WG1956792 |
| Ethyl Ether | 0.117 | | 0.0170 | 0.100 | 1 | 11/09/2022 23:41 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/09/2022 23:41 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/09/2022 23:41 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/09/2022 23:41 | WG1956792 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *11/09/2022 23:41* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *99.9* | | | *67.0-138* | | *11/09/2022 23:41* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *95.9* | | | *70.0-130* | | *11/09/2022 23:41* | WG1956792 |

JC 12/6/2022

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 317000 | | 8450 | 20000 | 1 | 11/13/2022 10:03 | WG1958280 |

Sample Narrative:

L1553890-03 WG1958280: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 25500 | | 379 | 1000 | 1 | 11/04/2022 18:00 | WG1954449 |
| Nitrate | 518 J | T8 | 48.0 | 100 | 1 | 11/04/2022 18:00 | WG1954449 |
| Sulfate | 35000 | | 594 | 5000 | 1 | 11/04/2022 18:00 | WG1954449 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 3920 | ~~B~~ | 102 | 1000 | 1 | 11/20/2022 15:50 | WG1962434 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1660 | | 28.1 | 100 | 1 | 11/16/2022 01:30 | WG1959244 |
| Manganese | 605 | | 0.704 | 5.00 | 1 | 11/16/2022 01:30 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 22.9 | | 0.287 | 0.678 | 1 | 11/09/2022 11:05 | WG1956352 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 11:05 | WG1956352 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 11:05 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch | |
|---|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/10/2022 00:00 | WG1956792 | |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 | |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 00:00 | WG1956792 | |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 | |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 | |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 00:00 | WG1956792 | |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 | |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 | |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 | |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 | |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 | |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 | |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 | |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 | |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 | |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 | |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 | |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 | |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 00:00 | WG1956792 | JC 12/6/2022 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 | |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 00:00 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 00:00 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 00:00 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 00:00 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 00:00 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 00:00 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 00:00 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 00:00 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 00:00 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 00:00 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 00:00 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/10/2022 00:00 | WG1956792 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/10/2022 00:00* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/10/2022 00:00* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *95.3* | | | *70.0-130* | | *11/10/2022 00:00* | WG1956792 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 217000 | | 8450 | 20000 | 1 | 11/13/2022 10:07 | WG1958280 |

Sample Narrative:
L1553890-04 WG1958280: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 34100 | | 379 | 1000 | 1 | 11/04/2022 18:12 | WG1954449 |
| Nitrate | 108 J | T8 | 48.0 | 100 | 1 | 11/04/2022 18:12 | WG1954449 |
| Sulfate | 4920 | J | 594 | 5000 | 1 | 11/04/2022 18:12 | WG1954449 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2500 | ~~B~~ | 102 | 1000 | 1 | 11/20/2022 16:06 | WG1962434 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 12000 | | 28.1 | 100 | 1 | 11/16/2022 01:33 | WG1959244 |
| Manganese | 1070 | | 0.704 | 5.00 | 1 | 11/16/2022 01:33 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 4260 | | 0.287 | 0.678 | 1 | 11/09/2022 11:08 | WG1956352 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 11:08 | WG1956352 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 11:08 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.93 | | 0.548 | 1.00 | 1 | 11/10/2022 00:32 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 00:32 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 00:32 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| cis-1,2-Dichloroethene | 0.112 | | 0.0276 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 00:32 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 00:32 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 00:32 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 00:32 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 00:32 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 00:32 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 00:32 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 00:32 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 00:32 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 00:32 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 00:32 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/10/2022 00:32 | WG1956792 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/10/2022 00:32* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/10/2022 00:32* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *97.6* | | | *70.0-130* | | *11/10/2022 00:32* | WG1956792 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 607000 | | 8450 | 20000 | 1 | 11/13/2022 10:12 | WG1958280 |

Sample Narrative:

L1553890-05 WG1958280: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 13100 | | 379 | 1000 | 1 | 11/04/2022 18:25 | WG1954449 |
| Nitrate | U | UJ T8 | 48.0 | 100 | 1 | 11/04/2022 18:25 | WG1954449 |
| Sulfate | U | | 594 | 5000 | 1 | 11/04/2022 18:25 | WG1954449 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 8200 | | 102 | 1000 | 1 | 11/20/2022 16:24 | WG1962434 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 24400 | | 28.1 | 100 | 1 | 11/16/2022 01:36 | WG1959244 |
| Manganese | 1720 | | 0.704 | 5.00 | 1 | 11/16/2022 01:36 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 25800 | | 2.87 | 6.78 | 10 | 11/09/2022 14:04 | WG1956765 |
| Ethane | 6.02 | | 0.296 | 1.29 | 1 | 11/09/2022 11:11 | WG1956352 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 11:11 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.47 | | 0.548 | 1.00 | 1 | 11/10/2022 00:51 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 00:51 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 00:51 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 00:51 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 00:51 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 00:51 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 00:51 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 00:51 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 00:51 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 00:51 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 00:51 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 00:51 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 00:51 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 00:51 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/10/2022 00:51 | WG1956792 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *11/10/2022 00:51* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *98.6* | | | *67.0-138* | | *11/10/2022 00:51* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *98.3* | | | *70.0-130* | | *11/10/2022 00:51* | WG1956792 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 828000 | | 8450 | 20000 | 1 | 11/13/2022 10:15 | WG1958280 |

Sample Narrative:

L1553890-06 WG1958280: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 33700 | | 379 | 1000 | 1 | 11/04/2022 13:50 | WG1954449 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/04/2022 13:50 | WG1954449 |
| Sulfate | U | | 594 | 5000 | 1 | 11/04/2022 13:50 | WG1954449 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 12500 | | 102 | 1000 | 1 | 11/20/2022 16:43 | WG1962434 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 21700 | | 28.1 | 100 | 1 | 11/16/2022 01:40 | WG1959244 |
| Manganese | 1940 | | 0.704 | 5.00 | 1 | 11/16/2022 01:40 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 22000 | | 2.87 | 6.78 | 10 | 11/09/2022 14:08 | WG1956765 |
| Ethane | 6.07 | | 0.296 | 1.29 | 1 | 11/09/2022 11:15 | WG1956352 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 11:15 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 5.48 | 10.0 | 10 | 11/10/2022 04:03 | WG1956792 |
| Acrylonitrile | U | | 0.760 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Benzene | U | | 0.160 | 0.400 | 10 | 11/10/2022 04:03 | WG1956792 |
| Bromobenzene | U | | 0.420 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Bromodichloromethane | U | | 0.315 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Bromoform | U | | 2.39 | 10.0 | 10 | 11/10/2022 04:03 | WG1956792 |
| Bromomethane | U | | 1.48 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| n-Butylbenzene | U | | 1.53 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| sec-Butylbenzene | 2.45 | J | 1.01 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| tert-Butylbenzene | U | | 0.620 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Carbon tetrachloride | U | | 0.432 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Chlorobenzene | U | | 0.229 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Chlorodibromomethane | U | | 0.180 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Chloroethane | U | | 0.432 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Chloroform | U | | 0.166 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Chloromethane | U | | 0.556 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 2-Chlorotoluene | U | | 0.368 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 4-Chlorotoluene | U | | 0.452 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 2.04 | 10.0 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.210 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.400 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.580 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.680 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.788 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.327 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.230 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.190 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.200 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| cis-1,2-Dichloroethene | U | | 0.276 | 1.00 | 10 | 11/11/2022 17:57 | WG1957713 |
| trans-1,2-Dichloroethene | U | | 0.572 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.508 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.280 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.700 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.271 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.612 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.317 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Di-isopropyl ether | U | | 0.140 | 0.400 | 10 | 11/10/2022 04:03 | WG1956792 |
| Ethylbenzene | U | | 0.212 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 5.08 | 10.0 | 10 | 11/10/2022 04:03 | WG1956792 |
| Isopropylbenzene | 0.850 | J | 0.345 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| p-Isopropyltoluene | U | | 0.932 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 2-Butanone (MEK) | U | | 5.00 | 10.0 | 10 | 11/10/2022 04:03 | WG1956792 |
| Methylene Chloride | U | | 2.65 | 10.0 | 10 | 11/10/2022 04:03 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 4.00 | 10.0 | 10 | 11/10/2022 04:03 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.118 | 0.400 | 10 | 11/10/2022 04:03 | WG1956792 |
| Naphthalene | U | | 1.24 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| n-Propylbenzene | 2.60 | | 0.472 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Styrene | U | | 1.09 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.200 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.156 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.270 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Tetrachloroethene | U | | 0.280 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Toluene | U | | 0.500 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.250 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 1.93 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.110 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.353 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Trichloroethene | U | | 0.160 | 0.400 | 10 | 11/10/2022 04:03 | WG1956792 |
| Trichlorofluoromethane | U | | 0.200 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 2.04 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.464 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.460 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.432 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Vinyl chloride | U | | 0.273 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Xylenes, Total | U | | 1.91 | 2.60 | 10 | 11/10/2022 04:03 | WG1956792 |
| Ethyl Ether | U | | 0.170 | 1.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Tetrahydrofuran | U | | 0.900 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Iodomethane | U | | 2.42 | 5.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| Allyl chloride | U | | 5.80 | 10.0 | 10 | 11/10/2022 04:03 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.560 | 2.00 | 10 | 11/10/2022 04:03 | WG1956792 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/10/2022 04:03* | WG1956792 |
| *(S) Toluene-d8* | *113* | | | *75.0-131* | | *11/11/2022 17:57* | WG1957713 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/10/2022 04:03* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *96.8* | | | *67.0-138* | | *11/11/2022 17:57* | WG1957713 |
| *(S) 1,2-Dichloroethane-d4* | *96.7* | | | *70.0-130* | | *11/10/2022 04:03* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *103* | | | *70.0-130* | | *11/11/2022 17:57* | WG1957713 |

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1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 346000 | | 8450 | 20000 | 1 | 11/11/2022 10:13 | WG1958008 |

Sample Narrative:

L1553923-01 WG1958008: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 22300 | | 379 | 1000 | 1 | 11/04/2022 23:41 | WG1954550 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/04/2022 23:41 | WG1954550 |
| Sulfate | 1770 | J | 594 | 5000 | 1 | 11/04/2022 23:41 | WG1954550 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4530 | ~~B~~ | 102 | 1000 | 1 | 11/20/2022 11:44 | WG1962442 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 3950 | | 28.1 | 100 | 1 | 11/16/2022 01:59 | WG1959244 |
| Manganese | 1730 | | 0.704 | 5.00 | 1 | 11/16/2022 01:59 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 5740 | | 0.287 | 0.678 | 1 | 11/09/2022 11:18 | WG1956352 |
| Ethane | 7.36 | | 0.296 | 1.29 | 1 | 11/09/2022 11:18 | WG1956352 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 11:18 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.66 | | 0.548 | 1.00 | 1 | 11/10/2022 01:11 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 01:11 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 01:11 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| Di-isopropyl ether | 0.133 | | 0.0140 | 0.0400 | 1 | 11/10/2022 01:11 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 01:11 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 01:11 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 01:11 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 01:11 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 01:11 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 01:11 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 01:11 | WG1956792 |
| Ethyl Ether | 0.427 | | 0.0170 | 0.100 | 1 | 11/10/2022 01:11 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 01:11 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 01:11 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/10/2022 01:11 | WG1956792 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/10/2022 01:11* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/10/2022 01:11* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *97.5* | | | *70.0-130* | | *11/10/2022 01:11* | WG1956792 |

JC 12/6/2022

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 1240000 | | 8450 | 20000 | 1 | 11/11/2022 10:18 | WG1958008 |

Sample Narrative:

L1553923-02 WG1958008: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 26200 | | 379 | 1000 | 1 | 11/04/2022 23:54 | WG1954550 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/04/2022 23:54 | WG1954550 |
| Sulfate | U | | 594 | 5000 | 1 | 11/04/2022 23:54 | WG1954550 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 8910 | | 102 | 1000 | 1 | 11/20/2022 12:02 | WG1962442 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 10300 | | 28.1 | 100 | 1 | 11/16/2022 02:03 | WG1959244 |
| Manganese | 612 | | 0.704 | 5.00 | 1 | 11/16/2022 02:03 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 22300 | | 2.87 | 6.78 | 10 | 11/09/2022 14:10 | WG1956765 |
| Ethane | 4.35 | | 0.296 | 1.29 | 1 | 11/09/2022 11:21 | WG1956352 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 11:21 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/10/2022 01:30 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 01:30 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 01:30 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 01:30 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 01:30 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 01:30 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 01:30 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 01:30 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 01:30 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 01:30 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 01:30 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 01:30 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 01:30 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 01:30 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/10/2022 01:30 | WG1956792 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/10/2022 01:30* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *98.8* | | | *67.0-138* | | *11/10/2022 01:30* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *97.6* | | | *70.0-130* | | *11/10/2022 01:30* | WG1956792 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 611000 | | 8450 | 20000 | 1 | 11/11/2022 10:25 | WG1958008 |

Sample Narrative:
L1553923-03 WG1958008: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 19800 | | 379 | 1000 | 1 | 11/05/2022 00:08 | WG1954550 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 00:08 | WG1954550 |
| Sulfate | 90200 | | 594 | 5000 | 1 | 11/05/2022 00:08 | WG1954550 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 8110 | | 102 | 1000 | 1 | 11/20/2022 12:24 | WG1962442 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 7530 | | 28.1 | 100 | 1 | 11/15/2022 12:51 | WG1959247 |
| Manganese | 2080 | | 0.704 | 5.00 | 1 | 11/15/2022 12:51 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 1710 | | 0.287 | 0.678 | 1 | 11/09/2022 11:25 | WG1956352 |
| Ethane | 21.2 | | 0.296 | 1.29 | 1 | 11/09/2022 11:25 | WG1956352 |
| Ethene | 5.80 | | 0.422 | 1.27 | 1 | 11/09/2022 11:25 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/10/2022 01:49 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| Benzene | 1.03 | | 0.0160 | 0.0400 | 1 | 11/10/2022 01:49 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 01:49 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,1-Dichloroethane | 0.106 | | 0.0230 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,1-Dichloroethene | 4.53 | | 0.0200 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| cis-1,2-Dichloroethene | 1650 | | 0.690 | 2.50 | 25 | 11/11/2022 18:17 | WG1957713 |
| trans-1,2-Dichloroethene | 6.55 | | 0.0572 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 01:49 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 01:49 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 01:49 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 01:49 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 01:49 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 01:49 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| Trichloroethene | 0.147 | | 0.0160 | 0.0400 | 1 | 11/10/2022 01:49 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| Vinyl chloride | 74.0 | | 0.682 | 2.50 | 25 | 11/11/2022 18:17 | WG1957713 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 01:49 | WG1956792 |
| Ethyl Ether | 0.159 | | 0.0170 | 0.100 | 1 | 11/10/2022 01:49 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 01:49 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 01:49 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/10/2022 01:49 | WG1956792 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/10/2022 01:49* | WG1956792 |
| *(S) Toluene-d8* | *110* | | | *75.0-131* | | *11/11/2022 18:17* | WG1957713 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/10/2022 01:49* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *98.0* | | | *67.0-138* | | *11/11/2022 18:17* | WG1957713 |
| *(S) 1,2-Dichloroethane-d4* | *96.8* | | | *70.0-130* | | *11/10/2022 01:49* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *106* | | | *70.0-130* | | *11/11/2022 18:17* | WG1957713 |

JC 12/6/2022

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 280000 | | 8450 | 20000 | 1 | 11/11/2022 10:30 | WG1958008 |

Sample Narrative:

L1553923-04 WG1958008: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 24300 | | 379 | 1000 | 1 | 11/05/2022 00:22 | WG1954550 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 00:22 | WG1954550 |
| Sulfate | 86700 | | 594 | 5000 | 1 | 11/05/2022 00:22 | WG1954550 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2520 | ~~B~~ | 102 | 1000 | 1 | 11/20/2022 12:39 | WG1962442 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 135 | | 28.1 | 100 | 1 | 11/15/2022 12:55 | WG1959247 |
| Manganese | 1170 | | 0.704 | 5.00 | 1 | 11/15/2022 12:55 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 338 | | 0.287 | 0.678 | 1 | 11/09/2022 11:28 | WG1956352 |
| Ethane | 3.60 | | 0.296 | 1.29 | 1 | 11/09/2022 11:28 | WG1956352 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 11:28 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch | |
|---|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/10/2022 02:08 | WG1956792 | |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 | |
| Benzene | 0.278 | | 0.0160 | 0.0400 | 1 | 11/10/2022 02:08 | WG1956792 | |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 | |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 | |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 02:08 | WG1956792 | |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 | |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 | |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 | |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 | |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 | |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 | |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 | |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 | |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 | |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 | |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 | |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 | |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 02:08 | WG1956792 | |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 | JC 12/6/2022 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,1-Dichloroethene | 1.12 | | 0.0200 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| cis-1,2-Dichloroethene | 512 | | 0.276 | 1.00 | 10 | 11/11/2022 18:36 | WG1957713 |
| trans-1,2-Dichloroethene | 1.66 | | 0.0572 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 02:08 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 02:08 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 02:08 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 02:08 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 02:08 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 02:08 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| Tetrachloroethene | 125 | | 0.280 | 1.00 | 10 | 11/11/2022 18:36 | WG1957713 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| Trichloroethene | 220 | | 0.160 | 0.400 | 10 | 11/11/2022 18:36 | WG1957713 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| Vinyl chloride | U | | 0.273 | 1.00 | 10 | 11/11/2022 18:36 | WG1957713 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 02:08 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 02:08 | WG1956792 |
| Tetrahydrofuran | 0.198 | J | 0.0900 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 02:08 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 02:08 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/10/2022 02:08 | WG1956792 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/10/2022 02:08* | WG1956792 |
| *(S) Toluene-d8* | *114* | | | *75.0-131* | | *11/11/2022 18:36* | WG1957713 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/10/2022 02:08* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *99.8* | | | *67.0-138* | | *11/11/2022 18:36* | WG1957713 |
| *(S) 1,2-Dichloroethane-d4* | *97.4* | | | *70.0-130* | | *11/10/2022 02:08* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *103* | | | *70.0-130* | | *11/11/2022 18:36* | WG1957713 |

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1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 256000 | | 8450 | 20000 | 1 | 11/11/2022 10:35 | WG1958008 |

Sample Narrative:

L1553923-05 WG1958008: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 39600 | | 379 | 1000 | 1 | 11/05/2022 00:35 | WG1954550 |
| Nitrate | 830 | | 48.0 | 100 | 1 | 11/05/2022 00:35 | WG1954550 |
| Sulfate | 60400 | | 594 | 5000 | 1 | 11/05/2022 00:35 | WG1954550 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1700 | B | 102 | 1000 | 1 | 11/20/2022 13:44 | WG1962442 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | U | | 28.1 | 100 | 1 | 11/15/2022 12:58 | WG1959247 |
| Manganese | 1.01 | J | 0.704 | 5.00 | 1 | 11/15/2022 12:58 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 1.56 J | P1 | 0.287 | 0.678 | 1 | 11/09/2022 11:34 | WG1956352 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 11:34 | WG1956352 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 11:34 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/10/2022 02:27 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 02:27 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 02:27 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| cis-1,2-Dichloroethene | 14.5 | | 0.0276 | 0.100 | 1 | 11/11/2022 15:59 | WG1957713 |
| trans-1,2-Dichloroethene | 0.127 | J | 0.0572 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 02:27 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 02:27 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 02:27 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 02:27 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 02:27 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 02:27 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| Tetrachloroethene | 0.0840 | J | 0.0280 | 0.100 | 1 | 11/11/2022 15:59 | WG1957713 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,2,3-Trichlorobenzene | U UJ | C4 | 0.0250 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,2,4-Trichlorobenzene | U UJ | C4 | 0.193 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| Trichloroethene | 0.657 | | 0.0160 | 0.0400 | 1 | 11/11/2022 15:59 | WG1957713 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 02:27 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 02:27 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 02:27 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 02:27 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U UJ | C3 | 0.0560 | 0.200 | 1 | 11/10/2022 02:27 | WG1956792 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/10/2022 02:27* | WG1956792 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/11/2022 15:59* | WG1957713 |
| *(S) 4-Bromofluorobenzene* | *99.4* | | | *67.0-138* | | *11/10/2022 02:27* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *98.4* | | | *67.0-138* | | *11/11/2022 15:59* | WG1957713 |
| *(S) 1,2-Dichloroethane-d4* | *98.1* | | | *70.0-130* | | *11/10/2022 02:27* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *105* | | | *70.0-130* | | *11/11/2022 15:59* | WG1957713 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 302000 | | 8450 | 20000 | 1 | 11/11/2022 10:41 | WG1958008 |

Sample Narrative:

L1553923-06 WG1958008: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 24300 | | 379 | 1000 | 1 | 11/05/2022 00:49 | WG1954550 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 00:49 | WG1954550 |
| Sulfate | 21600 | | 594 | 5000 | 1 | 11/05/2022 00:49 | WG1954550 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4510 | B | 102 | 1000 | 1 | 11/20/2022 13:59 | WG1962442 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 4050 | | 28.1 | 100 | 1 | 11/15/2022 13:01 | WG1959247 |
| Manganese | 1030 | | 0.704 | 5.00 | 1 | 11/15/2022 13:01 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 523 | | 0.287 | 0.678 | 1 | 11/09/2022 11:43 | WG1956352 |
| Ethane | 6.06 J | P1 | 0.296 | 1.29 | 1 | 11/09/2022 11:43 | WG1956352 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 11:43 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/10/2022 02:46 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 02:46 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 02:46 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| cis-1,2-Dichloroethene | 0.103 | | 0.0276 | 0.100 | 1 | 11/11/2022 16:19 | WG1957713 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 02:46 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 02:46 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 02:46 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 02:46 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 02:46 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 02:46 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| Tetrachloroethene | 0.0760 | J | 0.0280 | 0.100 | 1 | 11/11/2022 16:19 | WG1957713 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 02:46 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| Vinyl chloride | 0.253 | | 0.0273 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 02:46 | WG1956792 |
| Ethyl Ether | 0.149 | | 0.0170 | 0.100 | 1 | 11/10/2022 02:46 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 02:46 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 02:46 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/10/2022 02:46 | WG1956792 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/10/2022 02:46* | WG1956792 |
| *(S) Toluene-d8* | *115* | | | *75.0-131* | | *11/11/2022 16:19* | WG1957713 |
| *(S) 4-Bromofluorobenzene* | *99.4* | | | *67.0-138* | | *11/10/2022 02:46* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *11/11/2022 16:19* | WG1957713 |
| *(S) 1,2-Dichloroethane-d4* | *98.6* | | | *70.0-130* | | *11/10/2022 02:46* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *107* | | | *70.0-130* | | *11/11/2022 16:19* | WG1957713 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 526000 | | 8450 | 20000 | 1 | 11/11/2022 10:47 | WG1958008 |

Sample Narrative:

L1553923-07 WG1958008: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 67600 | | 379 | 1000 | 1 | 11/05/2022 01:03 | WG1954550 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 01:03 | WG1954550 |
| Sulfate | 68600 | | 594 | 5000 | 1 | 11/05/2022 01:03 | WG1954550 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 14000 | | 102 | 1000 | 1 | 11/20/2022 14:20 | WG1962442 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 8940 | | 28.1 | 100 | 1 | 11/15/2022 13:13 | WG1959247 |
| Manganese | 898 | | 0.704 | 5.00 | 1 | 11/15/2022 13:13 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 1360 | | 0.287 | 0.678 | 1 | 11/09/2022 11:47 | WG1956352 |
| Ethane | 46.5 | | 0.296 | 1.29 | 1 | 11/09/2022 11:47 | WG1956352 |
| Ethene | 10.8 | | 0.422 | 1.27 | 1 | 11/09/2022 11:47 | WG1956352 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 1.80 | | 0.548 | 1.00 | 1 | 11/10/2022 03:06 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| Benzene | 2.29 | | 0.0160 | 0.0400 | 1 | 11/10/2022 03:06 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 03:06 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,1-Dichloroethane | 0.160 | | 0.0230 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,1-Dichloroethene | 7.74 | | 0.0200 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| cis-1,2-Dichloroethene | 5530 | | 2.76 | 10.0 | 100 | 11/11/2022 18:56 | WG1957713 |
| trans-1,2-Dichloroethene | 15.0 | | 0.0572 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,2-Dichloropropane | 0.117 | J | 0.0508 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 03:06 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 03:06 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 03:06 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 03:06 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 03:06 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 03:06 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| Tetrachloroethene | 20.8 | | 0.0280 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| Trichloroethene | 43.9 | | 0.0160 | 0.0400 | 1 | 11/10/2022 03:06 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| Vinyl chloride | 24.6 | | 0.0273 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 03:06 | WG1956792 |
| Ethyl Ether | 0.149 | | 0.0170 | 0.100 | 1 | 11/10/2022 03:06 | WG1956792 |
| Tetrahydrofuran | 0.276 | J | 0.0900 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 03:06 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 03:06 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/10/2022 03:06 | WG1956792 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/10/2022 03:06* | WG1956792 |
| *(S) Toluene-d8* | *116* | | | *75.0-131* | | *11/11/2022 18:56* | WG1957713 |
| *(S) 4-Bromofluorobenzene* | *106* | | | *67.0-138* | | *11/10/2022 03:06* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/11/2022 18:56* | WG1957713 |
| *(S) 1,2-Dichloroethane-d4* | *97.6* | | | *70.0-130* | | *11/10/2022 03:06* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *108* | | | *70.0-130* | | *11/11/2022 18:56* | WG1957713 |

JC 12/6/2022

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 97700 | | 8450 | 20000 | 1 | 11/11/2022 11:26 | WG1958008 |

Sample Narrative:
L1553987-01 WG1958008: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 9450 | | 379 | 1000 | 1 | 11/05/2022 07:40 | WG1954627 |
| Nitrate | 115 | | 48.0 | 100 | 1 | 11/05/2022 07:40 | WG1954627 |
| Sulfate | 4400 | J | 594 | 5000 | 1 | 11/05/2022 07:40 | WG1954627 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4170 | B | 102 | 1000 | 1 | 11/22/2022 09:36 | WG1962603 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 997 | | 28.1 | 100 | 1 | 11/15/2022 13:16 | WG1959247 |
| Manganese | 279 | | 0.704 | 5.00 | 1 | 11/15/2022 13:16 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 620 | | 0.287 | 0.678 | 1 | 11/09/2022 15:31 | WG1956765 |
| Ethane | 14.1 | | 0.296 | 1.29 | 1 | 11/09/2022 15:31 | WG1956765 |
| Ethene | 34.8 | | 0.422 | 1.27 | 1 | 11/09/2022 15:31 | WG1956765 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch | |
|---|---|---|---|---|---|---|---|---|
| Acetone | 1.63 | U | 0.548 | 1.00 | 1 | 11/10/2022 03:25 | WG1956792 | |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 | |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 03:25 | WG1956792 | |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 | |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 | |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 03:25 | WG1956792 | |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 | |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 | |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 | |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 | |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 | |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 | |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 | |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 | |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 | |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 | |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 | |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 | |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 03:25 | WG1956792 | |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 | JC 12/6/22 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,1-Dichloroethene | 0.325 | | 0.0200 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| cis-1,2-Dichloroethene | 180 | | 0.138 | 0.500 | 5 | 11/11/2022 19:15 | WG1957713 |
| trans-1,2-Dichloroethene | 0.375 | | 0.0572 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 03:25 | WG1956792 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 03:25 | WG1956792 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 03:25 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 03:25 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 03:25 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 03:25 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| Tetrachloroethene | 0.316 | | 0.0280 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| Trichloroethene | 0.848 | | 0.0160 | 0.0400 | 1 | 11/10/2022 03:25 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| Vinyl chloride | 130 | | 0.137 | 0.500 | 5 | 11/11/2022 19:15 | WG1957713 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 03:25 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 03:25 | WG1956792 |
| Tetrahydrofuran | 0.142 | J | 0.0900 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 03:25 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 03:25 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/10/2022 03:25 | WG1956792 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/10/2022 03:25* | WG1956792 |
| *(S) Toluene-d8* | *113* | | | *75.0-131* | | *11/11/2022 19:15* | WG1957713 |
| *(S) 4-Bromofluorobenzene* | *99.4* | | | *67.0-138* | | *11/10/2022 03:25* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *96.3* | | | *67.0-138* | | *11/11/2022 19:15* | WG1957713 |
| *(S) 1,2-Dichloroethane-d4* | *96.9* | | | *70.0-130* | | *11/10/2022 03:25* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *111* | | | *70.0-130* | | *11/11/2022 19:15* | WG1957713 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 598000 | | 8450 | 20000 | 1 | 11/11/2022 11:32 | WG1958008 |

Sample Narrative:
L1553987-02 WG1958008: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 5740 | | 379 | 1000 | 1 | 11/05/2022 09:03 | WG1954627 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 09:03 | WG1954627 |
| Sulfate | 194000 | | 594 | 5000 | 1 | 11/05/2022 09:03 | WG1954627 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 7480 | | 102 | 1000 | 1 | 11/22/2022 09:51 | WG1962603 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 9560 | | 28.1 | 100 | 1 | 11/15/2022 12:38 | WG1959247 |
| Manganese | 1050 | | 0.704 | 5.00 | 1 | 11/15/2022 12:38 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 33.5 | | 0.287 | 0.678 | 1 | 11/09/2022 15:47 | WG1956765 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/09/2022 15:47 | WG1956765 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/09/2022 15:47 | WG1956765 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | U | | 0.548 | 1.00 | 1 | 11/10/2022 03:44 | WG1956792 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| Benzene | 5.03 | | 0.0160 | 0.0400 | 1 | 11/10/2022 03:44 | WG1956792 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 03:44 | WG1956792 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| sec-Butylbenzene | 8.89 | | 0.101 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| tert-Butylbenzene | 0.220 | | 0.0620 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,2-Dichloroethane | 0.246 | | 0.0190 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/11/2022 16:38 | WG1957713 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 03:44 | WG1956792 |
| Ethylbenzene | 0.582 | | 0.0212 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 03:44 | WG1956792 |
| Isopropylbenzene | 9.09 | | 0.0345 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 03:44 | WG1956792 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 03:44 | WG1956792 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 03:44 | WG1956792 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 03:44 | WG1956792 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| n-Propylbenzene | 20.8 | | 0.0472 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| Toluene | 0.364 | | 0.0500 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 03:44 | WG1956792 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,2,4-Trimethylbenzene | 0.375 | | 0.0464 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| 1,3,5-Trimethylbenzene | 0.130 | J | 0.0432 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/11/2022 16:38 | WG1957713 |
| Xylenes, Total | 1.17 | | 0.191 | 0.260 | 1 | 11/10/2022 03:44 | WG1956792 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 03:44 | WG1956792 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 03:44 | WG1956792 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 03:44 | WG1956792 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/10/2022 03:44 | WG1956792 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/10/2022 03:44* | WG1956792 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/11/2022 16:38* | WG1957713 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/10/2022 03:44* | WG1956792 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/11/2022 16:38* | WG1957713 |
| *(S) 1,2-Dichloroethane-d4* | *96.9* | | | *70.0-130* | | *11/10/2022 03:44* | WG1956792 |
| *(S) 1,2-Dichloroethane-d4* | *106* | | | *70.0-130* | | *11/11/2022 16:38* | WG1957713 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 159000 | | 8450 | 20000 | 1 | 11/11/2022 11:37 | WG1958008 |

Sample Narrative:

L1553987-04 WG1958008: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 10400 | | 379 | 1000 | 1 | 11/05/2022 09:30 | WG1954627 |
| Nitrate | 63.5 | J | 48.0 | 100 | 1 | 11/05/2022 09:30 | WG1954627 |
| Sulfate | 8920 | | 594 | 5000 | 1 | 11/05/2022 09:30 | WG1954627 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1940 | ~~B~~ | 102 | 1000 | 1 | 11/22/2022 10:04 | WG1962603 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 503 | | 28.1 | 100 | 1 | 11/16/2022 02:09 | WG1959244 |
| Manganese | 332 | | 0.704 | 5.00 | 1 | 11/16/2022 02:09 | WG1959244 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 278 | | 0.287 | 0.678 | 1 | 11/09/2022 15:50 | WG1956765 |
| Ethane | 3.66 | | 0.296 | 1.29 | 1 | 11/09/2022 15:50 | WG1956765 |
| Ethene | 9.27 | | 0.422 | 1.27 | 1 | 11/09/2022 15:50 | WG1956765 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 2.30 | U | 0.548 | 1.00 | 1 | 11/10/2022 23:06 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| Benzene | 0.0310 | U ~~J~~ | 0.0160 | 0.0400 | 1 | 11/10/2022 23:06 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 23:06 | WG1956793 |
| Bromomethane | U | ~~J3~~ | 0.148 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| cis-1,2-Dichloroethene | 0.292 | B | 0.0276 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 23:06 | WG1956793 |
| Ethylbenzene | 0.0650 | J | 0.0212 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 23:06 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 23:06 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 23:06 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 23:06 | WG1956793 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 23:06 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| n-Propylbenzene | 0.0490 | J | 0.0472 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| Toluene | 0.389 | | 0.0500 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | C4 | 0.0250 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | UJ | 0.193 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 23:06 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,2,3-Trimethylbenzene | 0.101 | J | 0.0460 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| Vinyl chloride | 1.14 | | 0.0273 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| Xylenes, Total | 0.293 | | 0.191 | 0.260 | 1 | 11/10/2022 23:06 | WG1956793 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 23:06 | WG1956793 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 23:06 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 23:06 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/10/2022 23:06 | WG1956793 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/10/2022 23:06* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *99.6* | | | *67.0-138* | | *11/10/2022 23:06* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *96.7* | | | *70.0-130* | | *11/10/2022 23:06* | WG1956793 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 470000 | | 8450 | 20000 | 1 | 11/11/2022 11:44 | WG1958008 |

Sample Narrative:

L1553987-05 WG1958008: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 38900 | | 379 | 1000 | 1 | 11/05/2022 09:44 | WG1954627 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 09:44 | WG1954627 |
| Sulfate | 7540 | | 594 | 5000 | 1 | 11/05/2022 09:44 | WG1954627 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4030 | B | 102 | 1000 | 1 | 11/22/2022 10:42 | WG1962603 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 4650 | | 28.1 | 100 | 1 | 11/15/2022 13:19 | WG1959247 |
| Manganese | 1570 | | 0.704 | 5.00 | 1 | 11/15/2022 13:19 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 14200 | | 2.87 | 6.78 | 10 | 11/10/2022 13:04 | WG1957436 |
| Ethane | 437 | | 0.296 | 1.29 | 1 | 11/10/2022 09:04 | WG1957006 |
| Ethene | 333 | | 0.422 | 1.27 | 1 | 11/10/2022 09:04 | WG1957006 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/10/2022 23:26 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/10/2022 23:26 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 23:26 | WG1956793 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,1-Dichloroethene | 0.0900 | J | 0.0200 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| cis-1,2-Dichloroethene | 13.8 | | 0.0276 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| trans-1,2-Dichloroethene | 1.22 | | 0.0572 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 23:26 | WG1956793 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 23:26 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 23:26 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 23:26 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 23:26 | WG1956793 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 23:26 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| Toluene | 0.0920 | U J | 0.0500 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| Trichloroethene | 0.101 | | 0.0160 | 0.0400 | 1 | 11/10/2022 23:26 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| Vinyl chloride | 173 | | 0.273 | 1.00 | 10 | 11/16/2022 07:35 | WG1959831 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 23:26 | WG1956793 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 23:26 | WG1956793 |
| Tetrahydrofuran | 4.71 | | 0.0900 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 23:26 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 23:26 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/10/2022 23:26 | WG1956793 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/10/2022 23:26* | WG1956793 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/16/2022 07:35* | WG1959831 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/10/2022 23:26* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *99.9* | | | *67.0-138* | | *11/16/2022 07:35* | WG1959831 |
| *(S) 1,2-Dichloroethane-d4* | *96.4* | | | *70.0-130* | | *11/10/2022 23:26* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *97.0* | | | *70.0-130* | | *11/16/2022 07:35* | WG1959831 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 656000 | | 8450 | 20000 | 1 | 11/11/2022 11:49 | WG1958008 |

Sample Narrative:
L1553987-06 WG1958008: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 44200 | | 379 | 1000 | 1 | 11/05/2022 09:57 | WG1954627 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 09:57 | WG1954627 |
| Sulfate | 1480 | J | 594 | 5000 | 1 | 11/05/2022 09:57 | WG1954627 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 6170 | ~~B~~ | 102 | 1000 | 1 | 11/22/2022 11:31 | WG1962603 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 6370 | | 28.1 | 100 | 1 | 11/15/2022 13:23 | WG1959247 |
| Manganese | 1700 | | 0.704 | 5.00 | 1 | 11/15/2022 13:23 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 18000 | | 2.87 | 6.78 | 10 | 11/10/2022 13:08 | WG1957436 |
| Ethane | 427 | | 0.296 | 1.29 | 1 | 11/10/2022 09:08 | WG1957006 |
| Ethene | 275 | | 0.422 | 1.27 | 1 | 11/10/2022 09:08 | WG1957006 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.52 U | | 0.548 | 1.00 | 1 | 11/10/2022 23:45 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| Benzene | 0.0430 | | 0.0160 | 0.0400 | 1 | 11/10/2022 23:45 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/10/2022 23:45 | WG1956793 |
| Bromomethane | U | ~~J3~~ | 0.148 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,1-Dichloroethene | 0.174 | | 0.0200 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| cis-1,2-Dichloroethene | 72.7 | | 0.0276 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| trans-1,2-Dichloroethene | 2.06 | | 0.0572 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/10/2022 23:45 | WG1956793 |
| Ethylbenzene | 0.0320 | J | 0.0212 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/10/2022 23:45 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/10/2022 23:45 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/10/2022 23:45 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/10/2022 23:45 | WG1956793 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/10/2022 23:45 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| Toluene | 0.127 | U J | 0.0500 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| Trichloroethene | 0.116 | | 0.0160 | 0.0400 | 1 | 11/10/2022 23:45 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| Vinyl chloride | 146 | | 0.273 | 1.00 | 10 | 11/16/2022 07:54 | WG1959831 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/10/2022 23:45 | WG1956793 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/10/2022 23:45 | WG1956793 |
| Tetrahydrofuran | 7.92 | | 0.0900 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/10/2022 23:45 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/10/2022 23:45 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/10/2022 23:45 | WG1956793 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/10/2022 23:45* | WG1956793 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/16/2022 07:54* | WG1959831 |
| *(S) 4-Bromofluorobenzene* | *99.2* | | | *67.0-138* | | *11/10/2022 23:45* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/16/2022 07:54* | WG1959831 |
| *(S) 1,2-Dichloroethane-d4* | *98.4* | | | *70.0-130* | | *11/10/2022 23:45* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *94.7* | | | *70.0-130* | | *11/16/2022 07:54* | WG1959831 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 115000 | | 8450 | 20000 | 1 | 11/11/2022 12:03 | WG1958008 |

Sample Narrative:

L1553987-07 WG1958008: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 44300 | | 379 | 1000 | 1 | 11/05/2022 08:22 | WG1954627 |
| Nitrate | 6870 | | 48.0 | 100 | 1 | 11/05/2022 08:22 | WG1954627 |
| Sulfate | 59700 | | 594 | 5000 | 1 | 11/05/2022 08:22 | WG1954627 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1670 | ~~B~~ | 102 | 1000 | 1 | 11/22/2022 12:22 | WG1962603 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 189 | | 28.1 | 100 | 1 | 11/15/2022 13:26 | WG1959247 |
| Manganese | 30.1 | | 0.704 | 5.00 | 1 | 11/15/2022 13:26 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | U | | 0.287 | 0.678 | 1 | 11/10/2022 09:11 | WG1957006 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/10/2022 09:11 | WG1957006 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/10/2022 09:11 | WG1957006 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/11/2022 00:04 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 00:04 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 00:04 | WG1956793 |
| Bromomethane | U | ~~J3~~ | 0.148 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| Chloroform | 0.0930 | J | 0.0166 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| cis-1,2-Dichloroethene | 0.925 | | 0.0276 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/11/2022 00:04 | WG1956793 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 00:04 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 00:04 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 00:04 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 00:04 | WG1956793 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/11/2022 00:04 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| Tetrachloroethene | 88.8 | | 0.0280 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| Toluene | 0.0600 | U | 0.0500 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| Trichloroethene | 6.04 | | 0.0160 | 0.0400 | 1 | 11/11/2022 00:04 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/16/2022 06:37 | WG1959831 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 00:04 | WG1956793 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/11/2022 00:04 | WG1956793 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 00:04 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 00:04 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 00:04 | WG1956793 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/11/2022 00:04* | WG1956793 |
| *(S) Toluene-d8* | *103* | | | *75.0-131* | | *11/16/2022 06:37* | WG1959831 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/11/2022 00:04* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/16/2022 06:37* | WG1959831 |
| *(S) 1,2-Dichloroethane-d4* | *96.5* | | | *70.0-130* | | *11/11/2022 00:04* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *96.6* | | | *70.0-130* | | *11/16/2022 06:37* | WG1959831 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 730000 | | 8450 | 20000 | 1 | 11/11/2022 12:08 | WG1958008 |

Sample Narrative:

L1553987-08 WG1958008: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 22700 | | 379 | 1000 | 1 | 11/05/2022 12:01 | WG1954627 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 12:01 | WG1954627 |
| Sulfate | 18000 | | 594 | 5000 | 1 | 11/05/2022 12:01 | WG1954627 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 13500 | | 102 | 1000 | 1 | 11/22/2022 13:18 | WG1962603 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 19200 | | 28.1 | 100 | 1 | 11/15/2022 13:29 | WG1959247 |
| Manganese | 3280 | | 0.704 | 5.00 | 1 | 11/15/2022 13:29 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 3540 | | 0.287 | 0.678 | 1 | 11/10/2022 09:14 | WG1957006 |
| Ethane | 71.5 | | 0.296 | 1.29 | 1 | 11/10/2022 09:14 | WG1957006 |
| Ethene | 53.9 | | 0.422 | 1.27 | 1 | 11/10/2022 09:14 | WG1957006 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.67 | U | 0.548 | 1.00 | 1 | 11/11/2022 00:23 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| Benzene | 11.8 | | 0.0160 | 0.0400 | 1 | 11/11/2022 00:23 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 00:23 | WG1956793 |
| Bromomethane | U | ~~J3~~ | 0.148 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| Chloroform | 0.175 | | 0.0166 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,1-Dichloroethane | 0.0340 | J | 0.0230 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,1-Dichloroethene | 1.53 | | 0.0200 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| cis-1,2-Dichloroethene | 598 | | 1.38 | 5.00 | 50 | 11/16/2022 08:14 | WG1959831 |
| trans-1,2-Dichloroethene | 2.60 | | 0.0572 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| Di-isopropyl ether | 0.0980 | | 0.0140 | 0.0400 | 1 | 11/11/2022 00:23 | WG1956793 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 00:23 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 00:23 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 00:23 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 00:23 | WG1956793 |
| Methyl tert-butyl ether | 0.0180 | J | 0.0118 | 0.0400 | 1 | 11/11/2022 00:23 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| Tetrachloroethene | 0.315 | | 0.0280 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| Toluene | 0.313 | | 0.0500 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| Trichloroethene | 0.892 | | 0.0160 | 0.0400 | 1 | 11/11/2022 00:23 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| Vinyl chloride | 243 | | 1.36 | 5.00 | 50 | 11/16/2022 08:14 | WG1959831 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 00:23 | WG1956793 |
| Ethyl Ether | 0.355 | | 0.0170 | 0.100 | 1 | 11/11/2022 00:23 | WG1956793 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 00:23 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 00:23 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 00:23 | WG1956793 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/11/2022 00:23* | WG1956793 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/16/2022 08:14* | WG1959831 |
| *(S) 4-Bromofluorobenzene* | *106* | | | *67.0-138* | | *11/11/2022 00:23* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *99.1* | | | *67.0-138* | | *11/16/2022 08:14* | WG1959831 |
| *(S) 1,2-Dichloroethane-d4* | *98.0* | | | *70.0-130* | | *11/11/2022 00:23* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *95.9* | | | *70.0-130* | | *11/16/2022 08:14* | WG1959831 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 311000 | | 8450 | 20000 | 1 | 11/13/2022 12:20 | WG1958822 |

Sample Narrative:

L1554324-01 WG1958822: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 32100 | | 379 | 1000 | 1 | 11/05/2022 16:44 | WG1954869 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 16:44 | WG1954869 |
| Sulfate | 8710 | | 594 | 5000 | 1 | 11/05/2022 16:44 | WG1954869 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 5210 | | 102 | 1000 | 1 | 11/21/2022 14:40 | WG1962903 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 3110 | | 28.1 | 100 | 1 | 11/15/2022 13:42 | WG1959247 |
| Manganese | 777 | | 0.704 | 5.00 | 1 | 11/15/2022 13:42 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 3210 | | 0.287 | 0.678 | 1 | 11/10/2022 11:30 | WG1957027 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/10/2022 11:30 | WG1957027 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/10/2022 11:30 | WG1957027 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/11/2022 03:35 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 03:35 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 03:35 | WG1956793 |
| Bromomethane | U | ~~J3~~ | 0.148 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| cis-1,2-Dichloroethene | 0.0330 | U B J | 0.0276 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| Di-isopropyl ether | 0.0210 | J | 0.0140 | 0.0400 | 1 | 11/11/2022 03:35 | WG1956793 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 03:35 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 03:35 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 03:35 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 03:35 | WG1956793 |
| Methyl tert-butyl ether | 0.0490 | | 0.0118 | 0.0400 | 1 | 11/11/2022 03:35 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 03:35 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 03:35 | WG1956793 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/11/2022 03:35 | WG1956793 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 03:35 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 03:35 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 03:35 | WG1956793 |
| *(S) Toluene-d8* | *109* | | | *75.0-131* | | *11/11/2022 03:35* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/11/2022 03:35* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *97.4* | | | *70.0-130* | | *11/11/2022 03:35* | WG1956793 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 277000 | | 8450 | 20000 | 1 | 11/13/2022 12:24 | WG1958822 |

Sample Narrative:

L1554324-02 WG1958822: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 32100 | | 379 | 1000 | 1 | 11/05/2022 17:22 | WG1954869 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 17:22 | WG1954869 |
| Sulfate | 369000 | | 2970 | 25000 | 5 | 11/11/2022 01:57 | WG1956823 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4580 | | 102 | 1000 | 1 | 11/21/2022 15:33 | WG1962903 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 177 | | 28.1 | 100 | 1 | 11/15/2022 13:52 | WG1959247 |
| Manganese | 568 | | 0.704 | 5.00 | 1 | 11/15/2022 13:52 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 29.4 | | 0.287 | 0.678 | 1 | 11/10/2022 11:37 | WG1957027 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/10/2022 11:37 | WG1957027 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/10/2022 11:37 | WG1957027 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/11/2022 03:54 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 03:54 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 03:54 | WG1956793 |
| Bromomethane | U | ~~J3~~ | 0.148 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| cis-1,2-Dichloroethene | 0.0560 | U ~~B J~~ | 0.0276 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/11/2022 03:54 | WG1956793 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 03:54 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 03:54 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 03:54 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 03:54 | WG1956793 |
| Methyl tert-butyl ether | 0.0170 | J | 0.0118 | 0.0400 | 1 | 11/11/2022 03:54 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| Tetrachloroethene | 0.285 | | 0.0280 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 03:54 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 03:54 | WG1956793 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/11/2022 03:54 | WG1956793 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 03:54 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 03:54 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 03:54 | WG1956793 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/11/2022 03:54* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/11/2022 03:54* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *98.4* | | | *70.0-130* | | *11/11/2022 03:54* | WG1956793 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 326000 | | 8450 | 20000 | 1 | 11/13/2022 12:28 | WG1958822 |

Sample Narrative:

L1554324-03 WG1958822: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 31400 | | 379 | 1000 | 1 | 11/05/2022 17:35 | WG1954869 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 17:35 | WG1954869 |
| Sulfate | 29300 | | 594 | 5000 | 1 | 11/05/2022 17:35 | WG1954869 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2090 | ~~B~~ | 102 | 1000 | 1 | 11/21/2022 15:46 | WG1962903 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 2660 | | 28.1 | 100 | 1 | 11/15/2022 13:56 | WG1959247 |
| Manganese | 951 | | 0.704 | 5.00 | 1 | 11/15/2022 13:56 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 189 | | 0.287 | 0.678 | 1 | 11/10/2022 11:40 | WG1957027 |
| Ethane | 39.8 | | 0.296 | 1.29 | 1 | 11/10/2022 11:40 | WG1957027 |
| Ethene | 9.80 | | 0.422 | 1.27 | 1 | 11/10/2022 11:40 | WG1957027 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/11/2022 04:13 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| Benzene | 0.0490 | | 0.0160 | 0.0400 | 1 | 11/11/2022 04:13 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 04:13 | WG1956793 |
| Bromomethane | U | ~~J3~~ | 0.148 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,1-Dichloroethane | 0.105 | | 0.0230 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,1-Dichloroethene | 2.23 | | 0.0200 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| cis-1,2-Dichloroethene | 374 | | 0.552 | 2.00 | 20 | 11/16/2022 10:04 | WG1959831 |
| trans-1,2-Dichloroethene | 0.539 | | 0.0572 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/11/2022 04:13 | WG1956793 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 04:13 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 04:13 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 04:13 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 04:13 | WG1956793 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/11/2022 04:13 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| Trichloroethene | 0.0990 | | 0.0160 | 0.0400 | 1 | 11/11/2022 04:13 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| Vinyl chloride | 77.2 | | 0.0273 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 04:13 | WG1956793 |
| Ethyl Ether | 0.0930 | J | 0.0170 | 0.100 | 1 | 11/11/2022 04:13 | WG1956793 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 04:13 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 04:13 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 04:13 | WG1956793 |
| *(S) Toluene-d8* | *108* | | | *75.0-131* | | *11/11/2022 04:13* | WG1956793 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/16/2022 10:04* | WG1959831 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/11/2022 04:13* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/16/2022 10:04* | WG1959831 |
| *(S) 1,2-Dichloroethane-d4* | *97.2* | | | *70.0-130* | | *11/11/2022 04:13* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *94.4* | | | *70.0-130* | | *11/16/2022 10:04* | WG1959831 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 751000 | | 8450 | 20000 | 1 | 11/13/2022 12:33 | WG1958822 |

Sample Narrative:

L1554324-04 WG1958822: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 48700 | | 379 | 1000 | 1 | 11/05/2022 17:48 | WG1954869 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 17:48 | WG1954869 |
| Sulfate | 194000 | | 594 | 5000 | 1 | 11/05/2022 17:48 | WG1954869 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 10900 | | 102 | 1000 | 1 | 11/21/2022 16:04 | WG1962903 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 22600 | | 28.1 | 100 | 1 | 11/15/2022 13:59 | WG1959247 |
| Manganese | 8090 | | 0.704 | 5.00 | 1 | 11/15/2022 13:59 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 7870 | | 2.87 | 6.78 | 10 | 11/11/2022 08:14 | WG1957927 |
| Ethane | 8.85 | | 0.296 | 1.29 | 1 | 11/10/2022 11:43 | WG1957027 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/10/2022 11:43 | WG1957027 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 2.74 | 5.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Acrylonitrile | U | | 0.380 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| Benzene | U | | 0.0800 | 0.200 | 5 | 11/11/2022 04:33 | WG1956793 |
| Bromobenzene | U | | 0.210 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| Bromodichloromethane | U | | 0.158 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| Bromoform | U | | 1.20 | 5.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Bromomethane | U | J3 | 0.740 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| n-Butylbenzene | U | | 0.765 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| sec-Butylbenzene | U | | 0.505 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| tert-Butylbenzene | U | | 0.310 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Carbon tetrachloride | U | | 0.216 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Chlorobenzene | U | | 0.115 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| Chlorodibromomethane | U | | 0.0900 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| Chloroethane | U | | 0.216 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Chloroform | U | | 0.0830 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| Chloromethane | U | | 0.278 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| 2-Chlorotoluene | U | | 0.184 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| 4-Chlorotoluene | U | | 0.226 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 1.02 | 5.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.105 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.200 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.290 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.340 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.394 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.164 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,1-Dichloroethane | U | | 0.115 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0950 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,1-Dichloroethene | U | | 0.100 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| cis-1,2-Dichloroethene | 5.08 | | 0.138 | 0.500 | 5 | 11/18/2022 12:41 | WG1960564 |
| trans-1,2-Dichloroethene | U | | 0.286 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.254 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.140 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.350 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.136 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.306 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.159 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| Di-isopropyl ether | U | | 0.0700 | 0.200 | 5 | 11/11/2022 04:33 | WG1956793 |
| Ethylbenzene | U | | 0.106 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 2.54 | 5.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Isopropylbenzene | U | | 0.173 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| p-Isopropyltoluene | U | | 0.466 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 2-Butanone (MEK) | U | | 2.50 | 5.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Methylene Chloride | U | | 1.33 | 5.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 2.00 | 5.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Methyl tert-butyl ether | U | | 0.0590 | 0.200 | 5 | 11/11/2022 04:33 | WG1956793 |
| Naphthalene | U | | 0.620 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| n-Propylbenzene | U | | 0.236 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Styrene | U | | 0.545 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.100 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0780 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.135 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| Tetrachloroethene | U | | 0.140 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| Toluene | U | | 0.250 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.125 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.965 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0550 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.177 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| Trichloroethene | 0.220 | | 0.0800 | 0.200 | 5 | 11/11/2022 04:33 | WG1956793 |
| Trichlorofluoromethane | U | | 0.100 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 1.02 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.232 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.230 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.216 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Vinyl chloride | 1.56 | | 0.137 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| Xylenes, Total | U | | 0.955 | 1.30 | 5 | 11/11/2022 04:33 | WG1956793 |
| Ethyl Ether | U | | 0.0850 | 0.500 | 5 | 11/11/2022 04:33 | WG1956793 |
| Tetrahydrofuran | 16.4 | | 0.450 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| Iodomethane | U | | 1.21 | 2.50 | 5 | 11/11/2022 04:33 | WG1956793 |
| Allyl chloride | U | | 2.90 | 5.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.280 | 1.00 | 5 | 11/11/2022 04:33 | WG1956793 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/11/2022 04:33* | WG1956793 |
| *(S) Toluene-d8* | *103* | | | *75.0-131* | | *11/18/2022 12:41* | WG1960564 |
| *(S) 4-Bromofluorobenzene* | *99.7* | | | *67.0-138* | | *11/11/2022 04:33* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/18/2022 12:41* | WG1960564 |
| *(S) 1,2-Dichloroethane-d4* | *94.5* | | | *70.0-130* | | *11/11/2022 04:33* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *87.6* | | | *70.0-130* | | *11/18/2022 12:41* | WG1960564 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |

Sample Narrative:

L1554324-04 WG1956793: Lowest possible dilution due to sample foaming.

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 178000 | | 8450 | 20000 | 1 | 11/13/2022 12:37 | WG1958822 |

Sample Narrative:
L1554324-05 WG1958822: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 38800 | | 379 | 1000 | 1 | 11/05/2022 18:13 | WG1954869 |
| Nitrate | 369 | | 48.0 | 100 | 1 | 11/05/2022 18:13 | WG1954869 |
| Sulfate | 34300 | | 594 | 5000 | 1 | 11/05/2022 18:13 | WG1954869 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1020 | ~~B~~ | 102 | 1000 | 1 | 11/21/2022 16:16 | WG1962903 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 2490 | | 28.1 | 100 | 1 | 11/15/2022 14:02 | WG1959247 |
| Manganese | 460 | | 0.704 | 5.00 | 1 | 11/15/2022 14:02 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 136 | | 0.287 | 0.678 | 1 | 11/10/2022 11:47 | WG1957027 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/10/2022 11:47 | WG1957027 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/10/2022 11:47 | WG1957027 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/11/2022 18:20 | WG1958484 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 18:20 | WG1958484 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 18:20 | WG1958484 |
| Bromomethane | U | ~~J3~~ | 0.148 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/11/2022 18:20 | WG1958484 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 18:20 | WG1958484 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 18:20 | WG1958484 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 18:20 | WG1958484 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 18:20 | WG1958484 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/11/2022 18:20 | WG1958484 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| Tetrachloroethene | 0.0770 | J | 0.0280 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| Toluene | 0.0640 | J | 0.0500 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,2,3-Trichlorobenzene | U UJ | C4 | 0.0250 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 18:20 | WG1958484 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 18:20 | WG1958484 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/11/2022 18:20 | WG1958484 |
| Tetrahydrofuran | 1.60 | | 0.0900 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 18:20 | WG1958484 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 18:20 | WG1958484 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 18:20 | WG1958484 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *11/11/2022 18:20* | WG1958484 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *11/11/2022 18:20* | WG1958484 |
| *(S) 1,2-Dichloroethane-d4* | *97.9* | | | *70.0-130* | | *11/11/2022 18:20* | WG1958484 |

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1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 256000 | | 8450 | 20000 | 1 | 11/13/2022 12:41 | WG1958822 |

Sample Narrative:

L1554324-06 WG1958822: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 14900 | | 379 | 1000 | 1 | 11/05/2022 18:26 | WG1954869 |
| Nitrate | 2730 | | 48.0 | 100 | 1 | 11/05/2022 18:26 | WG1954869 |
| Sulfate | 138000 | | 594 | 5000 | 1 | 11/05/2022 18:26 | WG1954869 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2110 | B | 102 | 1000 | 1 | 11/21/2022 16:30 | WG1962903 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1540 | | 28.1 | 100 | 1 | 11/15/2022 14:05 | WG1959247 |
| Manganese | 491 | | 0.704 | 5.00 | 1 | 11/15/2022 14:05 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 414 | | 0.287 | 0.678 | 1 | 11/10/2022 12:04 | WG1957027 |
| Ethane | 1.66 | | 0.296 | 1.29 | 1 | 11/10/2022 12:04 | WG1957027 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/10/2022 12:04 | WG1957027 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/11/2022 18:39 | WG1958484 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 18:39 | WG1958484 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 18:39 | WG1958484 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|---|
| | ug/l | | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | | 0.0400 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,2-Dichlorobenzene | U | | | 0.0580 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,3-Dichlorobenzene | U | | | 0.0680 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,4-Dichlorobenzene | U | | | 0.0788 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| Dichlorodifluoromethane | U | | | 0.0327 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,1-Dichloroethane | U | | | 0.0230 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,2-Dichloroethane | U | | | 0.0190 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,1-Dichloroethene | 0.227 | | | 0.0200 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| cis-1,2-Dichloroethene | 61.4 | | | 0.0276 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| trans-1,2-Dichloroethene | 0.188 | | J | 0.0572 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,2-Dichloropropane | U | | | 0.0508 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,1-Dichloropropene | U | | | 0.0280 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,3-Dichloropropane | U | | | 0.0700 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| cis-1,3-Dichloropropene | U | | | 0.0271 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| trans-1,3-Dichloropropene | U | | | 0.0612 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| 2,2-Dichloropropane | U | | | 0.0317 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| Di-isopropyl ether | U | | | 0.0140 | 0.0400 | 1 | 11/11/2022 18:39 | WG1958484 |
| Ethylbenzene | U | | | 0.0212 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| Hexachloro-1,3-butadiene | U | | | 0.508 | 1.00 | 1 | 11/11/2022 18:39 | WG1958484 |
| Isopropylbenzene | U | | | 0.0345 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| p-Isopropyltoluene | U | | | 0.0932 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| 2-Butanone (MEK) | U | | | 0.500 | 1.00 | 1 | 11/11/2022 18:39 | WG1958484 |
| Methylene Chloride | U | | | 0.265 | 1.00 | 1 | 11/11/2022 18:39 | WG1958484 |
| 4-Methyl-2-pentanone (MIBK) | U | | | 0.400 | 1.00 | 1 | 11/11/2022 18:39 | WG1958484 |
| Methyl tert-butyl ether | U | | | 0.0118 | 0.0400 | 1 | 11/11/2022 18:39 | WG1958484 |
| Naphthalene | U | | | 0.124 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| n-Propylbenzene | U | | | 0.0472 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| Styrene | U | | | 0.109 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,1,1,2-Tetrachloroethane | U | | | 0.0200 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,1,2,2-Tetrachloroethane | U | | | 0.0156 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,1,2-Trichlorotrifluoroethane | U | | | 0.0270 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| Tetrachloroethene | 47.5 | | | 0.0280 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| Toluene | 0.0830 | | J | 0.0500 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,2,3-Trichlorobenzene | U | UJ | C4 | 0.0250 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,2,4-Trichlorobenzene | U | | | 0.193 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,1,1-Trichloroethane | U | | | 0.0110 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,1,2-Trichloroethane | U | | | 0.0353 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| Trichloroethene | 11.7 | | | 0.0160 | 0.0400 | 1 | 11/11/2022 18:39 | WG1958484 |
| Trichlorofluoromethane | U | | | 0.0200 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,2,3-Trichloropropane | U | | | 0.204 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,2,4-Trimethylbenzene | U | | | 0.0464 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,2,3-Trimethylbenzene | U | | | 0.0460 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| 1,3,5-Trimethylbenzene | U | | | 0.0432 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| Vinyl chloride | 0.270 | | | 0.0273 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| Xylenes, Total | U | | | 0.191 | 0.260 | 1 | 11/11/2022 18:39 | WG1958484 |
| Ethyl Ether | U | | | 0.0170 | 0.100 | 1 | 11/11/2022 18:39 | WG1958484 |
| Tetrahydrofuran | 0.153 | | J | 0.0900 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| Iodomethane | U | | | 0.242 | 0.500 | 1 | 11/11/2022 18:39 | WG1958484 |
| Allyl chloride | U | | | 0.580 | 1.00 | 1 | 11/11/2022 18:39 | WG1958484 |
| Trans-1,4-Dichloro-2-butene | U | | | 0.0560 | 0.200 | 1 | 11/11/2022 18:39 | WG1958484 |
| *(S) Toluene-d8* | *108* | | | | *75.0-131* | | *11/11/2022 18:39* | WG1958484 |
| *(S) 4-Bromofluorobenzene* | *103* | | | | *67.0-138* | | *11/11/2022 18:39* | WG1958484 |
| *(S) 1,2-Dichloroethane-d4* | *95.8* | | | | *70.0-130* | | *11/11/2022 18:39* | WG1958484 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 272000 | | 8450 | 20000 | 1 | 11/13/2022 12:52 | WG1958822 |

Sample Narrative:
L1554324-07 WG1958822: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 13100 | | 379 | 1000 | 1 | 11/05/2022 17:02 | WG1954904 |
| Nitrate | 158 | | 48.0 | 100 | 1 | 11/05/2022 17:02 | WG1954904 |
| Sulfate | 25500 | | 594 | 5000 | 1 | 11/05/2022 17:02 | WG1954904 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 8030 | | 204 | 2000 | 2 | 11/21/2022 17:23 | WG1962903 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 163 | | 28.1 | 100 | 1 | 11/17/2022 12:59 | WG1959249 |
| Manganese | 137 | | 0.704 | 5.00 | 1 | 11/17/2022 12:59 | WG1959249 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 14.3 | | 0.287 | 0.678 | 1 | 11/10/2022 12:07 | WG1957027 |
| Ethane | 1.71 | | 0.296 | 1.29 | 1 | 11/10/2022 12:07 | WG1957027 |
| Ethene | 8.25 | | 0.422 | 1.27 | 1 | 11/10/2022 12:07 | WG1957027 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.67 | | 0.548 | 1.00 | 1 | 11/11/2022 18:59 | WG1958484 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| Benzene | 1.03 | | 0.0160 | 0.0400 | 1 | 11/11/2022 18:59 | WG1958484 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 18:59 | WG1958484 |
| Bromomethane | U | ~~J3~~ | 0.148 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| cis-1,2-Dichloroethene | 0.146 | | 0.0276 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/11/2022 18:59 | WG1958484 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 18:59 | WG1958484 |
| Isopropylbenzene | 0.187 | | 0.0345 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 18:59 | WG1958484 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 18:59 | WG1958484 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 18:59 | WG1958484 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/11/2022 18:59 | WG1958484 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| Tetrachloroethene | 0.274 | | 0.0280 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| Toluene | 0.0770 | J | 0.0500 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,2,3-Trichlorobenzene | U UJ | C4 | 0.0250 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| Trichloroethene | 0.0490 | | 0.0160 | 0.0400 | 1 | 11/11/2022 18:59 | WG1958484 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 18:59 | WG1958484 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/11/2022 18:59 | WG1958484 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 18:59 | WG1958484 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 18:59 | WG1958484 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 18:59 | WG1958484 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/11/2022 18:59* | WG1958484 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/11/2022 18:59* | WG1958484 |
| *(S) 1,2-Dichloroethane-d4* | *93.3* | | | *70.0-130* | | *11/11/2022 18:59* | WG1958484 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 157000 | | 8450 | 20000 | 1 | 11/15/2022 07:49 | WG1958823 |

Sample Narrative:
L1554324-08 WG1958823: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 16400 | | 379 | 1000 | 1 | 11/05/2022 17:47 | WG1954904 |
| Nitrate | 186 | | 48.0 | 100 | 1 | 11/05/2022 17:47 | WG1954904 |
| Sulfate | 80800 | | 594 | 5000 | 1 | 11/05/2022 17:47 | WG1954904 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1670 | ~~B~~ | 102 | 1000 | 1 | 11/21/2022 17:36 | WG1962903 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 421 | | 28.1 | 100 | 1 | 11/17/2022 13:02 | WG1959249 |
| Manganese | 325 | | 3.52 | 25.0 | 5 | 11/17/2022 13:44 | WG1959249 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 427 | | 0.287 | 0.678 | 1 | 11/10/2022 12:10 | WG1957027 |
| Ethane | 2.49 | | 0.296 | 1.29 | 1 | 11/10/2022 12:10 | WG1957027 |
| Ethene | 22.3 | | 0.422 | 1.27 | 1 | 11/10/2022 12:10 | WG1957027 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch | |
|---|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/11/2022 19:18 | WG1958484 | |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 | |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 19:18 | WG1958484 | |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 | |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 | |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 19:18 | WG1958484 | |
| Bromomethane | U | ~~J3~~ | 0.148 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 | |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 | |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 | |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 | |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 | |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 | |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 | |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 | |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 | |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 | |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 | |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 | |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 19:18 | WG1958484 | |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 | JC 12/6/2022 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,1-Dichloroethane | 0.0270 | J | 0.0230 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| cis-1,2-Dichloroethene | 0.0720 | J | 0.0276 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/11/2022 19:18 | WG1958484 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 19:18 | WG1958484 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 19:18 | WG1958484 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 19:18 | WG1958484 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 19:18 | WG1958484 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/11/2022 19:18 | WG1958484 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| Tetrachloroethene | 0.0400 | J | 0.0280 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| Toluene | 0.0850 | J | 0.0500 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,2,3-Trichlorobenzene | U UJ | C4 | 0.0250 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| Trichloroethene | 0.0360 | J | 0.0160 | 0.0400 | 1 | 11/11/2022 19:18 | WG1958484 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| Vinyl chloride | 0.480 | | 0.0273 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 19:18 | WG1958484 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/11/2022 19:18 | WG1958484 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 19:18 | WG1958484 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 19:18 | WG1958484 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 19:18 | WG1958484 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/11/2022 19:18* | WG1958484 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/11/2022 19:18* | WG1958484 |
| *(S) 1,2-Dichloroethane-d4* | *97.1* | | | *70.0-130* | | *11/11/2022 19:18* | WG1958484 |

JC 12/6/2022

# MEMORANDUM

**TO:** Project File **DATE:** December 12, 2022

**FROM:** Jessie Compeau

**SUBJECT:** Laboratory Data Validation Review

**PROJECT:** American Linen Data Validation

**PROJECT #:** 443022-1413001.10.701.04

**TASK:** EIM Data Validation Level EPA2A for 4th Quarter Monitoring 2022 – Groundwater Samples – Group 4

**LAB:** Pace Sample Delivery Groups (SDGs): L1554304, L1555557, L1556122, L1556124, L1556817, L1557120, and L1559917

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Eighteen groundwater samples, one equipment blank, and one trip blank were collected as part of the 4th Quarterly Monitoring Round for 2022 for the ongoing Remedial Investigation (RI) sampling at the Former American Linen Supply Site, in Seattle, Washington. The samples were collected November 4, 8-11, and 18, 2022, shipped, and delivered to Pace Lab Sciences (Pace) of Mount Juliet, TN for laboratory analysis. Selected samples were analyzed for the following:

- Volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260D;
- Total petroleum hydrocarbons (TPH) as gasoline (TPH-Gx) by NWTPH-Gx per the analytical method stipulated by Washington State Department of Ecology;
- VOCs (dissolved gases – methane, ethane, and ethene) by EPA SOP RSK 175;
- Alkalinity by Method 2320 B-2011;
- Anions (chloride, nitrate, and sulfate) by USEPA Method 9056A;
- Total Organic Carbon (TOC) by USEPA Method 9060A; and
- Metals (iron and manganese) by USEPA Method 6020B.

Results are reported in multiple SDGs and reviewed in small groups for each data validation report. Group 4 analytical results are reported in seven SDGs. The quality assurance review of the laboratory data associated with Group 4 is summarized below.

## DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation review of analytical data along with Pace control limit criteria were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2020) and USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2020). Following Guidelines, non-project-specific laboratory duplicates and matrix spike results were not evaluated as part of this data validation.

## DATA VALIDATION

### Completeness

All samples were collected and analyzed as requested with the following discussions:

- SDG L1555557: Chain of custody analysis request for sample MW-349-110822 was not completed. No action is taken other than to note that the full suite of analytical parameters were analyzed for.

### Sample Collection and Preservation

Samples were collected in laboratory-supplied sample containers preserved as appropriate for the individual analyses conducted. The samples were packed on ice in coolers and delivered by courier to the analytical laboratory. The laboratory reported that the coolers were received at a cooler temperature less than the recommended temperature preservation of 6°C. Samples were received in good condition. No data were qualified based upon the sample collection and preservation information.

### Holding Times

*USEPA Method 8260D:*
All samples were analyzed for VOCs within the EPA recommended holding time of fourteen days for preserved waters from the date of collection. All holding time criteria are met.

*NWTPH-Gx Method:*
All samples were analyzed for gasoline within the WA State recommended holding time of fourteen days for preserved waters from the date of sample collection. All holding time criteria were met.

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
All samples were analyzed within the WA State recommended holding time of fourteen days for preserved waters from the date of sample collection. All holding time criteria are met.

*USEPA Method 6020B:*
All samples were analyzed within the USEPA recommended holding time for iron and manganese of 180 days for preserved waters from the date of sample collection. All holding time criteria are met.

*General Chemistry (Alkalinity, Chloride, Nitrate, Sulfate, and TOC):*
All samples were analyzed within the USEPA recommended holding time for alkalinity (14 days), chloride (28 days), sulfate (28 days), nitrate (48 hours), and TOC (28 days) for preserved waters from the date of sample collection. All holding time criteria are met.

### Initial and Continuing Calibration

Calibration data for this project are not required for this deliverable however Pace's notes indicate the following:

- Multiple SDGs - *USEPA Method 8260D:* Continuing calibration verification (CCV) issues were noted by Pace for multiple compounds associated with analytical batches in associated SDGs. These compounds are qualified by the laboratory "C3" to indicate that percent difference CCV is below laboratory acceptance criteria and showing low bias. Low level reporting limit check standard (sensitivity) requirements are within criteria. **Associated sample results with laboratory qualified (C3) results are estimated with low bias and qualified (J-/UJ).** Results reported below the RDL are estimated (J) and bias is not assigned.

- Multiple SDGs - *USEPA Method 8260D:* Continuing calibration verification (CCV) issues were noted by Pace for multiple compounds associated with analytical batches in associated SDGs. These compounds are qualified by the laboratory "C4" to indicate that percent difference CCV is below laboratory acceptance criteria and showing low bias. **Associated sample results with laboratory qualified (C4) results are estimated with low bias and qualified (J-/UJ).** Results reported below the RDL are estimated (J) and bias is not assigned.

- SDGs L1555557 and L1556122 - *USEPA Method 8260D:* Continuing calibration verification (CCV) issue was noted by Pace for acetone associated with analytical batch WG1953994. This compound is qualified by the laboratory "C5" to indicate that percent difference CCV is above laboratory acceptance criteria and showing high bias. **Associated sample results (detects) with laboratory qualified (C5) results are estimated with high bias and qualified (J+) unless otherwise qualified as not detected (U) due to blank contamination.** Results reported below the RDL are estimated (J) and bias is not assigned.

**Method Blank Results**

*USEPA Method 8260D:*
Laboratory method blanks were included with the analytical batches per method requirement. The target analytes are not detected in the method blanks at or above the reporting detection limits (RDLs) with the following exceptions:

- SDG L1553987 – Analytical batch WG1956793: cis-1,2-Dichloroethene is detected in the method blank at a low level below the RDL. No action is needed since these compounds are either not detected or detected above the RDL in the associated samples.

- SDG L1554304 – Analytical batch WG1956793: cis-1,2-Dichloroethene is detected in the method blank at a low level below the RDL. Associated cis-1,2-dichloroethene detection is below the RDL in sample FMW-142-110422. **cis-1,2-Dichloroethene result for sample FMW-142-110422 is qualified as not detected (U) due to method blank contamination.**

- SDG L1554324 – Analytical batch WG1958484: Chloroform is detected in the method blank at a low level above the RDL. No action is needed since chloroform is not detected in the associated samples.

*NWTPH-Gx Method:*
Laboratory method blank was included with the analytical batch per method requirement. The target analyte (gasoline) is not detected in the method blank with the following exception:

- SDG L1555557 – Analytical batch WG1958540 Gasoline is detected in the method blank at a low level below the RDL and laboratory qualified (B J). **Associated gasoline detection in sample R-MW5-110822 is below the RDL and is qualified as not detected (U) due to method blank contamination.**

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
Laboratory method blanks were included with the analytical batches per method requirement. The target analytes (dissolved gases) are not detected in the method blanks at or above the RDLs.

*USEPA Method 6020B and General Chemistry (Alkalinity, Chloride, Nitrate, Sulfate, and TOC):*
Laboratory method blanks were included with the analytical batches per method requirement. The target analytes were detected in the method blanks below the RDLs. Per Guidance, no action is taken for blank detections less than the RDL when associated sample detections are greater than the RDL. General chemistry and metal blank detections are shown below:

| SDG | Batch | Method | Analyte | Method Blank Result | Qualifier | RDL | Units | Associated Result(s) Qualified |
|---|---|---|---|---|---|---|---|---|
| L1554304 | WG1962903 | 9060A | TOC | 396 | J | 1000 | µg/L | NO |
| L1555557 | WG1963543 | 9060A | TOC | 196 | J | 1000 | µg/L | NO |
| L1556122 | WG1964116 | 9060A | TOC | 665 | J | 1000 | µg/L | NO |
| L1556122 | WG1964116 | 9060A | TOC | 665 | J | 1000 | µg/L | NO |
| L1556817 | WG1959994 | 9056A | Chloride | 547 | J | 1000 | µg/L | NO |
| L1556817 | WG1964791 | 9060A | TOC | 505 | J | 1000 | µg/L | NO |
| L1556817 | WG1960372 | 6020B | Manganese | 1.27 | J | 5.00 | µg/L | NO |
| L1557120 | WG1964902 | 9060A | TOC | 406 | J | 1000 | µg/L | NO |
| L1559917 | WG1965434 | 9060A | TOC | 631 | J | 1000 | µg/L | NO |

Target analytes were detected in method blanks at low levels with no impact to the associated samples.

## Trip Blank Results

*USEPA Method 8260D:*
One trip blank (TB-111122 associated with SDG L1557120) was collected. Two target analytes (acetone and toluene) were detected in the trip blank and discussed as follows:

- Acetone was detected in the trip blank at 1.98 µg/L and above the RDL (1.00 µg/L). No action is taken since acetone was not detected in the associated samples.

- Toluene was detected in the trip blank at 0.0990 µg/L and below the RDL (0.200 µg/L). **Sample MW-350-111122 toluene result is detected below the RDL and qualified as non-detected (U) due to trip blank contamination.**

## Field, Rinsate, or Equipment Blank Results

One equipment blank (EQ-111122) with SDG L1557120 was collected. Details are as follows:

The equipment blank (EQ-110222) is associated with samples FMW-129-111122 and MW-350-111122 collected from the bladder pump on November 11, 2022. Low levels of TOC and manganese are detected in the equipment blank. Actions are as follows:

- TOC and manganese were detected in the equipment blank below the RDLs. No action is needed since TOC and manganese are detected above the RDLs in the associated samples.

## Field Duplicate Analyses

Field duplicate pairs were not collected. Refer to laboratory quality control for precision data.

## Laboratory Duplicate Analyses

*USEPA Method 8260D:*
Laboratory duplicate samples were not analyzed. Refer to laboratory control sample/sample duplicate (LCS/LCSD) or matrix spike/matrix spike duplicate (MS/MSD) results for precision data.

*NWTPH-Gx Method:*
Laboratory duplicate samples were not analyzed. Refer to LCS/LCSD results for precision data.

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
Laboratory duplicate sample analyses were performed on client and on non-client samples within the analytical batches. The primary/duplicate RPDs for client samples on dissolved gas analyses are within the laboratory control limit of 20%.

*USEPA Method 6020B:*
Laboratory duplicate samples were not analyzed. Refer to MS/MSD results for precision data.

*General Chemistry (Alkalinity, Chloride, Nitrate, Sulfate, and TOC):*
Laboratory duplicate sample analyses were performed on client samples and on non-client samples within the analytical batches. The primary/duplicate RPDs for client samples on general chemistry parameters are within the laboratory control RPD limits or $\pm$ 1x RDL for groundwater results <5X the RDL.

## Surrogate Recoveries

*USEPA Method 8260D:*
The surrogate recovery results for the samples, laboratory control samples, and the method blanks are within the laboratory surrogate control limits for all the analyses with the following exceptions:

- SDG L1555557 – VOC surrogate 1,2-dichloroethane-d4 recoveries are below acceptance criteria (70-130%) and laboratory qualified (J2) in all associated samples. No action is taken for samples R-MW5-110822 and MW-302-110822 since surrogate recoveries are marginally below criteria at 69.9% and 69.8%, respectively. **Sample MW112-110822, MW-138-110822, MW-303-110822, and MW-349-110822 VOC results are estimated and qualified (J/UJ) due to low surrogate recovery.** In some cases, bias is assigned due to elevated LCS and/or calibration recoveries.

*NWTPH-Gx Method:*
The surrogate recovery results for the sample, laboratory control samples, and the blank are within the laboratory surrogate control limit.

**Laboratory Control Samples**

*USEPA Method 8260D:*
Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) or laboratory control sample (LCS) were analyzed by USEPA Method 8260D method. The LCS % Rs or LCS/LCSD % Rs and RPDs for all target compounds are within the laboratory control criteria for waters with the following exceptions:

- SDG L1554304 - Analytical batch WG1956793: LCS/LCSD RPD is above criteria for bromomethane and laboratory qualified (J3). No action needed since the LCS/LCSD recoveries are within criteria but are recovered wide.

- SDG L1555557 - Analytical batch WG1959342: LCS/LCSD RPD is above criteria for 2,2-dichloropropane, tetrahydrofuran, and laboratory qualified (J3). No action needed since the LCS/LCSD recoveries are within criteria but are recovered wide. LCS or LCSD recoveries were outside for several target analytes. No action is needed since the respective LCS or LCSD recoveries and RPDs are within criteria.

- SDG L1556122 – Analytical batch WG1961578: LCS recovery for 1,2,4-trichlorobenzene is above criteria and qualified (J4). No action is needed as 1,2,4-trichlorobenzene is not detected in the associated samples.

- SDG L1556122 – Analytical batch WG1959342: LCS recovery for tetrachloroethene is above criteria and qualified (J4). Associated sample BB-8-110922 tetrachloroethene result is already laboratory qualified (C5) due to noted calibration issue.

- SDGs L1556124 and L1556817 - Analytical batch WG1960747: LCS/LCSD RPD is above criteria for bromomethane and laboratory qualified (J3). No action needed since the LCS/LCSD recoveries are within criteria but are recovered wide.

- SDG L1557120 – Analytical batch WG1962038: LCS recovery for 1,2,4-trichlorobenzene is above criteria and qualified (J4). No action is needed as 1,2,4-trichlorobenzene is not detected in the associated samples.

- SDG L1559917 – Analytical batch WG1965987: LCSD recoveries for bromodichloromethane and 2,2-dichloropropane are above criteria and qualified (J4). No action is needed since respective LCS and RPDs are within criteria. Additionally, these compounds are not detected in the associated samples.

*NWTPH-Gx Method:*
LCS/LCSDs were analyzed by the NWTPH-Gx method along with the analytical batch. The LCS/LCSD % Rs and RPDs for gasoline are within control limit criteria.

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
The LCS/LCSD % Rs and RPDs for the target compound (dissolved gases) are within the laboratory control criteria for waters.

*USEPA Method 6020B:*
The LCS % Rs for the target compound (iron and manganese) are within the laboratory control criteria for waters.

*General Chemistry (Alkalinity, Chloride, Nitrate, Sulfate, and TOC):*
The LCS % Rs for general chemistry parameters are within the laboratory control criteria for waters.

**Matrix Spike/Matrix Spike Duplicates**

*USEPA Method 8260D:*
MS/MSD analyses were not performed. Refer to LCS/LCSD and field duplicate results for accuracy and precision data.

*NWTPH-Gx Method:*
MS/MSD analyses were not performed. Refer to LCS/LCSD results for accuracy and precision data.

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
MS/MSD analyses were performed on non-client samples within the analytical batches. The MS/MSD % Rs and RPDs for project samples were acceptable and within laboratory control limit criteria for water.

*USEPA Method 6020B:*
MS/MSD analyses were performed on client and on non-client samples within the analytical batches. The MS/MSD % Rs and RPDs for project samples were acceptable and within laboratory control limit criteria for water samples with the following discussion:

- SDG L1556817: MS/MSDs for manganese were performed on client sample MW-348-111022. Iron and manganese MS/MSD recoveries are outside of acceptance criteria and laboratory qualified (V). No action is needed since sample MW-348-111022 iron and manganese concentrations were greater than 4x the spike amounts.

*General Chemistry (Alkalinity, Chloride, Nitrate, Sulfate, and TOC):*

MS or MS/MSD analyses were performed on client and/or non-client samples within the analytical batches. In cases where MS/MSD spike analyses are not performed refer to LCS or laboratory duplicate data for accuracy and precision data. Client sample MS/MSD % Rs and RPDs are acceptable and within laboratory control limit criteria for water samples.

**Other Quality Control Issues**

No laboratory quality control issues were identified in the laboratory report with the following discussions:

- Electronic data deliverables (EDDs) for these SDGs were provided by the laboratory and data validator qualifiers were entered. In some cases, different chemical synonyms are used between the EDD and the hardcopy however associated Chemical Abstracts Service (CAS) numbers are provided in the EDD to confirm chemical identifications.

**Compound Identification and Quantitation Limits**

Results of the analyses were reported based on laboratory RDLs for all compounds. RDLs for selected compounds are elevated due to method-required dilutions. No action is taken other than to note this with the following discussions:

- SDG L1556124: Sample narrative for sample HMW-9IB-110922 to indicate that target compounds are too high to run a lower dilution.

- SDG L1556817: Sample narrative for sample MW-348-111022 indicates that the lowest possible dilution (20X) was used due to sample foaming. No action is taken other than to note this.

**Data Assessment**

The laboratory data reported for this project were reviewed based on the criteria outlined in:

- USEPA National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2020); and
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2020).

Data qualifiers are assigned and laboratory report pages with qualifiers are attached. All data, including qualified data, are judged to be acceptable for their intended use.

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 308000 | | 8450 | 20000 | 1 | 11/13/2022 12:07 | WG1958822 |

Sample Narrative:
L1554304-01 WG1958822: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 24900 | | 379 | 1000 | 1 | 11/05/2022 15:53 | WG1954869 |
| Nitrate | 127 | | 48.0 | 100 | 1 | 11/05/2022 15:53 | WG1954869 |
| Sulfate | 57900 | | 594 | 5000 | 1 | 11/05/2022 15:53 | WG1954869 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4380 | | 102 | 1000 | 1 | 11/21/2022 12:48 | WG1962903 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 4410 | | 28.1 | 100 | 1 | 11/15/2022 13:32 | WG1959247 |
| Manganese | 2530 | | 0.704 | 5.00 | 1 | 11/15/2022 13:32 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 428 | | 0.287 | 0.678 | 1 | 11/10/2022 11:05 | WG1957027 |
| Ethane | 2.41 | | 0.296 | 1.29 | 1 | 11/10/2022 11:05 | WG1957027 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/10/2022 11:05 | WG1957027 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.60 | | 0.548 | 1.00 | 1 | 11/11/2022 02:38 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 02:38 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 02:38 | WG1956793 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,1-Dichloroethane | 0.0280 | J | 0.0230 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| cis-1,2-Dichloroethene | 0.119 | ~~B~~ | 0.0276 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| Di-isopropyl ether | 0.0630 | | 0.0140 | 0.0400 | 1 | 11/11/2022 02:38 | WG1956793 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 02:38 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 02:38 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 02:38 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 02:38 | WG1956793 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/11/2022 02:38 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| Tetrachloroethene | 0.147 | | 0.0280 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 02:38 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 02:38 | WG1956793 |
| Ethyl Ether | 0.326 | | 0.0170 | 0.100 | 1 | 11/11/2022 02:38 | WG1956793 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 02:38 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 02:38 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 02:38 | WG1956793 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/11/2022 02:38* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/11/2022 02:38* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *96.9* | | | *70.0-130* | | *11/11/2022 02:38* | WG1956793 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 197000 | | 8450 | 20000 | 1 | 11/13/2022 12:11 | WG1958822 |

Sample Narrative:
L1554304-02 WG1958822: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 301000 | | 1900 | 5000 | 5 | 11/05/2022 16:19 | WG1954869 |
| Nitrate | 129 | | 48.0 | 100 | 1 | 11/05/2022 16:06 | WG1954869 |
| Sulfate | 38900 | | 594 | 5000 | 1 | 11/05/2022 16:06 | WG1954869 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1220 | ~~B J~~ | 102 | 1000 | 1 | 11/21/2022 13:00 | WG1962903 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1080 | | 28.1 | 100 | 1 | 11/15/2022 13:36 | WG1959247 |
| Manganese | 866 | | 0.704 | 5.00 | 1 | 11/15/2022 13:36 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 40.1 | | 0.287 | 0.678 | 1 | 11/10/2022 11:08 | WG1957027 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/10/2022 11:08 | WG1957027 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/10/2022 11:08 | WG1957027 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/11/2022 02:57 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 02:57 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 02:57 | WG1956793 |
| Bromomethane | U | ~~J3~~ | 0.148 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| cis-1,2-Dichloroethene | 0.104 | B | 0.0276 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/11/2022 02:57 | WG1956793 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 02:57 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 02:57 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 02:57 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 02:57 | WG1956793 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/11/2022 02:57 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 02:57 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 02:57 | WG1956793 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/11/2022 02:57 | WG1956793 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 02:57 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 02:57 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 02:57 | WG1956793 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/11/2022 02:57* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/11/2022 02:57* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *97.2* | | | *70.0-130* | | *11/11/2022 02:57* | WG1956793 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 261000 | | 8450 | 20000 | 1 | 11/13/2022 12:16 | WG1958822 |

Sample Narrative:
L1554304-03 WG1958822: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 83500 | | 379 | 1000 | 1 | 11/05/2022 16:31 | WG1954869 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/05/2022 16:31 | WG1954869 |
| Sulfate | 9820 | | 594 | 5000 | 1 | 11/05/2022 16:31 | WG1954869 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4210 | | 102 | 1000 | 1 | 11/21/2022 13:17 | WG1962903 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 3480 | | 28.1 | 100 | 1 | 11/15/2022 13:39 | WG1959247 |
| Manganese | 907 | | 0.704 | 5.00 | 1 | 11/15/2022 13:39 | WG1959247 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 3270 | | 0.287 | 0.678 | 1 | 11/10/2022 11:11 | WG1957027 |
| Ethane | 1.31 | | 0.296 | 1.29 | 1 | 11/10/2022 11:11 | WG1957027 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/10/2022 11:11 | WG1957027 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.67 | | 0.548 | 1.00 | 1 | 11/11/2022 03:16 | WG1956793 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| Benzene | 0.0220 | J | 0.0160 | 0.0400 | 1 | 11/11/2022 03:16 | WG1956793 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/11/2022 03:16 | WG1956793 |
| Bromomethane | U | ~~J3~~ | 0.148 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| cis-1,2-Dichloroethene | 0.0590 | U B J | 0.0276 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/11/2022 03:16 | WG1956793 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/11/2022 03:16 | WG1956793 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/11/2022 03:16 | WG1956793 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/11/2022 03:16 | WG1956793 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/11/2022 03:16 | WG1956793 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/11/2022 03:16 | WG1956793 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| Tetrachloroethene | 0.271 | | 0.0280 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| Toluene | 0.0790 | J | 0.0500 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/11/2022 03:16 | WG1956793 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/11/2022 03:16 | WG1956793 |
| Ethyl Ether | 0.0470 | J | 0.0170 | 0.100 | 1 | 11/11/2022 03:16 | WG1956793 |
| Tetrahydrofuran | 0.620 | | 0.0900 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/11/2022 03:16 | WG1956793 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/11/2022 03:16 | WG1956793 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/11/2022 03:16 | WG1956793 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *11/11/2022 03:16* | WG1956793 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/11/2022 03:16* | WG1956793 |
| *(S) 1,2-Dichloroethane-d4* | *100* | | | *70.0-130* | | *11/11/2022 03:16* | WG1956793 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Alkalinity | 156000 | | 8450 | 20000 | 1 | 11/15/2022 12:21 | WG1958957 |

Sample Narrative:

L1555557-01 WG1958957: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 41500 | | 379 | 1000 | 1 | 11/10/2022 02:18 | WG1956898 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/10/2022 02:18 | WG1956898 |
| Sulfate | 15000 | | 594 | 5000 | 1 | 11/10/2022 02:18 | WG1956898 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 5880 | | 102 | 1000 | 1 | 11/23/2022 12:56 | WG1963543 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Iron | 7530 | | 28.1 | 100 | 1 | 11/16/2022 23:06 | WG1959258 |
| Manganese | 4060 | | 0.704 | 5.00 | 1 | 11/16/2022 23:06 | WG1959258 |

## Volatile Organic Compounds (GC) by Method NWTPHGX

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Gasoline Range Organics-NWTPH | 32.6 U | ~~B J~~ | 31.6 | 100 | 1 | 11/12/2022 03:32 | WG1958540 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *103* | | | *78.0-120* | | *11/12/2022 03:32* | WG1958540 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 332 | | 0.287 | 0.678 | 1 | 11/15/2022 11:34 | WG1958883 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/15/2022 11:34 | WG1958883 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/15/2022 11:34 | WG1958883 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch | |
|---|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | | |
| Acetone | U UJ | C3 | 0.548 | 1.00 | 1 | 11/15/2022 04:08 | WG1959342 | |
| Acrylonitrile | U UJ | C3 | 0.0760 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 | |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/15/2022 04:08 | WG1959342 | |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 | |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 | |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/15/2022 04:08 | WG1959342 | |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 | |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 | |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 | |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 | |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 | |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 | JC 12/8/2022 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 | |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,2-Dichloroethane | U | UJ C3 | 0.0190 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| cis-1,2-Dichloroethene | 0.297 | | 0.0276 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| 2,2-Dichloropropane | U | ~~J3~~ | 0.0317 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/15/2022 04:08 | WG1959342 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| Hexachloro-1,3-butadiene | U | ~~J4~~ | 0.508 | 1.00 | 1 | 11/15/2022 04:08 | WG1959342 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| 2-Butanone (MEK) | U | UJ C3 | 0.500 | 1.00 | 1 | 11/15/2022 04:08 | WG1959342 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/15/2022 04:08 | WG1959342 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/15/2022 04:08 | WG1959342 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/15/2022 04:08 | WG1959342 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| Tetrachloroethene | 0.515 | J+ C5 J4 | 0.0280 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| Toluene | 0.0580 | J | 0.0500 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,2,3-Trichlorobenzene | U | ~~J4~~ | 0.0250 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,2,4-Trichlorobenzene | U | ~~J4~~ | 0.193 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| Trichloroethene | 0.314 | J+ C5 J4 | 0.0160 | 0.0400 | 1 | 11/15/2022 04:08 | WG1959342 |
| Trichlorofluoromethane | U | UJ C3 | 0.0200 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/15/2022 04:08 | WG1959342 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/15/2022 04:08 | WG1959342 |
| Tetrahydrofuran | U | UJ C3 ~~J3~~ | 0.0900 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/15/2022 04:08 | WG1959342 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/15/2022 04:08 | WG1959342 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|---|
| | ug/l | | | ug/l | ug/l | | date / time | |
| Trans-1,4-Dichloro-2-butene | U | UJ | C3 | 0.0560 | 0.200 | 1 | 11/15/2022 04:08 | WG1959342 |
| *(S) Toluene-d8* | *110* | | | | *75.0-131* | | *11/15/2022 04:08* | WG1959342 |
| *(S) 4-Bromofluorobenzene* | *107* | | | | *67.0-138* | | *11/15/2022 04:08* | WG1959342 |
| *(S) 1,2-Dichloroethane-d4* | *69.9* | | J2 | | *70.0-130* | | *11/15/2022 04:08* | WG1959342 |



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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 307000 | | 8450 | 20000 | 1 | 11/15/2022 12:25 | WG1958957 |

Sample Narrative:
L1555557-02 WG1958957: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 26600 | | 379 | 1000 | 1 | 11/10/2022 04:47 | WG1956898 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/10/2022 04:47 | WG1956898 |
| Sulfate | 21200 | | 594 | 5000 | 1 | 11/10/2022 04:47 | WG1956898 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1800 | ~~B~~ | 102 | 1000 | 1 | 11/23/2022 13:14 | WG1963543 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 2860 | | 28.1 | 100 | 1 | 11/16/2022 23:10 | WG1959258 |
| Manganese | 498 | | 0.704 | 5.00 | 1 | 11/16/2022 23:10 | WG1959258 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 207 | | 0.287 | 0.678 | 1 | 11/15/2022 11:37 | WG1958883 |
| Ethane | 1.30 | | 0.296 | 1.29 | 1 | 11/15/2022 11:37 | WG1958883 |
| Ethene | 14.5 | | 0.422 | 1.27 | 1 | 11/15/2022 11:37 | WG1958883 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | UJ C3 | 0.548 | 1.00 | 1 | 11/15/2022 04:27 | WG1959342 |
| Acrylonitrile | U | UJ C3 | 0.0760 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/15/2022 04:27 | WG1959342 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/15/2022 04:27 | WG1959342 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|---|
| | ug/l | | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | | 0.0400 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,2-Dichlorobenzene | U | | | 0.0580 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,3-Dichlorobenzene | U | | | 0.0680 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,4-Dichlorobenzene | U | | | 0.0788 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| Dichlorodifluoromethane | U | | | 0.0327 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,1-Dichloroethane | U | | | 0.0230 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,2-Dichloroethane | U | UJ | C3 | 0.0190 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,1-Dichloroethene | U | | | 0.0200 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| cis-1,2-Dichloroethene | U | | | 0.0276 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| trans-1,2-Dichloroethene | U | | | 0.0572 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,2-Dichloropropane | U | | | 0.0508 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,1-Dichloropropene | U | | | 0.0280 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,3-Dichloropropane | U | | | 0.0700 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| cis-1,3-Dichloropropene | U | | | 0.0271 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| trans-1,3-Dichloropropene | U | | | 0.0612 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| 2,2-Dichloropropane | U | | ~~J3~~ | 0.0317 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| Di-isopropyl ether | U | | | 0.0140 | 0.0400 | 1 | 11/15/2022 04:27 | WG1959342 |
| Ethylbenzene | 0.0480 | | J | 0.0212 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| Hexachloro-1,3-butadiene | U | | ~~J4~~ | 0.508 | 1.00 | 1 | 11/15/2022 04:27 | WG1959342 |
| Isopropylbenzene | U | | | 0.0345 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| p-Isopropyltoluene | U | | | 0.0932 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| 2-Butanone (MEK) | U | UJ | C3 | 0.500 | 1.00 | 1 | 11/15/2022 04:27 | WG1959342 |
| Methylene Chloride | U | | | 0.265 | 1.00 | 1 | 11/15/2022 04:27 | WG1959342 |
| 4-Methyl-2-pentanone (MIBK) | U | | | 0.400 | 1.00 | 1 | 11/15/2022 04:27 | WG1959342 |
| Methyl tert-butyl ether | U | | | 0.0118 | 0.0400 | 1 | 11/15/2022 04:27 | WG1959342 |
| Naphthalene | U | | | 0.124 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| n-Propylbenzene | U | | | 0.0472 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| Styrene | U | | | 0.109 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,1,1,2-Tetrachloroethane | U | | | 0.0200 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,1,2,2-Tetrachloroethane | U | | | 0.0156 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,1,2-Trichlorotrifluoroethane | U | | | 0.0270 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| Tetrachloroethene | U | | J4 | 0.0280 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| Toluene | 0.174 | | J | 0.0500 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,2,3-Trichlorobenzene | U | | ~~J4~~ | 0.0250 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,2,4-Trichlorobenzene | U | | ~~J4~~ | 0.193 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,1,1-Trichloroethane | U | | | 0.0110 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,1,2-Trichloroethane | U | | | 0.0353 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| Trichloroethene | U | | ~~J4~~ | 0.0160 | 0.0400 | 1 | 11/15/2022 04:27 | WG1959342 |
| Trichlorofluoromethane | U | UJ | C3 | 0.0200 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,2,3-Trichloropropane | U | | | 0.204 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,2,4-Trimethylbenzene | U | | | 0.0464 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,2,3-Trimethylbenzene | U | | | 0.0460 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| 1,3,5-Trimethylbenzene | U | | | 0.0432 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| Vinyl chloride | 0.0540 | | J | 0.0273 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| Xylenes, Total | 0.237 | | J | 0.191 | 0.260 | 1 | 11/15/2022 04:27 | WG1959342 |
| Ethyl Ether | U | | | 0.0170 | 0.100 | 1 | 11/15/2022 04:27 | WG1959342 |
| Tetrahydrofuran | 0.336 | J | C3 J ~~J3~~ | 0.0900 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| Iodomethane | U | | | 0.242 | 0.500 | 1 | 11/15/2022 04:27 | WG1959342 |
| Allyl chloride | U | | | 0.580 | 1.00 | 1 | 11/15/2022 04:27 | WG1959342 |
| Trans-1,4-Dichloro-2-butene | U | UJ | C3 | 0.0560 | 0.200 | 1 | 11/15/2022 04:27 | WG1959342 |
| *(S) Toluene-d8* | *110* | | | | *75.0-131* | | *11/15/2022 04:27* | WG1959342 |
| *(S) 4-Bromofluorobenzene* | *107* | | | | *67.0-138* | | *11/15/2022 04:27* | WG1959342 |
| *(S) 1,2-Dichloroethane-d4* | *69.8* | | J2 | | *70.0-130* | | *11/15/2022 04:27* | WG1959342 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 32600 | | 8450 | 20000 | 1 | 11/15/2022 12:30 | WG1958957 |

Sample Narrative:
L1555557-03 WG1958957: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 17500 | | 379 | 1000 | 1 | 11/10/2022 05:02 | WG1956898 |
| Nitrate | 488 | | 48.0 | 100 | 1 | 11/10/2022 05:02 | WG1956898 |
| Sulfate | 898 | J | 594 | 5000 | 1 | 11/10/2022 05:02 | WG1956898 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4550 | | 102 | 1000 | 1 | 11/23/2022 13:36 | WG1963543 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 672 | | 28.1 | 100 | 1 | 11/16/2022 23:13 | WG1959258 |
| Manganese | 79.9 | | 0.704 | 5.00 | 1 | 11/16/2022 23:13 | WG1959258 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 49.6 | | 0.287 | 0.678 | 1 | 11/15/2022 11:46 | WG1958883 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/15/2022 11:46 | WG1958883 |
| Ethene | 2.37 | | 0.422 | 1.27 | 1 | 11/15/2022 11:46 | WG1958883 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.88 | C3 | 0.548 | 1.00 | 1 | 11/15/2022 04:46 | WG1959342 |
| Acrylonitrile | U | C3 | 0.0760 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/15/2022 04:46 | WG1959342 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/15/2022 04:46 | WG1959342 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |

J- UJ

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|---|
| | ug/l | | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | UJ | | 0.0400 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,2-Dichlorobenzene | U | | | 0.0580 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,3-Dichlorobenzene | U | | | 0.0680 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,4-Dichlorobenzene | U | | | 0.0788 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| Dichlorodifluoromethane | U | | | 0.0327 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,1-Dichloroethane | U | | | 0.0230 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,2-Dichloroethane | U | UJ | C3 | 0.0190 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,1-Dichloroethene | U | | | 0.0200 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| cis-1,2-Dichloroethene | U | | | 0.0276 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| trans-1,2-Dichloroethene | U | | | 0.0572 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,2-Dichloropropane | U | | | 0.0508 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,1-Dichloropropene | U | | | 0.0280 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,3-Dichloropropane | U | | | 0.0700 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| cis-1,3-Dichloropropene | U | | | 0.0271 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| trans-1,3-Dichloropropene | U | | | 0.0612 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| 2,2-Dichloropropane | U | | J3 | 0.0317 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| Di-isopropyl ether | U | | | 0.0140 | 0.0400 | 1 | 11/15/2022 04:46 | WG1959342 |
| Ethylbenzene | U | | | 0.0212 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| Hexachloro-1,3-butadiene | U | | J4 | 0.508 | 1.00 | 1 | 11/15/2022 04:46 | WG1959342 |
| Isopropylbenzene | U | | | 0.0345 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| p-Isopropyltoluene | U | | | 0.0932 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| 2-Butanone (MEK) | U | UJ | C3 | 0.500 | 1.00 | 1 | 11/15/2022 04:46 | WG1959342 |
| Methylene Chloride | U | | | 0.265 | 1.00 | 1 | 11/15/2022 04:46 | WG1959342 |
| 4-Methyl-2-pentanone (MIBK) | U | | | 0.400 | 1.00 | 1 | 11/15/2022 04:46 | WG1959342 |
| Methyl tert-butyl ether | U | | | 0.0118 | 0.0400 | 1 | 11/15/2022 04:46 | WG1959342 |
| Naphthalene | U | | | 0.124 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| n-Propylbenzene | U | | | 0.0472 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| Styrene | U | | | 0.109 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,1,1,2-Tetrachloroethane | U | | | 0.0200 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,1,2,2-Tetrachloroethane | U | | | 0.0156 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,1,2-Trichlorotrifluoroethane | U | | | 0.0270 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| Tetrachloroethene | U | | J4 | 0.0280 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| Toluene | U | | | 0.0500 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,2,3-Trichlorobenzene | U | | J4 | 0.0250 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,2,4-Trichlorobenzene | U | | J4 | 0.193 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,1,1-Trichloroethane | U | | | 0.0110 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,1,2-Trichloroethane | U | | | 0.0353 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| Trichloroethene | U | | J4 | 0.0160 | 0.0400 | 1 | 11/15/2022 04:46 | WG1959342 |
| Trichlorofluoromethane | U | UJ | C3 | 0.0200 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,2,3-Trichloropropane | U | | | 0.204 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,2,4-Trimethylbenzene | U | | | 0.0464 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,2,3-Trimethylbenzene | U | | | 0.0460 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| 1,3,5-Trimethylbenzene | U | | | 0.0432 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| Vinyl chloride | U | | | 0.0273 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| Xylenes, Total | U | | | 0.191 | 0.260 | 1 | 11/15/2022 04:46 | WG1959342 |
| Ethyl Ether | U | | | 0.0170 | 0.100 | 1 | 11/15/2022 04:46 | WG1959342 |
| Tetrahydrofuran | U | UJ | C3 J3 | 0.0900 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| Iodomethane | U | | | 0.242 | 0.500 | 1 | 11/15/2022 04:46 | WG1959342 |
| Allyl chloride | U | | | 0.580 | 1.00 | 1 | 11/15/2022 04:46 | WG1959342 |
| Trans-1,4-Dichloro-2-butene | U | UJ | C3 | 0.0560 | 0.200 | 1 | 11/15/2022 04:46 | WG1959342 |
| *(S) Toluene-d8* | *112* | | | | *75.0-131* | | *11/15/2022 04:46* | WG1959342 |
| *(S) 4-Bromofluorobenzene* | *106* | | | | *67.0-138* | | *11/15/2022 04:46* | WG1959342 |
| *(S) 1,2-Dichloroethane-d4* | *68.1* | | J2 | | *70.0-130* | | *11/15/2022 04:46* | WG1959342 |

JC 12/8/2022

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 115000 | | 8450 | 20000 | 1 | 11/15/2022 12:34 | WG1958957 |

Sample Narrative:
L1555557-04 WG1958957: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 8380 | | 379 | 1000 | 1 | 11/10/2022 02:33 | WG1956898 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/10/2022 02:33 | WG1956898 |
| Sulfate | 6810 | | 594 | 5000 | 1 | 11/10/2022 02:33 | WG1956898 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1810 | B | 102 | 1000 | 1 | 11/23/2022 13:56 | WG1963543 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 971 | | 28.1 | 100 | 1 | 11/16/2022 23:28 | WG1959258 |
| Manganese | 331 | | 0.704 | 5.00 | 1 | 11/16/2022 23:28 | WG1959258 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 321 | | 0.287 | 0.678 | 1 | 11/15/2022 11:49 | WG1958883 |
| Ethane | 1.73 | | 0.296 | 1.29 | 1 | 11/15/2022 11:49 | WG1958883 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/15/2022 11:49 | WG1958883 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | C3 | 0.548 | 1.00 | 1 | 11/15/2022 05:05 | WG1959342 |
| Acrylonitrile | U | C3 | 0.0760 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/15/2022 05:05 | WG1959342 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/15/2022 05:05 | WG1959342 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,2-Dibromoethane | U | UJ | 0.0210 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |

UJ

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Dibromomethane | U | UJ | 0.0400 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,2-Dichloroethane | U | UJ C3 | 0.0190 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| 2,2-Dichloropropane | U | J3 | 0.0317 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/15/2022 05:05 | WG1959342 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| Hexachloro-1,3-butadiene | U | J4 | 0.508 | 1.00 | 1 | 11/15/2022 05:05 | WG1959342 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| 2-Butanone (MEK) | U | UJ C3 | 0.500 | 1.00 | 1 | 11/15/2022 05:05 | WG1959342 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/15/2022 05:05 | WG1959342 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/15/2022 05:05 | WG1959342 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/15/2022 05:05 | WG1959342 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| Tetrachloroethene | U | UJ J4 | 0.0280 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| Toluene | 0.0680 | J J | 0.0500 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,2,3-Trichlorobenzene | U | UJ J4 | 0.0250 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,2,4-Trichlorobenzene | U | J4 | 0.193 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| Trichloroethene | U | J4 | 0.0160 | 0.0400 | 1 | 11/15/2022 05:05 | WG1959342 |
| Trichlorofluoromethane | U | UJ C3 | 0.0200 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/15/2022 05:05 | WG1959342 |
| Ethyl Ether | U | UJ | 0.0170 | 0.100 | 1 | 11/15/2022 05:05 | WG1959342 |
| Tetrahydrofuran | 0.213 | J C3 J J3 | 0.0900 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| Iodomethane | U | UJ | 0.242 | 0.500 | 1 | 11/15/2022 05:05 | WG1959342 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/15/2022 05:05 | WG1959342 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/15/2022 05:05 | WG1959342 |
| *(S) Toluene-d8* | *110* | | | *75.0-131* | | *11/15/2022 05:05* | WG1959342 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *11/15/2022 05:05* | WG1959342 |
| *(S) 1,2-Dichloroethane-d4* | *67.2* | J2 | | *70.0-130* | | *11/15/2022 05:05* | WG1959342 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 142000 | | 8450 | 20000 | 1 | 11/15/2022 12:39 | WG1958957 |

Sample Narrative:
L1555557-05 WG1958957: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 15700 | | 379 | 1000 | 1 | 11/10/2022 05:17 | WG1956898 |
| Nitrate | 151 | | 48.0 | 100 | 1 | 11/10/2022 05:17 | WG1956898 |
| Sulfate | 60000 | | 594 | 5000 | 1 | 11/10/2022 05:17 | WG1956898 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1400 | B | 102 | 1000 | 1 | 11/23/2022 14:15 | WG1963543 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1970 | | 28.1 | 100 | 1 | 11/16/2022 23:31 | WG1959258 |
| Manganese | 328 | | 0.704 | 5.00 | 1 | 11/16/2022 23:31 | WG1959258 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 67.6 | | 0.287 | 0.678 | 1 | 11/15/2022 11:53 | WG1958883 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/15/2022 11:53 | WG1958883 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/15/2022 11:53 | WG1958883 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | UJ C3 | 0.548 | 1.00 | 1 | 11/15/2022 05:24 | WG1959342 |
| Acrylonitrile | U | UJ C3 | 0.0760 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/15/2022 05:24 | WG1959342 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/15/2022 05:24 | WG1959342 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,2-Dibromoethane | U | UJ | 0.0210 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Dibromomethane | U | UJ | 0.0400 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,2-Dichloroethane | U | UJ C3 | 0.0190 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| 2,2-Dichloropropane | U | UJ ~~J3~~ | 0.0317 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/15/2022 05:24 | WG1959342 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| Hexachloro-1,3-butadiene | U | UJ ~~J4~~ | 0.508 | 1.00 | 1 | 11/15/2022 05:24 | WG1959342 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| 2-Butanone (MEK) | U | UJ C3 | 0.500 | 1.00 | 1 | 11/15/2022 05:24 | WG1959342 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/15/2022 05:24 | WG1959342 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/15/2022 05:24 | WG1959342 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/15/2022 05:24 | WG1959342 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| Tetrachloroethene | U | UJ ~~J4~~ | 0.0280 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,2,3-Trichlorobenzene | U | UJ ~~J4~~ | 0.0250 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,2,4-Trichlorobenzene | U | UJ ~~J4~~ | 0.193 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| Trichloroethene | U | UJ ~~J4~~ | 0.0160 | 0.0400 | 1 | 11/15/2022 05:24 | WG1959342 |
| Trichlorofluoromethane | U | UJ C3 | 0.0200 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/15/2022 05:24 | WG1959342 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/15/2022 05:24 | WG1959342 |
| Tetrahydrofuran | U | UJ C3 ~~J3~~ | 0.0900 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/15/2022 05:24 | WG1959342 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/15/2022 05:24 | WG1959342 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/15/2022 05:24 | WG1959342 |
| *(S) Toluene-d8* | *111* | | | *75.0-131* | | *11/15/2022 05:24* | WG1959342 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/15/2022 05:24* | WG1959342 |
| *(S) 1,2-Dichloroethane-d4* | *67.8* | J2 | | *70.0-130* | | *11/15/2022 05:24* | WG1959342 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 568000 | | 8450 | 20000 | 1 | 11/15/2022 12:34 | WG1959673 |

Sample Narrative:

L1555557-06 WG1959673: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 45500 | | 379 | 1000 | 1 | 11/10/2022 05:32 | WG1956898 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/10/2022 05:32 | WG1956898 |
| Sulfate | 2280 | J | 594 | 5000 | 1 | 11/10/2022 05:32 | WG1956898 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 63800 | | 102 | 1000 | 1 | 11/23/2022 14:36 | WG1963543 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 9410 | | 28.1 | 100 | 1 | 11/16/2022 23:35 | WG1959258 |
| Manganese | 1080 | | 0.704 | 5.00 | 1 | 11/16/2022 23:35 | WG1959258 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 27100 | | 2.87 | 6.78 | 10 | 11/15/2022 14:53 | WG1959897 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/15/2022 12:01 | WG1958883 |
| Ethene | 3.25 | | 0.422 | 1.27 | 1 | 11/15/2022 12:01 | WG1958883 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 4.20 | C3 | 0.548 | 1.00 | 1 | 11/15/2022 05:43 | WG1959342 |
| Acrylonitrile | U | C3 | 0.0760 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/15/2022 05:43 | WG1959342 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/15/2022 05:43 | WG1959342 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |

J- UJ

UJ

JC 12/8/2022

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | UJ | 0.0400 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,2-Dichloroethane | U | UJ C3 | 0.0190 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,1-Dichloroethene | 0.227 | J | 0.0200 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| cis-1,2-Dichloroethene | 4.95 | J | 0.0276 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| trans-1,2-Dichloroethene | U | UJ | 0.0572 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| 2,2-Dichloropropane | U | J3 | 0.0317 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/15/2022 05:43 | WG1959342 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| Hexachloro-1,3-butadiene | U | ~~J4~~ | 0.508 | 1.00 | 1 | 11/15/2022 05:43 | WG1959342 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| p-Isopropyltoluene | U | UJ | 0.0932 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| 2-Butanone (MEK) | 20.1 | J- C3 | 0.500 | 1.00 | 1 | 11/15/2022 05:43 | WG1959342 |
| Methylene Chloride | U | UJ | 0.265 | 1.00 | 1 | 11/15/2022 05:43 | WG1959342 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/15/2022 05:43 | WG1959342 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/15/2022 05:43 | WG1959342 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,1,2-Trichlorotrifluoroethane | U | UJ | 0.0270 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| Tetrachloroethene | 0.0430 | J J ~~J4~~ | 0.0280 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| Toluene | 0.702 | J | 0.0500 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,2,3-Trichlorobenzene | U | UJ ~~J4~~ | 0.0250 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,2,4-Trichlorobenzene | U | ~~J4~~ | 0.193 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,1,2-Trichloroethane | U | UJ | 0.0353 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| Trichloroethene | 0.240 | J+ C5 J4 | 0.0160 | 0.0400 | 1 | 11/15/2022 05:43 | WG1959342 |
| Trichlorofluoromethane | U | UJ C3 | 0.0200 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| 1,3,5-Trimethylbenzene | U | UJ | 0.0432 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| Vinyl chloride | 9.84 | J | 0.0273 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| Xylenes, Total | U | UJ | 0.191 | 0.260 | 1 | 11/15/2022 05:43 | WG1959342 |
| Ethyl Ether | U | UJ | 0.0170 | 0.100 | 1 | 11/15/2022 05:43 | WG1959342 |
| Tetrahydrofuran | 12.2 | J- C3 ~~J3~~ | 0.0900 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| Iodomethane | U | UJ | 0.242 | 0.500 | 1 | 11/15/2022 05:43 | WG1959342 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/15/2022 05:43 | WG1959342 |
| Trans-1,4-Dichloro-2-butene | U | UJ C3 | 0.0560 | 0.200 | 1 | 11/15/2022 05:43 | WG1959342 |
| *(S) Toluene-d8* | *112* | | | *75.0-131* | | *11/15/2022 05:43* | WG1959342 |
| *(S) 4-Bromofluorobenzene* | *100* | | | *67.0-138* | | *11/15/2022 05:43* | WG1959342 |
| *(S) 1,2-Dichloroethane-d4* | *66.4* | J2 | | *70.0-130* | | *11/15/2022 05:43* | WG1959342 |

JC 12/8/2022

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 84100 | | 8450 | 20000 | 1 | 11/17/2022 09:01 | WG1960842 |

Sample Narrative:

L1556122-01 WG1960842: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 132000 | | 379 | 1000 | 1 | 11/10/2022 21:47 | WG1957434 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/10/2022 21:47 | WG1957434 |
| Sulfate | 1090 | J | 594 | 5000 | 1 | 11/10/2022 21:47 | WG1957434 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 9090 | | 102 | 1000 | 1 | 11/24/2022 03:33 | WG1964116 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 269 | | 28.1 | 100 | 1 | 11/18/2022 14:29 | WG1959267 |
| Manganese | 76.1 | | 0.704 | 5.00 | 1 | 11/18/2022 14:29 | WG1959267 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 91.6 | | 0.287 | 0.678 | 1 | 11/16/2022 09:04 | WG1960395 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/16/2022 09:04 | WG1960395 |
| Ethene | 14.1 | | 0.422 | 1.27 | 1 | 11/16/2022 09:04 | WG1960395 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|---|
| Acetone | U | | | 0.548 | 1.00 | 1 | 11/18/2022 13:01 | WG1961578 |
| Acrylonitrile | U | | | 0.0760 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| Benzene | 0.0410 | | | 0.0160 | 0.0400 | 1 | 11/18/2022 13:01 | WG1961578 |
| Bromobenzene | U | | | 0.0420 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| Bromodichloromethane | U | | | 0.0315 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| Bromoform | U | | | 0.239 | 1.00 | 1 | 11/18/2022 13:01 | WG1961578 |
| Bromomethane | U | UJ | C3 | 0.148 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| n-Butylbenzene | U | | | 0.153 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| sec-Butylbenzene | U | | | 0.101 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| tert-Butylbenzene | U | | | 0.0620 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| Carbon tetrachloride | U | | | 0.0432 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| Chlorobenzene | U | | | 0.0229 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| Chlorodibromomethane | U | | | 0.0180 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| Chloroethane | U | UJ | C3 | 0.0432 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| Chloroform | U | | | 0.0166 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| Chloromethane | U | UJ | C3 | 0.0556 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| 2-Chlorotoluene | U | | | 0.0368 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| 4-Chlorotoluene | U | | | 0.0452 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,2-Dibromo-3-Chloropropane | U | | | 0.204 | 1.00 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,2-Dibromoethane | U | | | 0.0210 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| cis-1,2-Dichloroethene | 0.102 | | 0.0276 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| 2,2-Dichloropropane | U | UJ C3 | 0.0317 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/18/2022 13:01 | WG1961578 |
| Ethylbenzene | 0.0670 | J | 0.0212 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/18/2022 13:01 | WG1961578 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/18/2022 13:01 | WG1961578 |
| Methylene Chloride | U | UJ C3 | 0.265 | 1.00 | 1 | 11/18/2022 13:01 | WG1961578 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/18/2022 13:01 | WG1961578 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/18/2022 13:01 | WG1961578 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| Tetrachloroethene | 0.0420 | J | 0.0280 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| Toluene | 0.310 | | 0.0500 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,2,4-Trichlorobenzene | U | ~~J4~~ | 0.193 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| Trichloroethene | 0.173 | | 0.0160 | 0.0400 | 1 | 11/18/2022 13:01 | WG1961578 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| Vinyl chloride | U | UJ C3 | 0.0273 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| Xylenes, Total | 0.338 | | 0.191 | 0.260 | 1 | 11/18/2022 13:01 | WG1961578 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/18/2022 13:01 | WG1961578 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/18/2022 13:01 | WG1961578 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/18/2022 13:01 | WG1961578 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/18/2022 13:01 | WG1961578 |
| *(S) Toluene-d8* | *101* | | | *75.0-131* | | *11/18/2022 13:01* | WG1961578 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/18/2022 13:01* | WG1961578 |
| *(S) 1,2-Dichloroethane-d4* | *85.2* | | | *70.0-130* | | *11/18/2022 13:01* | WG1961578 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 147000 | | 8450 | 20000 | 1 | 11/17/2022 09:07 | WG1960842 |

Sample Narrative:
L1556122-02 WG1960842: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 11600 | | 379 | 1000 | 1 | 11/10/2022 21:59 | WG1957434 |
| Nitrate | 83.9 | J | 48.0 | 100 | 1 | 11/10/2022 21:59 | WG1957434 |
| Sulfate | 14900 | | 594 | 5000 | 1 | 11/10/2022 21:59 | WG1957434 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2130 | B | 102 | 1000 | 1 | 11/24/2022 03:50 | WG1964116 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 5950 | | 28.1 | 100 | 1 | 11/18/2022 14:52 | WG1959267 |
| Manganese | 364 | | 0.704 | 5.00 | 1 | 11/18/2022 14:52 | WG1959267 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 26.0 | | 0.287 | 0.678 | 1 | 11/16/2022 09:07 | WG1960395 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/16/2022 09:07 | WG1960395 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/16/2022 09:07 | WG1960395 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/18/2022 13:20 | WG1961578 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/18/2022 13:20 | WG1961578 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/18/2022 13:20 | WG1961578 |
| Bromomethane | U | UJ C3 | 0.148 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| Chloroethane | U | UJ C3 | 0.0432 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| Chloromethane | U | UJ C3 | 0.0556 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |

JC 12/8/2022

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| 2,2-Dichloropropane | U | UJ C3 | 0.0317 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/18/2022 13:20 | WG1961578 |
| Ethylbenzene | 0.0520 | J | 0.0212 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/18/2022 13:20 | WG1961578 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/18/2022 13:20 | WG1961578 |
| Methylene Chloride | U | UJ C3 | 0.265 | 1.00 | 1 | 11/18/2022 13:20 | WG1961578 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/18/2022 13:20 | WG1961578 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/18/2022 13:20 | WG1961578 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| Toluene | 0.308 | | 0.0500 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,2,4-Trichlorobenzene | U | ~~J4~~ | 0.193 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/18/2022 13:20 | WG1961578 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| Vinyl chloride | U | UJ C3 | 0.0273 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| Xylenes, Total | 0.276 | | 0.191 | 0.260 | 1 | 11/18/2022 13:20 | WG1961578 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/18/2022 13:20 | WG1961578 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/18/2022 13:20 | WG1961578 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/18/2022 13:20 | WG1961578 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/18/2022 13:20 | WG1961578 |
| *(S) Toluene-d8* | *102* | | | *75.0-131* | | *11/18/2022 13:20* | WG1961578 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/18/2022 13:20* | WG1961578 |
| *(S) 1,2-Dichloroethane-d4* | *87.3* | | | *70.0-130* | | *11/18/2022 13:20* | WG1961578 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 207000 | | 8450 | 20000 | 1 | 11/17/2022 09:12 | WG1960842 |

Sample Narrative:
L1556122-03 WG1960842: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 34100 | | 379 | 1000 | 1 | 11/10/2022 22:12 | WG1957434 |
| Nitrate | 1050 | | 48.0 | 100 | 1 | 11/10/2022 22:12 | WG1957434 |
| Sulfate | 78700 | | 594 | 5000 | 1 | 11/10/2022 22:12 | WG1957434 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2370 | B | 102 | 1000 | 1 | 11/24/2022 04:07 | WG1964116 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 228 | | 28.1 | 100 | 1 | 11/18/2022 15:06 | WG1959267 |
| Manganese | 76.3 | | 0.704 | 5.00 | 1 | 11/18/2022 15:06 | WG1959267 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 297 | | 0.287 | 0.678 | 1 | 11/16/2022 09:10 | WG1960395 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/16/2022 09:10 | WG1960395 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/16/2022 09:10 | WG1960395 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/18/2022 13:39 | WG1961578 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| Benzene | 0.0340 | J | 0.0160 | 0.0400 | 1 | 11/18/2022 13:39 | WG1961578 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/18/2022 13:39 | WG1961578 |
| Bromomethane | U | UJ C3 | 0.148 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| Chloroethane | U | UJ C3 | 0.0432 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| Chloromethane | U | UJ C3 | 0.0556 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,1-Dichloroethene | 0.131 | | 0.0200 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| cis-1,2-Dichloroethene | 23.5 | | 0.0276 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| trans-1,2-Dichloroethene | 0.224 | | 0.0572 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| 2,2-Dichloropropane | U | UJ C3 | 0.0317 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/18/2022 13:39 | WG1961578 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/18/2022 13:39 | WG1961578 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/18/2022 13:39 | WG1961578 |
| Methylene Chloride | U | UJ C3 | 0.265 | 1.00 | 1 | 11/18/2022 13:39 | WG1961578 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/18/2022 13:39 | WG1961578 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/18/2022 13:39 | WG1961578 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| Tetrachloroethene | 109 | J+ C5 J4 | 0.280 | 1.00 | 10 | 11/15/2022 08:32 | WG1959342 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,2,4-Trichlorobenzene | U | ~~J4~~ | 0.193 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| Trichloroethene | 32.2 | | 0.0160 | 0.0400 | 1 | 11/18/2022 13:39 | WG1961578 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| Vinyl chloride | U | ~~C3~~ | 0.0273 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/18/2022 13:39 | WG1961578 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/18/2022 13:39 | WG1961578 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/18/2022 13:39 | WG1961578 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/18/2022 13:39 | WG1961578 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/18/2022 13:39 | WG1961578 |
| *(S) Toluene-d8* | *111* | | | *75.0-131* | | *11/15/2022 08:32* | WG1959342 |
| *(S) Toluene-d8* | *103* | | | *75.0-131* | | *11/18/2022 13:39* | WG1961578 |
| *(S) 4-Bromofluorobenzene* | *104* | | | *67.0-138* | | *11/15/2022 08:32* | WG1959342 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/18/2022 13:39* | WG1961578 |
| *(S) 1,2-Dichloroethane-d4* | *72.4* | | | *70.0-130* | | *11/15/2022 08:32* | WG1959342 |
| *(S) 1,2-Dichloroethane-d4* | *88.1* | | | *70.0-130* | | *11/18/2022 13:39* | WG1961578 |

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1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 442000 | | 8450 | 20000 | 1 | 11/17/2022 09:18 | WG1960842 |

Sample Narrative:

L1556124-01 WG1960842: Endpoint pH 4.5 headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 33800 | | 379 | 1000 | 1 | 11/10/2022 22:25 | WG1957434 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/10/2022 22:25 | WG1957434 |
| Sulfate | U | | 594 | 5000 | 1 | 11/10/2022 22:25 | WG1957434 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 40500 | | 102 | 1000 | 1 | 11/24/2022 04:25 | WG1964116 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 41200 | | 28.1 | 100 | 1 | 11/18/2022 15:09 | WG1959267 |
| Manganese | 2990 | | 0.704 | 5.00 | 1 | 11/18/2022 15:09 | WG1959267 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 19300 | | 2.87 | 6.78 | 10 | 11/16/2022 11:02 | WG1960511 |
| Ethane | 7.24 | | 0.296 | 1.29 | 1 | 11/16/2022 09:13 | WG1960395 |
| Ethene | 559 | | 0.422 | 1.27 | 1 | 11/16/2022 09:13 | WG1960395 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 13.7 | 25.0 | 25 | 11/16/2022 21:19 | WG1960747 |
| Acrylonitrile | U | | 1.90 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| Benzene | U | | 0.400 | 1.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| Bromobenzene | U | | 1.05 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| Bromodichloromethane | U | | 0.788 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Bromoform | U | | 5.98 | 25.0 | 25 | 11/16/2022 21:19 | WG1960747 |
| Bromomethane | U | J3 | 3.70 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| n-Butylbenzene | U | | 3.83 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| sec-Butylbenzene | U | | 2.53 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| tert-Butylbenzene | U | | 1.55 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| Carbon tetrachloride | U | | 1.08 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| Chlorobenzene | U | | 0.573 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Chlorodibromomethane | U | | 0.450 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Chloroethane | U | | 1.08 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| Chloroform | U | | 0.415 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Chloromethane | U | | 1.39 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| 2-Chlorotoluene | U | | 0.920 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| 4-Chlorotoluene | U | | 1.13 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,2-Dibromo-3-Chloropropane | U | | 5.10 | 25.0 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,2-Dibromoethane | U | | 0.525 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |

JC 12/8/2022

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 1.00 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,2-Dichlorobenzene | U | | 1.45 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,3-Dichlorobenzene | U | | 1.70 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,4-Dichlorobenzene | U | | 1.97 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| Dichlorodifluoromethane | U | | 0.818 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,1-Dichloroethane | U | | 0.575 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,2-Dichloroethane | U | | 0.475 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,1-Dichloroethene | U | | 0.500 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| cis-1,2-Dichloroethene | 119 | | 0.690 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| trans-1,2-Dichloroethene | 3.28 | J | 1.43 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,2-Dichloropropane | U | | 1.27 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,1-Dichloropropene | U | | 0.700 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,3-Dichloropropane | U | | 1.75 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| cis-1,3-Dichloropropene | U | | 0.678 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| trans-1,3-Dichloropropene | U | | 1.53 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| 2,2-Dichloropropane | U | | 0.793 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Di-isopropyl ether | U | | 0.350 | 1.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| Ethylbenzene | U | | 0.530 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Hexachloro-1,3-butadiene | U | | 12.7 | 25.0 | 25 | 11/16/2022 21:19 | WG1960747 |
| Isopropylbenzene | U | | 0.863 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| p-Isopropyltoluene | U | | 2.33 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| 2-Butanone (MEK) | U | | 12.5 | 25.0 | 25 | 11/16/2022 21:19 | WG1960747 |
| Methylene Chloride | U | | 6.63 | 25.0 | 25 | 11/16/2022 21:19 | WG1960747 |
| 4-Methyl-2-pentanone (MIBK) | U | | 10.0 | 25.0 | 25 | 11/16/2022 21:19 | WG1960747 |
| Methyl tert-butyl ether | U | | 0.295 | 1.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| Naphthalene | U | | 3.10 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| n-Propylbenzene | U | | 1.18 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| Styrene | U | | 2.73 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,1,1,2-Tetrachloroethane | U | | 0.500 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,1,2,2-Tetrachloroethane | U | | 0.390 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.675 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Tetrachloroethene | U | | 0.700 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Toluene | U | | 1.25 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.625 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 4.83 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,1,1-Trichloroethane | U | | 0.275 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,1,2-Trichloroethane | U | | 0.883 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Trichloroethene | U | | 0.400 | 1.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| Trichlorofluoromethane | U | | 0.500 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,2,3-Trichloropropane | U | | 5.10 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,2,4-Trimethylbenzene | U | | 1.16 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,2,3-Trimethylbenzene | U | | 1.15 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| 1,3,5-Trimethylbenzene | U | | 1.08 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| Vinyl chloride | 1220 | | 0.682 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Xylenes, Total | U | | 4.78 | 6.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Ethyl Ether | U | | 0.425 | 2.50 | 25 | 11/16/2022 21:19 | WG1960747 |
| Tetrahydrofuran | U | | 2.25 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| Iodomethane | U | | 6.05 | 12.5 | 25 | 11/16/2022 21:19 | WG1960747 |
| Allyl chloride | U | | 14.5 | 25.0 | 25 | 11/16/2022 21:19 | WG1960747 |
| Trans-1,4-Dichloro-2-butene | U | | 1.40 | 5.00 | 25 | 11/16/2022 21:19 | WG1960747 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *11/16/2022 21:19* | WG1960747 |
| *(S) 4-Bromofluorobenzene* | *97.4* | | | *67.0-138* | | *11/16/2022 21:19* | WG1960747 |
| *(S) 1,2-Dichloroethane-d4* | *96.2* | | | *70.0-130* | | *11/16/2022 21:19* | WG1960747 |

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**Sample Narrative:**

L1556124-01 WG1960747: Target compounds too high to run at a lower dilution.

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 1440000 | | 8450 | 20000 | 1 | 11/18/2022 16:11 | WG1961983 |

Sample Narrative:

L1556817-01 WG1961983: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 117000 | | 379 | 1000 | 1 | 11/16/2022 08:14 | WG1959994 |
| Nitrate | 593 | | 48.0 | 100 | 1 | 11/12/2022 01:01 | WG1958580 |
| Sulfate | 649 | J | 594 | 5000 | 1 | 11/16/2022 08:14 | WG1959994 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2180000 | | 5100 | 50000 | 50 | 11/25/2022 17:19 | WG1964791 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 465000 | | 14000 | 50000 | 500 | 11/18/2022 20:17 | WG1960372 |
| Manganese | 4710 | B | 352 | 2500 | 500 | 11/18/2022 20:17 | WG1960372 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 5390 | | 0.287 | 0.678 | 1 | 11/16/2022 14:26 | WG1960631 |
| Ethane | 3.80 | | 0.296 | 1.29 | 1 | 11/16/2022 14:26 | WG1960631 |
| Ethene | 3.01 | | 0.422 | 1.27 | 1 | 11/16/2022 14:26 | WG1960631 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 90.6 | | 11.0 | 20.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| Acrylonitrile | U | | 1.52 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| Benzene | 1.78 | | 0.320 | 0.800 | 20 | 11/16/2022 21:57 | WG1960747 |
| Bromobenzene | U | | 0.840 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| Bromodichloromethane | U | | 0.630 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Bromoform | U | | 4.78 | 20.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| Bromomethane | U | J3 | 2.96 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| n-Butylbenzene | U | | 3.06 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| sec-Butylbenzene | U | | 2.02 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| tert-Butylbenzene | U | | 1.24 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Carbon tetrachloride | U | | 0.864 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Chlorobenzene | U | | 0.458 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Chlorodibromomethane | U | | 0.360 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Chloroethane | U | | 0.864 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Chloroform | U | | 0.332 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Chloromethane | U | | 1.11 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| 2-Chlorotoluene | U | | 0.736 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 4-Chlorotoluene | U | | 0.904 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,2-Dibromo-3-Chloropropane | U | | 4.08 | 20.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,2-Dibromoethane | U | | 0.420 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.800 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,2-Dichlorobenzene | U | | 1.16 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,3-Dichlorobenzene | U | | 1.36 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,4-Dichlorobenzene | U | | 1.58 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Dichlorodifluoromethane | U | | 0.654 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,1-Dichloroethane | U | | 0.460 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,2-Dichloroethane | U | | 0.380 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,1-Dichloroethene | U | | 0.400 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| cis-1,2-Dichloroethene | 49.4 | | 0.552 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| trans-1,2-Dichloroethene | U | | 1.14 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,2-Dichloropropane | U | | 1.02 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,1-Dichloropropene | U | | 0.560 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,3-Dichloropropane | U | | 1.40 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| cis-1,3-Dichloropropene | U | | 0.542 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| trans-1,3-Dichloropropene | U | | 1.22 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 2,2-Dichloropropane | U | | 0.634 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Di-isopropyl ether | U | | 0.280 | 0.800 | 20 | 11/16/2022 21:57 | WG1960747 |
| Ethylbenzene | U | | 0.424 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Hexachloro-1,3-butadiene | U | | 10.2 | 20.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| Isopropylbenzene | U | | 0.690 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| p-Isopropyltoluene | U | | 1.86 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 2-Butanone (MEK) | 2340 | | 10.0 | 20.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| Methylene Chloride | U | | 5.30 | 20.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| 4-Methyl-2-pentanone (MIBK) | U | | 8.00 | 20.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| Methyl tert-butyl ether | U | | 0.236 | 0.800 | 20 | 11/16/2022 21:57 | WG1960747 |
| Naphthalene | U | | 2.48 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| n-Propylbenzene | U | | 0.944 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Styrene | U | | 2.18 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,1,1,2-Tetrachloroethane | U | | 0.400 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,1,2,2-Tetrachloroethane | U | | 0.312 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.540 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Tetrachloroethene | U | | 0.560 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Toluene | U | | 1.00 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.500 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 3.86 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,1,1-Trichloroethane | U | | 0.220 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,1,2-Trichloroethane | U | | 0.706 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Trichloroethene | U | | 0.320 | 0.800 | 20 | 11/16/2022 21:57 | WG1960747 |
| Trichlorofluoromethane | U | | 0.400 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,2,3-Trichloropropane | U | | 4.08 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,2,4-Trimethylbenzene | U | | 0.928 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,2,3-Trimethylbenzene | U | | 0.920 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| 1,3,5-Trimethylbenzene | U | | 0.864 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Vinyl chloride | 13.9 | | 0.546 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Xylenes, Total | U | | 3.82 | 5.20 | 20 | 11/16/2022 21:57 | WG1960747 |
| Ethyl Ether | U | | 0.340 | 2.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| Tetrahydrofuran | 56.3 | | 1.80 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| Iodomethane | U | | 4.84 | 10.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| Allyl chloride | U | | 11.6 | 20.0 | 20 | 11/16/2022 21:57 | WG1960747 |
| Trans-1,4-Dichloro-2-butene | U | | 1.12 | 4.00 | 20 | 11/16/2022 21:57 | WG1960747 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *11/16/2022 21:57* | WG1960747 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *11/16/2022 21:57* | WG1960747 |
| *(S) 1,2-Dichloroethane-d4* | *96.1* | | | *70.0-130* | | *11/16/2022 21:57* | WG1960747 |

**Sample Narrative:**

L1556817-01 WG1960747: Lowest possible dilution due to sample foaming.

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 248000 | | 8450 | 20000 | 1 | 11/18/2022 16:14 | WG1961983 |

Sample Narrative:

L1556817-02 WG1961983: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 32800 | | 379 | 1000 | 1 | 11/16/2022 08:32 | WG1959994 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/12/2022 01:14 | WG1958580 |
| Sulfate | 4720 | J | 594 | 5000 | 1 | 11/16/2022 08:32 | WG1959994 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 11600 | | 102 | 1000 | 1 | 11/25/2022 17:44 | WG1964791 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1380 | | 28.1 | 100 | 1 | 11/22/2022 23:40 | WG1963571 |
| Manganese | 153 | | 0.704 | 5.00 | 1 | 11/22/2022 23:40 | WG1963571 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 7090 | | 2.87 | 6.78 | 10 | 11/17/2022 08:48 | WG1960778 |
| Ethane | 1.50 | | 0.296 | 1.29 | 1 | 11/16/2022 14:29 | WG1960631 |
| Ethene | 11.5 | | 0.422 | 1.27 | 1 | 11/16/2022 14:29 | WG1960631 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 11.0 | | 0.548 | 1.00 | 1 | 11/16/2022 20:41 | WG1960747 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/16/2022 20:41 | WG1960747 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/16/2022 20:41 | WG1960747 |
| Bromomethane | U | ~~J3~~ | 0.148 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |

JC 12/8/2022

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| cis-1,2-Dichloroethene | 15.8 | | 0.0276 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| trans-1,2-Dichloroethene | 0.134 | J | 0.0572 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/16/2022 20:41 | WG1960747 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/16/2022 20:41 | WG1960747 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/16/2022 20:41 | WG1960747 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/16/2022 20:41 | WG1960747 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/16/2022 20:41 | WG1960747 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/16/2022 20:41 | WG1960747 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| Toluene | 0.0760 | J | 0.0500 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,2,3-Trichlorobenzene | U UJ | C4 | 0.0250 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,2,4-Trichlorobenzene | U UJ | C4 | 0.193 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/16/2022 20:41 | WG1960747 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| Vinyl chloride | 28.7 | | 0.0273 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/16/2022 20:41 | WG1960747 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/16/2022 20:41 | WG1960747 |
| Tetrahydrofuran | 95.7 | | 0.0900 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/16/2022 20:41 | WG1960747 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/16/2022 20:41 | WG1960747 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/16/2022 20:41 | WG1960747 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/16/2022 20:41* | WG1960747 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/16/2022 20:41* | WG1960747 |
| *(S) 1,2-Dichloroethane-d4* | *97.5* | | | *70.0-130* | | *11/16/2022 20:41* | WG1960747 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 193000 | | 8450 | 20000 | 1 | 11/18/2022 16:29 | WG1961983 |

Sample Narrative:

L1556817-03 WG1961983: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 35000 | | 379 | 1000 | 1 | 11/16/2022 08:50 | WG1959994 |
| Nitrate | 67.7 | J | 48.0 | 100 | 1 | 11/12/2022 02:09 | WG1958580 |
| Sulfate | 81300 | | 594 | 5000 | 1 | 11/16/2022 08:50 | WG1959994 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1170 | B | 102 | 1000 | 1 | 11/25/2022 18:15 | WG1964791 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 8200 | | 281 | 1000 | 10 | 11/23/2022 13:53 | WG1963571 |
| Manganese | 301 | | 7.04 | 50.0 | 10 | 11/23/2022 13:53 | WG1963571 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 96.6 | | 0.287 | 0.678 | 1 | 11/17/2022 08:51 | WG1960778 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/17/2022 08:51 | WG1960778 |
| Ethene | 2.21 | | 0.422 | 1.27 | 1 | 11/17/2022 08:51 | WG1960778 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 2.81 | | 0.548 | 1.00 | 1 | 11/16/2022 21:00 | WG1960747 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/16/2022 21:00 | WG1960747 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/16/2022 21:00 | WG1960747 |
| Bromomethane | U | J3 | 0.148 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| cis-1,2-Dichloroethene | 2.68 | | 0.0276 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/16/2022 21:00 | WG1960747 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/16/2022 21:00 | WG1960747 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/16/2022 21:00 | WG1960747 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/16/2022 21:00 | WG1960747 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/16/2022 21:00 | WG1960747 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/16/2022 21:00 | WG1960747 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| Toluene | 0.216 | | 0.0500 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,2,4-Trichlorobenzene | U | UJ C4 | 0.193 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| Trichloroethene | 0.570 | | 0.0160 | 0.0400 | 1 | 11/16/2022 21:00 | WG1960747 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| Vinyl chloride | 1.54 | | 0.0273 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/16/2022 21:00 | WG1960747 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/16/2022 21:00 | WG1960747 |
| Tetrahydrofuran | 1.45 | | 0.0900 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/16/2022 21:00 | WG1960747 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/16/2022 21:00 | WG1960747 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/16/2022 21:00 | WG1960747 |
| *(S) Toluene-d8* | *106* | | | *75.0-131* | | *11/16/2022 21:00* | WG1960747 |
| *(S) 4-Bromofluorobenzene* | *96.8* | | | *67.0-138* | | *11/16/2022 21:00* | WG1960747 |
| *(S) 1,2-Dichloroethane-d4* | *94.7* | | | *70.0-130* | | *11/16/2022 21:00* | WG1960747 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 48300 | | 8450 | 20000 | 1 | 11/18/2022 11:18 | WG1961190 |

Sample Narrative:
L1557120-01 WG1961190: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 2720 | | 379 | 1000 | 1 | 11/12/2022 21:11 | WG1958695 |
| Nitrate | 806 | | 48.0 | 100 | 1 | 11/12/2022 21:11 | WG1958695 |
| Sulfate | 5120 | | 594 | 5000 | 1 | 11/12/2022 21:11 | WG1958695 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1260 | B | 102 | 1000 | 1 | 11/25/2022 18:50 | WG1964902 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 115 | | 28.1 | 100 | 1 | 11/22/2022 19:10 | WG1962932 |
| Manganese | 15.2 | | 0.704 | 5.00 | 1 | 11/22/2022 19:10 | WG1962932 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | U | | 0.287 | 0.678 | 1 | 11/17/2022 12:04 | WG1960824 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/17/2022 12:04 | WG1960824 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/17/2022 12:04 | WG1960824 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/18/2022 16:24 | WG1962038 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/18/2022 16:24 | WG1962038 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/18/2022 16:24 | WG1962038 |
| Bromomethane | U | UJ C3 | 0.148 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| Chloroethane | U | UJ C3 | 0.0432 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| Chloromethane | U | UJ C3 | 0.0556 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| cis-1,2-Dichloroethene | 16.7 | | 0.0276 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| trans-1,2-Dichloroethene | 0.0920 | J | 0.0572 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| 2,2-Dichloropropane | U | UJ C3 | 0.0317 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/18/2022 16:24 | WG1962038 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/18/2022 16:24 | WG1962038 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/18/2022 16:24 | WG1962038 |
| Methylene Chloride | U | UJ C3 | 0.265 | 1.00 | 1 | 11/18/2022 16:24 | WG1962038 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/18/2022 16:24 | WG1962038 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/18/2022 16:24 | WG1962038 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| Tetrachloroethene | 1.17 | | 0.0280 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,2,4-Trichlorobenzene | U | ~~J4~~ | 0.193 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| Trichloroethene | 4.01 | | 0.0160 | 0.0400 | 1 | 11/18/2022 16:24 | WG1962038 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| Vinyl chloride | U | UJ C3 | 0.0273 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/18/2022 16:24 | WG1962038 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/18/2022 16:24 | WG1962038 |
| Tetrahydrofuran | 0.145 | J | 0.0900 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/18/2022 16:24 | WG1962038 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/18/2022 16:24 | WG1962038 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/18/2022 16:24 | WG1962038 |
| *(S) Toluene-d8* | *102* | | | *75.0-131* | | *11/18/2022 16:24* | WG1962038 |
| *(S) 4-Bromofluorobenzene* | *99.8* | | | *67.0-138* | | *11/18/2022 16:24* | WG1962038 |
| *(S) 1,2-Dichloroethane-d4* | *84.7* | | | *70.0-130* | | *11/18/2022 16:24* | WG1962038 |

JC 12/8/2022

## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 250000 | | 8450 | 20000 | 1 | 11/18/2022 11:24 | WG1961190 |

Sample Narrative:
L1557120-02 WG1961190: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 14800 | | 379 | 1000 | 1 | 11/12/2022 21:24 | WG1958695 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/12/2022 21:24 | WG1958695 |
| Sulfate | 40400 | | 594 | 5000 | 1 | 11/12/2022 21:24 | WG1958695 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1200 | ~~B~~ | 102 | 1000 | 1 | 11/25/2022 19:07 | WG1964902 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 2510 | | 140 | 500 | 5 | 11/22/2022 20:31 | WG1962932 |
| Manganese | 566 | | 3.52 | 25.0 | 5 | 11/22/2022 20:31 | WG1962932 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 298 | | 0.287 | 0.678 | 1 | 11/17/2022 12:10 | WG1960824 |
| Ethane | 1.60 | | 0.296 | 1.29 | 1 | 11/17/2022 12:10 | WG1960824 |
| Ethene | 1.52 | | 0.422 | 1.27 | 1 | 11/17/2022 12:10 | WG1960824 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch | |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | U | | | 0.548 | 1.00 | 1 | 11/18/2022 16:43 | WG1962038 | |
| Acrylonitrile | U | | | 0.0760 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 | |
| Benzene | U | | | 0.0160 | 0.0400 | 1 | 11/18/2022 16:43 | WG1962038 | |
| Bromobenzene | U | | | 0.0420 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 | |
| Bromodichloromethane | U | | | 0.0315 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 | |
| Bromoform | U | | | 0.239 | 1.00 | 1 | 11/18/2022 16:43 | WG1962038 | |
| Bromomethane | U | UJ | C3 | 0.148 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 | |
| n-Butylbenzene | U | | | 0.153 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 | |
| sec-Butylbenzene | U | | | 0.101 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 | |
| tert-Butylbenzene | U | | | 0.0620 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 | |
| Carbon tetrachloride | U | | | 0.0432 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 | |
| Chlorobenzene | U | | | 0.0229 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 | |
| Chlorodibromomethane | U | | | 0.0180 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 | |
| Chloroethane | U | UJ | C3 | 0.0432 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 | |
| Chloroform | U | | | 0.0166 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 | |
| Chloromethane | U | UJ | C3 | 0.0556 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 | |
| 2-Chlorotoluene | U | | | 0.0368 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 | |
| 4-Chlorotoluene | U | | | 0.0452 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 | |
| 1,2-Dibromo-3-Chloropropane | U | | | 0.204 | 1.00 | 1 | 11/18/2022 16:43 | WG1962038 | |
| 1,2-Dibromoethane | U | | | 0.0210 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 | JC 12/8/2022 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| Dichlorodifluoromethane | U | UJ C3 | 0.0327 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| 2,2-Dichloropropane | U | UJ C3 | 0.0317 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/18/2022 16:43 | WG1962038 |
| Ethylbenzene | 0.0810 | J | 0.0212 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/18/2022 16:43 | WG1962038 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/18/2022 16:43 | WG1962038 |
| Methylene Chloride | U | UJ C3 | 0.265 | 1.00 | 1 | 11/18/2022 16:43 | WG1962038 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/18/2022 16:43 | WG1962038 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/18/2022 16:43 | WG1962038 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| Toluene | 0.0990 | U ~~J~~ | 0.0500 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,2,4-Trichlorobenzene | U | ~~J4~~ | 0.193 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/18/2022 16:43 | WG1962038 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,2,4-Trimethylbenzene | 0.106 | J | 0.0464 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,2,3-Trimethylbenzene | 0.0670 | J | 0.0460 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| Vinyl chloride | 0.672 | J - C3 | 0.0273 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| Xylenes, Total | 0.331 | | 0.191 | 0.260 | 1 | 11/18/2022 16:43 | WG1962038 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/18/2022 16:43 | WG1962038 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/18/2022 16:43 | WG1962038 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/18/2022 16:43 | WG1962038 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/18/2022 16:43 | WG1962038 |
| *(S) Toluene-d8* | *102* | | | *75.0-131* | | *11/18/2022 16:43* | WG1962038 |
| *(S) 4-Bromofluorobenzene* | *101* | | | *67.0-138* | | *11/18/2022 16:43* | WG1962038 |
| *(S) 1,2-Dichloroethane-d4* | *86.7* | | | *70.0-130* | | *11/18/2022 16:43* | WG1962038 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 225000 | | 8450 | 20000 | 1 | 11/23/2022 13:31 | WG1964239 |

Sample Narrative:
L1559917-01 WG1964239: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 16000 | | 379 | 1000 | 1 | 11/19/2022 22:33 | WG1962456 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/19/2022 22:33 | WG1962456 |
| Sulfate | 14300 | | 594 | 5000 | 1 | 11/19/2022 22:33 | WG1962456 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1180 | B | 102 | 1000 | 1 | 11/28/2022 11:16 | WG1965434 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 11500 | | 281 | 1000 | 10 | 11/29/2022 14:12 | WG1965001 |
| Manganese | 1020 | | 7.04 | 50.0 | 10 | 11/29/2022 14:12 | WG1965001 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 50.1 | | 0.287 | 0.678 | 1 | 11/22/2022 11:34 | WG1963329 |
| Ethane | U | | 0.296 | 1.29 | 1 | 11/22/2022 11:34 | WG1963329 |
| Ethene | U | | 0.422 | 1.27 | 1 | 11/22/2022 11:34 | WG1963329 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/28/2022 22:46 | WG1965987 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/28/2022 22:46 | WG1965987 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| Bromodichloromethane | U | J4 | 0.0315 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/28/2022 22:46 | WG1965987 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| 2,2-Dichloropropane | U | J4 | 0.0317 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/28/2022 22:46 | WG1965987 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/28/2022 22:46 | WG1965987 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/28/2022 22:46 | WG1965987 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/28/2022 22:46 | WG1965987 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/28/2022 22:46 | WG1965987 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/28/2022 22:46 | WG1965987 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 11/28/2022 22:46 | WG1965987 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| Vinyl chloride | U | | 0.0273 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/28/2022 22:46 | WG1965987 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/28/2022 22:46 | WG1965987 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/28/2022 22:46 | WG1965987 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/28/2022 22:46 | WG1965987 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/28/2022 22:46 | WG1965987 |
| *(S) Toluene-d8* | *102* | | | *75.0-131* | | *11/28/2022 22:46* | WG1965987 |
| *(S) 4-Bromofluorobenzene* | *106* | | | *67.0-138* | | *11/28/2022 22:46* | WG1965987 |
| *(S) 1,2-Dichloroethane-d4* | *96.1* | | | *70.0-130* | | *11/28/2022 22:46* | WG1965987 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 436000 | | 8450 | 20000 | 1 | 11/23/2022 13:37 | WG1964239 |

Sample Narrative:
L1559917-02 WG1964239: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 37700 | | 379 | 1000 | 1 | 11/19/2022 22:51 | WG1962456 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/19/2022 22:51 | WG1962456 |
| Sulfate | 8430 | | 594 | 5000 | 1 | 11/19/2022 22:51 | WG1962456 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2990 | B | 102 | 1000 | 1 | 11/28/2022 11:32 | WG1965434 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 2810 | | 281 | 1000 | 10 | 11/29/2022 13:56 | WG1965001 |
| Manganese | 1750 | | 7.04 | 50.0 | 10 | 11/29/2022 13:56 | WG1965001 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 12500 | | 2.87 | 6.78 | 10 | 11/23/2022 08:59 | WG1964220 |
| Ethane | 660 | | 0.296 | 1.29 | 1 | 11/22/2022 11:37 | WG1963329 |
| Ethene | 1520 | | 0.422 | 1.27 | 1 | 11/22/2022 11:37 | WG1963329 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/28/2022 23:05 | WG1965987 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| Benzene | 0.0370 | J | 0.0160 | 0.0400 | 1 | 11/28/2022 23:05 | WG1965987 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| Bromodichloromethane | U | J4 | 0.0315 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/28/2022 23:05 | WG1965987 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,1-Dichloroethene | 0.895 | | 0.0200 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| cis-1,2-Dichloroethene | 620 | | 0.690 | 2.50 | 25 | 12/02/2022 01:08 | WG1967734 |
| trans-1,2-Dichloroethene | 7.92 | | 0.0572 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| 2,2-Dichloropropane | U | ~~J4~~ | 0.0317 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/28/2022 23:05 | WG1965987 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/28/2022 23:05 | WG1965987 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/28/2022 23:05 | WG1965987 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/28/2022 23:05 | WG1965987 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/28/2022 23:05 | WG1965987 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/28/2022 23:05 | WG1965987 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| Trichloroethene | 0.700 | | 0.0160 | 0.0400 | 1 | 11/28/2022 23:05 | WG1965987 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| Vinyl chloride | 942 | ~~J6~~ | 0.682 | 2.50 | 25 | 12/02/2022 01:08 | WG1967734 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/28/2022 23:05 | WG1965987 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/28/2022 23:05 | WG1965987 |
| Tetrahydrofuran | 4.81 | | 0.0900 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/28/2022 23:05 | WG1965987 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/28/2022 23:05 | WG1965987 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/28/2022 23:05 | WG1965987 |
| *(S) Toluene-d8* | *103* | | | *75.0-131* | | *11/28/2022 23:05* | WG1965987 |
| *(S) Toluene-d8* | *94.0* | | | *75.0-131* | | *12/02/2022 01:08* | WG1967734 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *11/28/2022 23:05* | WG1965987 |
| *(S) 4-Bromofluorobenzene* | *88.0* | | | *67.0-138* | | *12/02/2022 01:08* | WG1967734 |
| *(S) 1,2-Dichloroethane-d4* | *93.2* | | | *70.0-130* | | *11/28/2022 23:05* | WG1965987 |
| *(S) 1,2-Dichloroethane-d4* | *85.4* | | | *70.0-130* | | *12/02/2022 01:08* | WG1967734 |

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## Wet Chemistry by Method 2320 B-2011

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Alkalinity | 289000 | | 8450 | 20000 | 1 | 11/24/2022 18:49 | WG1964858 |

Sample Narrative:
L1559917-03 WG1964858: Endpoint pH 4.5

## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 44300 | | 379 | 1000 | 1 | 11/19/2022 23:44 | WG1962456 |
| Nitrate | U | | 48.0 | 100 | 1 | 11/19/2022 23:44 | WG1962456 |
| Sulfate | 41000 | | 594 | 5000 | 1 | 11/19/2022 23:44 | WG1962456 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1810 | ~~B~~ | 102 | 1000 | 1 | 11/28/2022 11:49 | WG1965434 |

## Metals (ICPMS) by Method 6020B

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Iron | 1400 | | 28.1 | 100 | 1 | 11/29/2022 00:26 | WG1965001 |
| Manganese | 215 | | 0.704 | 5.00 | 1 | 11/29/2022 00:26 | WG1965001 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 1710 | | 0.287 | 0.678 | 1 | 11/22/2022 11:40 | WG1963329 |
| Ethane | 20.3 | | 0.296 | 1.29 | 1 | 11/22/2022 11:40 | WG1963329 |
| Ethene | 289 | | 0.422 | 1.27 | 1 | 11/22/2022 11:40 | WG1963329 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U | | 0.548 | 1.00 | 1 | 11/28/2022 23:24 | WG1965987 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 11/28/2022 23:24 | WG1965987 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 |
| Bromodichloromethane | U | ~~J4~~ | 0.0315 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 11/28/2022 23:24 | WG1965987 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| Chloroethane | 0.155 | J | 0.0432 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 11/28/2022 23:24 | WG1965987 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch | |
|---|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | | |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 | |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 | |
| cis-1,2-Dichloroethene | 2.12 | | 0.0276 | 0.100 | 1 | 12/02/2022 00:49 | WG1967734 | |
| trans-1,2-Dichloroethene | 0.0650 | J | 0.0572 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 | |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 | |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 2,2-Dichloropropane | U | ~~d4~~ | 0.0317 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 | |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 11/28/2022 23:24 | WG1965987 | |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 | |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 11/28/2022 23:24 | WG1965987 | |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 | |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 2-Butanone (MEK) | U | | 0.500 | 1.00 | 1 | 11/28/2022 23:24 | WG1965987 | |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 11/28/2022 23:24 | WG1965987 | |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 11/28/2022 23:24 | WG1965987 | |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 | |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 | |
| Styrene | U | | 0.109 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 | |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 | |
| Toluene | U | | 0.0500 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 1,2,3-Trichlorobenzene | U | UJ C4 | 0.0250 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 | |
| Trichloroethene | 0.0770 | | 0.0160 | 0.0400 | 1 | 11/28/2022 23:24 | WG1965987 | |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 | |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 | |
| Vinyl chloride | 18.3 | ~~J3~~ | 0.0273 | 0.100 | 1 | 12/02/2022 00:49 | WG1967734 | |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 11/28/2022 23:24 | WG1965987 | |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 11/28/2022 23:24 | WG1965987 | |
| Tetrahydrofuran | 0.492 | J | 0.0900 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 | |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 11/28/2022 23:24 | WG1965987 | |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 11/28/2022 23:24 | WG1965987 | |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 11/28/2022 23:24 | WG1965987 | |
| *(S) Toluene-d8* | *101* | | | *75.0-131* | | *11/28/2022 23:24* | WG1965987 | |
| *(S) Toluene-d8* | *95.8* | | | *75.0-131* | | *12/02/2022 00:49* | WG1967734 | |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *11/28/2022 23:24* | WG1965987 | |
| *(S) 4-Bromofluorobenzene* | *87.1* | | | *67.0-138* | | *12/02/2022 00:49* | WG1967734 | |
| *(S) 1,2-Dichloroethane-d4* | *92.8* | | | *70.0-130* | | *11/28/2022 23:24* | WG1965987 | |
| *(S) 1,2-Dichloroethane-d4* | *88.2* | | | *70.0-130* | | *12/02/2022 00:49* | WG1967734 | JC 12/8/2022 |

# MEMORANDUM

**TO:** Project File **DATE:** November 17, 2022

**FROM:** Jessie Compeau

**SUBJECT:** Laboratory Data Validation Review

**PROJECT:** American Linen Data Validation

PROJECT #: 443022-1413001.10.701.04

TASK: EIM Data Validation Level EPA2A for Q4 2022 – Soil Vapor Samples

**LAB:** Pace Sample Delivery Group (SDG): L1556709

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Two soil vapor samples were collected as part of the 2022 quarterly (Q4) monitoring event at the Former American Linen Supply Site, in Seattle, Washington on November 9-10, 2022. The samples were shipped and delivered to Pace Lab Sciences (Pace) of Mount Juliet, TN for laboratory analysis. Samples were analyzed for the following:

- Volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method TO-15.

The 4th quarter of RI sampling was conducted in November 2022. Results for groundwater are reported in multiple Work Orders from Fremont as well as results reported in multiple Sample Delivery Groups (SDGs) by Pace Lab Sciences (Pace) of Mount Juliet, TN. The quality assurance review of the soil vapor extraction sample data associated with SDG L1556709 is summarized below.

## DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation review of analytical data along with PACE control limit criteria were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA National Functional Guidelines for Organic Superfund Methods Data Review (USEPA, 2020). Following Guidelines, non-project-specific laboratory duplicates and matrix spike results were not evaluated as part of this data validation.

## DATA VALIDATION

### Completeness

All samples were collected and analyzed as requested.

## Sample Collection and Preservation

The laboratory supplied Summa Canister ™ (1 Liter) for the air samples. The samples were shipped, delivered by FedEx, and received in good condition by the laboratory. The samples were collected, handled, and delivered in an appropriate manner. No data qualifications were warranted based upon sampling techniques or preservation.

## Holding Times

*USEPA Method TO-15:*
The analyses for VOCs by Method TO-15 were performed within the 30-day recommended holding time limit for the air samples collected in Summa canisters. All holding time criteria are met.

## Initial and Continuing Calibration

Initial and continuing calibration data for this project are retained by the laboratory and available for review if necessary. Case narrative and laboratory notes do not indicate that there are any issues with calibration.

## Method Blank Results

*USEPA Method TO-15:*
A laboratory method blank is included with the analytical batch per method requirement. The target analytes were not detected in the method blank at or above the reporting detection limits (RDLs) with the following discussions:

- Analytical Batch WG1959910: Low levels of benzyl chloride and 1,4-dichlorobenzene are detected in the method blank below the RDL. No action is needed since these compounds are not detected in the associated samples.

## Trip Blank Results

A trip blank is not required for the VOCs by TO-15 analyses. No action is taken other than to note this.

## Field Duplicate Analyses

Field duplicate samples were not collected. Refer to laboratory control sample results for precision data.

## Laboratory Duplicate/Replicate Analyses

*USEPA Method TO-15:*
A laboratory replicate was not performed. Refer to the Laboratory Control Sample section for additional information.

## Surrogate Recoveries

*USEPA Method TO-15*
The surrogate percent recovery (% R) results for the VOCs by TO-15 air samples, method blanks, and laboratory control sample are within the laboratory surrogate control limits of 60 - 140% R.

## Laboratory Control Samples

*USEPA Method TO-15:*
Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) samples were analyzed for the VOCs by TO-15 along with each analytical batch. The LCS/LCSD recoveries and relative percent differences (RPDs) for all control compounds met laboratory control limit criteria.

## Matrix Spike/Matrix Spike Duplicates

A matrix spike/matrix spike duplicate (MS/MSD) is not required for the VOCs by TO-15.

## Other Quality Control Issues

No laboratory quality control issues were identified in the laboratory report with the following discussion:

- Electronic data deliverables (EDDs) for these SDGs were provided by the laboratory and data validator qualifiers were entered. In some cases, different chemical synonyms are used between the EDD and the hardcopy however associated Chemical Abstracts Service (CAS) numbers are provided in the EDD to confirm chemical identifications.

## Quantitation Limits

Results of the VOCs by TO-15 analysis are reported based on laboratory RDLs (assuming standard temperature and pressure is equal to 24.45) and reported in units of parts per million volume (ppbv) and micrograms per cubic meter ($\mu g/m^3$). Quality control results are reported in ppbv units only.

The RDLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The RDLs were acceptable for the project; therefore, no data qualifications were warranted.

## Data Assessment

The laboratory data reported for this project were reviewed based on the criteria outlined in:

- USEPA National Functional Guidelines for Organic Superfund Methods Data Review (USEPA, 2020).

No data qualifiers are assigned. All data are judged to be acceptable for their intended use.

# MEMORANDUM

**TO:** Project File **DATE:** March 27, 2023

**FROM:** Jessie Compeau

**SUBJECT:** Laboratory Data Validation Review

**PROJECT:** American Linen Data Validation

**PROJECT #:** 443022-1413001.10.701.04

**TASK:** EIM Data Validation Level EPA2A for 1st Quarter Monitoring 2023 – Groundwater Samples

**LAB:** Pace Sample Delivery Groups (SDGs): L1589016, L1589370, and L1594468

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Nine (9) groundwater samples (including one field duplicate), one equipment blank, and two trip blanks were collected as part of the 1st Quarterly Monitoring Round for 2023 for the ongoing Remedial Investigation (RI) sampling at the Former American Linen Supply Site, in Seattle, Washington. The samples were collected February 23-24 and March 13, 2023, shipped, and delivered to Pace Lab Sciences (Pace) of Mount Juliet, TN for laboratory analysis. Selected samples were analyzed for the following:

- Volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260D;
- VOCs (dissolved gases – methane, ethane, and ethene) by EPA SOP RSK 175;
- Anions (chloride, nitrate, and sulfate) by USEPA Method 9056A; and
- Total Organic Carbon (TOC) by USEPA Method 9060A.

The Q1 2023 RI sampling event (including soil vapor samples) was conducted in February and March 2023. Results for soil vapor samples are reported in one SDG by Pace. The quality assurance review of the groundwater sample data associated with SDGs L1589016, L1589370, and L1594468 are summarized below.

## DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation review of analytical data along with Pace control limit criteria were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2020) and USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2020). Following Guidelines, non-project-specific laboratory duplicates and matrix spike results were not evaluated as part of this data validation.

## DATA VALIDATION

### Completeness

All samples were collected and analyzed as requested.

### Sample Collection and Preservation

Samples were collected in laboratory-supplied sample containers preserved as appropriate for the individual analyses conducted. The samples were packed on ice in coolers and delivered by courier to the analytical laboratory. The laboratory reported that the coolers were received at a cooler temperature less than the recommended temperature preservation of 6°C. Samples were received in good condition. No data were qualified based upon the sample collection and preservation information with the following discussion:

- SDG L1589016: The trip blank sample (TB-022323) analysis request was cancelled due to significant headspace observed in the vial(s) upon sample receipt at Pace. No action is taken other than to note.

### Holding Times

*USEPA Method 8260D:*
All samples were analyzed for VOCs within the USEPA recommended holding time of fourteen days for preserved waters from the date of collection. All holding time criteria are met.

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
All samples were analyzed within the RSK 175 recommended holding time of fourteen days for preserved waters from the date of sample collection. All holding time criteria are met.

*General Chemistry (Chloride, Nitrate, Sulfate, and TOC):*
All samples were analyzed within the USEPA recommended holding time for chloride (28 days), sulfate (28 days), nitrate (48 hours), and TOC (28 days) for preserved waters from the date of sample collection. All holding time criteria are met.

### Initial and Continuing Calibration

Calibration data for this project are not required for this deliverable however Pace's notes indicate the following:

- *USEPA Method 8260D:* Continuing calibration verification (CCV) issues were noted by Pace for multiple compounds associated with analytical batches in associated SDGs. These compounds are qualified by the laboratory "C3" to indicate that percent difference CCV is below laboratory acceptance criteria and showing low bias. Low level reporting limit check standard (sensitivity) requirements are within criteria. **Associated sample results with laboratory qualified (C3) results are estimated with low bias and qualified (J-/UJ).** Results reported below the RDL are estimated (J) and bias is not assigned.

## Method Blank Results

*USEPA Method 8260D:*
Laboratory method blanks were included with the analytical batches per method requirement. The target analytes are not detected in the method blanks at or above the reporting detection limits (RDLs) with the following exceptions:

- SDGs 1589016 and L1589370 - Analytical batch WG2015641: 1,2,3-Trichlorobenzene is detected in the method blank at a low level below the RDL. No action is needed since 1,2,3-trichlorobenzene is not detected in the associated samples.

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
Laboratory method blanks were included with the analytical batches per method requirement. The target analytes (dissolved gases) are not detected in the method blanks at or above the RDLs.

*General Chemistry (Chloride, Nitrate, Sulfate, and TOC):*
Laboratory method blanks were included with the analytical batches per method requirement. The target analytes were detected in the method blanks below the RDLs. Per Guidance, no action is taken for blank detections less than the RDL when associated sample detections are greater than the RDL. General chemistry blank detections are shown below:

| SDG | Batch | Method | Analyte | Method Blank Result | Qualifier | RDL | Units | Associated Result(s) Qualified |
|---|---|---|---|---|---|---|---|---|
| L1589016 | WG2012501 | 9060A | TOC | 339 | J | 1000 | µg/L | NO |
| L1589016 | WG2012977 | 9060A | TOC | 503 | J | 1000 | µg/L | NO |
| L1589370 | WG2012977 | 9060A | TOC | 503 | J | 1000 | µg/L | NO |
| L1594468 | WG2024515 | 9060A | TOC | 662 | J | 1000 | µg/L | NO |

Target analytes were detected in method blanks at low levels with no impact to the associated samples.

## Trip Blank Results

*USEPA Method 8260D:*
Two trip blanks (TB-022423 and TB-031323) was collected. The target analytes were not detected in the trip blank at or above the reporting detection limits (RDLs) with the following exceptions:

- SDG L1589370: Acetone was detected in the trip blank (TB-022423) at 1.20 µg/L and above the RDL (1.00 µg/L). Acetone was also detected in the equipment blank. Per Guidance, for common laboratory contaminants, if the blank concentration is greater than the RDL and less than twice the blank result the common lab contaminant is qualified as non-detect (U). **Acetone was detected below the action level in sample MW-350-022423 and is qualified as non-detected (U) due to trip or equipment blank contamination.** No action is taken for the acetone detection in sample W-MW-01-022423 because the detection exceeds the action level. Refer to the Equipment Blank Results discussion for more details on this sample.

- SDG L1594468: Acetone, toluene, and tetrahydrofuran were detected in the trip blank (TB-031323) at low levels detected either above or below the RDLs. No action is needed for acetone in sample MW-348-031323 since the detection in the sample (21.0 µg/L) exceeds the established action level. No action is needed for toluene since it was not detected in the sample MW-348-031323. **Tetrahydrofuran was detected below the RDL in sample MW-348-031323 and is qualified as non-detected (U) due to trip or equipment blank contamination.**

**Field, Rinsate, or Equipment Blank Results**

One equipment blank (EQ-022423) was collected. Details are as follows:

SDG L1589370: The equipment blank (EQ-022423) is associated with samples MW-350-022423 and W-MW-01-022423 which were collected from the bladder pump on February 24, 2023. Low levels of TOC, methane and VOCs (acetone and 2-butanone (MEK)) are detected in the equipment blank. Per Guidance, for common laboratory contaminants (acetone), if the blank concentration is greater than the RDL and less than twice the blank result the common lab contaminant is qualified as non-detect (U). Sample MW-350-022423 was analyzed for all analytical parameters and sample W-MW-01-022423 was analyzed for VOCs only. Actions are as follows:

- TOC is detected in the equipment blank at 450 ug/L and below the RDL (1000 µg/L). TOC was also detected in the method blank. No action is taken since TOC is detected above the RDL in the associated sample.

- Methane is detected in the equipment blank at 1.39 µg/L and above the RDL (0.678 µg/L). No action is needed since methane is detected significantly above the RDL in the associated sample.

- Acetone was detected in the equipment blank at 3.16 µg/L and above the RDL (1.00 µg/L). Acetone was also detected in the trip blank. **Acetone was detected below the action level in sample MW-350-022423 and W-MW-01-022423 and is qualified as non-detected (U) due to trip and/or equipment blank contamination.**

- MEK is detected in the equipment blank below the RDL. No action is needed since MEK is either not detected in the associated samples or is detected above the action level.

**Field Duplicate Analyses**

Field duplicate pair was submitted and analyzed. Field duplicate sample pair is as follows:

- SDG L1589016: Samples MW-346-022323 and MW-985-022323

Target analyte results are comparable and within a relative percent difference (RPD) of 30% (± 1x RDL for groundwater results <5X the RDL) for the field duplicate pair with one exception:

- Tetrahydrofuran absolute difference exceeds criteria (± 1x RDL) for the field duplicate pair. **Tetrahydrofuran results for samples MW-346-022323 and MW-985-022323 are estimated (J/UJ).**

## Laboratory Duplicate Analyses

*USEPA Method 8260D:*
Laboratory duplicate samples were not analyzed. Refer to laboratory control sample/sample duplicate (LCS/LCSD) results for precision data.

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
Laboratory duplicate sample analyses were performed on client and/or on non-client samples within the analytical batches. The primary/duplicate RPDs for client samples on dissolved gas analyses are within the laboratory control limit of 20%.

*General Chemistry (Chloride, Nitrate, Sulfate, and TOC):*
Laboratory duplicate sample analyses were performed on client samples and/or on non-client samples. The primary/duplicate RPDs for client samples on general chemistry parameters are within the laboratory control RPD limits or ± 1x RDL for groundwater results <5X the RDL.

## Surrogate Recoveries

*USEPA Method 8260D:*
The surrogate recovery results for the samples, laboratory control samples, and the method blanks are within the laboratory surrogate control limits for all the analyses.

## Laboratory Control Samples

*USEPA Method 8260D:*
Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) were analyzed by USEPA Method 8260D method. The LCS/LCSD percent recoveries (% Rs) and RPDs for all target compounds are within the laboratory control criteria for waters with the following exceptions:

- SDGs L1589016 and L1589370 - Analytical batch WG2015641: LCS/LCSD RPD for 2-butanone (MEK) is above criteria and is laboratory qualified (J3). No action needed since the LCS/LCSD % Rs are within criteria but are recovered wide.

- SDG L1594468 - Analytical batch WG2027135: LCS and/or LCSD % Rs for several compounds (bromobenzene, 4-chlorotoluene, 1,1-dichloropropene, n-propylbenzene, and trans-1,4-dichloro-2-butene) are above criteria and are laboratory qualified (J4). No action needed since in these cases these compounds are not detected in the associated sample. LCS/LCSD % recoveries for 1,2,3-trichlorobenzene are below criteria however this result is already qualified due to a low CCV. Refer to the section on Initial and Continuing Calibration for more information.

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*

The LCS/LCSD % Rs and RPDs for the target compound (dissolved gases) are within the laboratory control criteria for waters.

*General Chemistry (Chloride, Nitrate, Sulfate, and TOC):*
The LCS % Rs for general chemistry parameters are within the laboratory control criteria for waters.

**Matrix Spike/Matrix Spike Duplicates**

*USEPA Method 8260D:*
MS/MSD analyses were not performed. Refer to LCS/LCSD results for precision and accuracy data.

*Dissolved Gases (Methane, Ethane, and Ethene) by RSK 175:*
MS/MSD analyses were performed on non-client samples within the analytical batches. The MS/MSD % Rs and RPDs for project samples were acceptable and within laboratory control limit criteria for water samples with the following discussion:

- SDG L1589016 – Analytical batch WG2012957: As noted above MS/MSDs for methane were performed on non-client samples and results are laboratory qualified (V) to indicate that sample results are significantly higher than the spiked amount. No action is taken other than to note that the spikes were performed on non-client samples. Refer to LCS and laboratory duplicate results for accuracy and precision data.

*General Chemistry (Chloride, Nitrate, Sulfate, and TOC):*
MS or MS/MSD analyses were performed on client and/or non-client samples within the analytical batches. Client sample MS/MSD % Rs and RPDs are acceptable and within laboratory control limit criteria for water samples.

**Other Quality Control Issues**

No laboratory quality control issues were identified in the laboratory report with the following discussions:

- Electronic data deliverables (EDDs) for these SDGs were provided by the laboratory and data validator qualifiers were entered. In some cases, different chemical synonyms are used between the EDD and the hardcopy however associated Chemical Abstracts Service (CAS) numbers are provided in the EDD to confirm chemical identifications.

- SDG L1589016: Laboratory narrative indicates that sample HMW-9IB-022323 for VOC analyses was diluted (fivefold) due to sample foaming. No action is taken other than to note.

## Compound Identification and Quantitation Limits

Results of the analyses were reported based on laboratory RDLs for all compounds. RDLs for selected compounds are elevated due to method-required dilutions. No action is taken other than to note this.

## Data Assessment

The laboratory data reported for this project were reviewed based on the criteria outlined in:

- USEPA National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2020); and
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (USEPA, 2020).

Data qualifiers are assigned and laboratory report pages with qualifiers are attached. All data, including qualified data, are judged to be acceptable for their intended use.

## Wet Chemistry by Method 9056A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Chloride | 37800 | | 379 | 1000 | 1 | 02/24/2023 19:54 | WG2012507 |
| Nitrate | 54.3 | J | 48.0 | 100 | 1 | 02/24/2023 19:54 | WG2012507 |
| Sulfate | 698 | J | 594 | 5000 | 1 | 02/24/2023 19:54 | WG2012507 |

## Wet Chemistry by Method 9060A

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| TOC (Total Organic Carbon) | 247000 | | 510 | 5000 | 5 | 02/26/2023 07:25 | WG2012977 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Methane | 32500 | | 2.87 | 6.78 | 10 | 02/25/2023 14:26 | WG2012957 |
| Ethane | 1.85 | | 0.296 | 1.29 | 1 | 02/24/2023 16:04 | WG2012497 |
| Ethene | 471 | | 0.422 | 1.27 | 1 | 02/24/2023 16:04 | WG2012497 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 21.8 | | 2.74 | 5.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Acrylonitrile | U | | 0.380 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| Benzene | 0.105 | J | 0.0800 | 0.200 | 5 | 03/03/2023 14:33 | WG2016402 |
| Bromobenzene | U | | 0.210 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| Bromodichloromethane | U | | 0.158 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Bromoform | U | | 1.20 | 5.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Bromomethane | U | | 0.740 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| n-Butylbenzene | U | | 0.765 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| sec-Butylbenzene | U | | 0.505 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| tert-Butylbenzene | U | | 0.310 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Carbon tetrachloride | U | | 0.216 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Chlorobenzene | U | | 0.115 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Chlorodibromomethane | U | | 0.0900 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Chloroethane | U | | 0.216 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Chloroform | U | | 0.0830 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Chloromethane | U | | 0.278 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| 2-Chlorotoluene | U | | 0.184 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| 4-Chlorotoluene | U | | 0.226 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,2-Dibromo-3-Chloropropane | U | | 1.02 | 5.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,2-Dibromoethane | U | | 0.105 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Dibromomethane | U | | 0.200 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,2-Dichlorobenzene | U | | 0.290 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,3-Dichlorobenzene | U | | 0.340 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,4-Dichlorobenzene | U | | 0.394 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Dichlorodifluoromethane | U | | 0.164 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,1-Dichloroethane | U | | 0.115 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,2-Dichloroethane | U | | 0.0950 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,1-Dichloroethene | U | | 0.100 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| cis-1,2-Dichloroethene | 36.7 | | 0.138 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| trans-1,2-Dichloroethene | 3.49 | | 0.286 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,2-Dichloropropane | U | | 0.254 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,1-Dichloropropene | U | | 0.140 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,3-Dichloropropane | U | | 0.350 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| cis-1,3-Dichloropropene | U | | 0.136 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| trans-1,3-Dichloropropene | U | | 0.306 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |

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1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| 2,2-Dichloropropane | U | | 0.159 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Di-isopropyl ether | U | | 0.0700 | 0.200 | 5 | 03/03/2023 14:33 | WG2016402 |
| Ethylbenzene | 0.665 | | 0.106 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Hexachloro-1,3-butadiene | U | | 2.54 | 5.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Isopropylbenzene | U | | 0.173 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| p-Isopropyltoluene | U | | 0.466 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 2-Butanone (MEK) | 53.0 | | 2.50 | 5.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Methylene Chloride | U | | 1.33 | 5.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 4-Methyl-2-pentanone (MIBK) | U | | 2.00 | 5.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Methyl tert-butyl ether | U | | 0.0590 | 0.200 | 5 | 03/03/2023 14:33 | WG2016402 |
| Naphthalene | U | | 0.620 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| n-Propylbenzene | 0.250 | J | 0.236 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Styrene | U | | 0.545 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,1,1,2-Tetrachloroethane | U | | 0.100 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0780 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.135 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Tetrachloroethene | U | | 0.140 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Toluene | 0.735 | J | 0.250 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,2,3-Trichlorobenzene | U | | 0.125 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,2,4-Trichlorobenzene | U | | 0.965 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,1,1-Trichloroethane | U | | 0.0550 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,1,2-Trichloroethane | U | | 0.177 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Trichloroethene | U | | 0.0800 | 0.200 | 5 | 03/03/2023 14:33 | WG2016402 |
| Trichlorofluoromethane | U | | 0.100 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,2,3-Trichloropropane | U | | 1.02 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,2,4-Trimethylbenzene | 0.365 | J | 0.232 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,2,3-Trimethylbenzene | U | | 0.230 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| 1,3,5-Trimethylbenzene | U | | 0.216 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Vinyl chloride | 116 | | 0.137 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Xylenes, Total | 2.51 | | 0.955 | 1.30 | 5 | 03/03/2023 14:33 | WG2016402 |
| Ethyl Ether | U | | 0.0850 | 0.500 | 5 | 03/03/2023 14:33 | WG2016402 |
| Tetrahydrofuran | 29.8 | | 0.450 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| Iodomethane | U | | 1.21 | 2.50 | 5 | 03/03/2023 14:33 | WG2016402 |
| Allyl chloride | U | | 2.90 | 5.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| Trans-1,4-Dichloro-2-butene | U | | 0.280 | 1.00 | 5 | 03/03/2023 14:33 | WG2016402 |
| *(S) Toluene-d8* | *103* | | | *75.0-131* | | *03/03/2023 14:33* | WG2016402 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *67.0-138* | | *03/03/2023 14:33* | WG2016402 |
| *(S) 1,2-Dichloroethane-d4* | *93.5* | | | *70.0-130* | | *03/03/2023 14:33* | WG2016402 |

**Sample Narrative:**

L1589016-01 WG2016402: Lowest possible dilution due to sample foaming.

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 2.24 J- | C3 | 0.548 | 1.00 | 1 | 03/02/2023 11:03 | WG2015641 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| Benzene | 0.0820 | | 0.0160 | 0.0400 | 1 | 03/02/2023 11:03 | WG2015641 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 03/02/2023 11:03 | WG2015641 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| cis-1,2-Dichloroethene | 4.84 | | 0.0276 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| trans-1,2-Dichloroethene | 2.70 | | 0.0572 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 03/02/2023 11:03 | WG2015641 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 03/02/2023 11:03 | WG2015641 |
| Isopropylbenzene | 0.118 | | 0.0345 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| 2-Butanone (MEK) | 0.934 | J ~~J3~~ | 0.500 | 1.00 | 1 | 03/02/2023 11:03 | WG2015641 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 03/02/2023 11:03 | WG2015641 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 03/02/2023 11:03 | WG2015641 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 03/02/2023 11:03 | WG2015641 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| Styrene | U | | 0.109 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Toluene | 0.549 | | 0.0500 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |



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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 11:03 | WG2015641 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,2,4-Trimethylbenzene | 0.156 | J | 0.0464 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| Vinyl chloride | 2.13 | | 0.0273 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Xylenes, Total | 1.13 | | 0.191 | 0.260 | 1 | 03/02/2023 11:03 | WG2015641 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 03/02/2023 11:03 | WG2015641 |
| Tetrahydrofuran | 7.68 | | 0.0900 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 03/02/2023 11:03 | WG2015641 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 03/02/2023 11:03 | WG2015641 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 03/02/2023 11:03 | WG2015641 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *03/02/2023 11:03* | WG2015641 |
| *(S) 4-Bromofluorobenzene* | *104* | | | *67.0-138* | | *03/02/2023 11:03* | WG2015641 |
| *(S) 1,2-Dichloroethane-d4* | *99.6* | | | *70.0-130* | | *03/02/2023 11:03* | WG2015641 |



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## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 42500 | | 379 | 1000 | 1 | 02/24/2023 20:06 | WG2012507 |
| Nitrate | U | | 48.0 | 100 | 1 | 02/24/2023 20:06 | WG2012507 |
| Sulfate | 2270 | J | 594 | 5000 | 1 | 02/24/2023 20:06 | WG2012507 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 9580 | | 102 | 1000 | 1 | 02/25/2023 06:24 | WG2012501 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 33700 | | 2.87 | 6.78 | 10 | 02/25/2023 14:56 | WG2012957 |
| Ethane | U | | 0.296 | 1.29 | 1 | 02/24/2023 16:11 | WG2012497 |
| Ethene | 5.85 | | 0.422 | 1.27 | 1 | 02/24/2023 16:11 | WG2012497 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 4.75 J- | C3 | 0.548 | 1.00 | 1 | 03/02/2023 11:22 | WG2015641 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 11:22 | WG2015641 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 03/02/2023 11:22 | WG2015641 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| cis-1,2-Dichloroethene | 2.57 | | 0.0276 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 03/02/2023 11:22 | WG2015641 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 03/02/2023 11:22 | WG2015641 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| 2-Butanone (MEK) | 7.81 | ~~J3~~ | 0.500 | 1.00 | 1 | 03/02/2023 11:22 | WG2015641 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 03/02/2023 11:22 | WG2015641 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 03/02/2023 11:22 | WG2015641 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 03/02/2023 11:22 | WG2015641 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| Styrene | U | | 0.109 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Toluene | 0.623 | | 0.0500 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 11:22 | WG2015641 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| Vinyl chloride | 8.66 | | 0.0273 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 03/02/2023 11:22 | WG2015641 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 03/02/2023 11:22 | WG2015641 |
| Tetrahydrofuran | 3.68 | | 0.0900 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 03/02/2023 11:22 | WG2015641 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 03/02/2023 11:22 | WG2015641 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 03/02/2023 11:22 | WG2015641 |
| *(S) Toluene-d8* | *102* | | | *75.0-131* | | *03/02/2023 11:22* | WG2015641 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *03/02/2023 11:22* | WG2015641 |
| *(S) 1,2-Dichloroethane-d4* | *100* | | | *70.0-130* | | *03/02/2023 11:22* | WG2015641 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

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## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 32100 | | 379 | 1000 | 1 | 02/24/2023 20:19 | WG2012507 |
| Nitrate | 114 | | 48.0 | 100 | 1 | 02/24/2023 20:19 | WG2012507 |
| Sulfate | 13900 | | 594 | 5000 | 1 | 02/24/2023 20:19 | WG2012507 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 2250 | ~~B~~ | 102 | 1000 | 1 | 02/25/2023 06:43 | WG2012501 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 4590 | | 0.287 | 0.678 | 1 | 02/24/2023 16:17 | WG2012497 |
| Ethane | 1.64 | | 0.296 | 1.29 | 1 | 02/24/2023 16:17 | WG2012497 |
| Ethene | 7.09 | | 0.422 | 1.27 | 1 | 02/24/2023 16:17 | WG2012497 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 2.19 J- | C3 | 0.548 | 1.00 | 1 | 03/02/2023 11:41 | WG2015641 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 11:41 | WG2015641 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 03/02/2023 11:41 | WG2015641 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| cis-1,2-Dichloroethene | 3.78 | | 0.0276 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 03/02/2023 11:41 | WG2015641 |
| Ethylbenzene | 0.183 | | 0.0212 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 03/02/2023 11:41 | WG2015641 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| 2-Butanone (MEK) | 1.03 | J3 | 0.500 | 1.00 | 1 | 03/02/2023 11:41 | WG2015641 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 03/02/2023 11:41 | WG2015641 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 03/02/2023 11:41 | WG2015641 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 03/02/2023 11:41 | WG2015641 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| Styrene | U | | 0.109 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Toluene | 0.327 | | 0.0500 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 11:41 | WG2015641 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,2,4-Trimethylbenzene | 0.111 | J | 0.0464 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| Vinyl chloride | 9.64 | | 0.0273 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Xylenes, Total | 1.05 | | 0.191 | 0.260 | 1 | 03/02/2023 11:41 | WG2015641 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 03/02/2023 11:41 | WG2015641 |
| Tetrahydrofuran | 25.2 | | 0.0900 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 03/02/2023 11:41 | WG2015641 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 03/02/2023 11:41 | WG2015641 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 03/02/2023 11:41 | WG2015641 |
| *(S) Toluene-d8* | *107* | | | *75.0-131* | | *03/02/2023 11:41* | WG2015641 |
| *(S) 4-Bromofluorobenzene* | *104* | | | *67.0-138* | | *03/02/2023 11:41* | WG2015641 |
| *(S) 1,2-Dichloroethane-d4* | *98.4* | | | *70.0-130* | | *03/02/2023 11:41* | WG2015641 |



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## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 35100 | | 379 | 1000 | 1 | 02/24/2023 20:31 | WG2012507 |
| Nitrate | 133 | | 48.0 | 100 | 1 | 02/24/2023 20:31 | WG2012507 |
| Sulfate | 73300 | | 594 | 5000 | 1 | 02/24/2023 20:31 | WG2012507 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1760 | ~~B~~ | 102 | 1000 | 1 | 02/25/2023 07:04 | WG2012501 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 86.3 | | 0.287 | 0.678 | 1 | 02/24/2023 16:21 | WG2012497 |
| Ethane | U | | 0.296 | 1.29 | 1 | 02/24/2023 16:21 | WG2012497 |
| Ethene | 3.83 | | 0.422 | 1.27 | 1 | 02/24/2023 16:21 | WG2012497 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.19 J- | C3 | 0.548 | 1.00 | 1 | 03/02/2023 12:00 | WG2015641 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 12:00 | WG2015641 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 03/02/2023 12:00 | WG2015641 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| cis-1,2-Dichloroethene | 3.10 | | 0.0276 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 03/02/2023 12:00 | WG2015641 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 03/02/2023 12:00 | WG2015641 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| 2-Butanone (MEK) | U | ~~J3~~ | 0.500 | 1.00 | 1 | 03/02/2023 12:00 | WG2015641 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 03/02/2023 12:00 | WG2015641 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 03/02/2023 12:00 | WG2015641 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 03/02/2023 12:00 | WG2015641 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| Styrene | U | | 0.109 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Toluene | 0.0820 | J | 0.0500 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Trichloroethene | 0.624 | | 0.0160 | 0.0400 | 1 | 03/02/2023 12:00 | WG2015641 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,2,4-Trimethylbenzene | 0.0850 | J | 0.0464 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| Vinyl chloride | 2.04 | | 0.0273 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 03/02/2023 12:00 | WG2015641 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 03/02/2023 12:00 | WG2015641 |
| Tetrahydrofuran | 1.01 J | | 0.0900 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 03/02/2023 12:00 | WG2015641 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 03/02/2023 12:00 | WG2015641 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 03/02/2023 12:00 | WG2015641 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *03/02/2023 12:00* | WG2015641 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *67.0-138* | | *03/02/2023 12:00* | WG2015641 |
| *(S) 1,2-Dichloroethane-d4* | *96.9* | | | *70.0-130* | | *03/02/2023 12:00* | WG2015641 |

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## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 35300 | | 379 | 1000 | 1 | 02/24/2023 20:44 | WG2012507 |
| Nitrate | 138 | | 48.0 | 100 | 1 | 02/24/2023 20:44 | WG2012507 |
| Sulfate | 73900 | | 594 | 5000 | 1 | 02/24/2023 20:44 | WG2012507 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1600 | ~~B~~ | 102 | 1000 | 1 | 02/25/2023 07:17 | WG2012501 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 88.8 | | 0.287 | 0.678 | 1 | 02/24/2023 16:24 | WG2012497 |
| Ethane | U | | 0.296 | 1.29 | 1 | 02/24/2023 16:24 | WG2012497 |
| Ethene | 4.24 | | 0.422 | 1.27 | 1 | 02/24/2023 16:24 | WG2012497 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | U UJ | C3 | 0.548 | 1.00 | 1 | 03/02/2023 12:18 | WG2015641 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 12:18 | WG2015641 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 03/02/2023 12:18 | WG2015641 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| cis-1,2-Dichloroethene | 3.25 | | 0.0276 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 03/02/2023 12:18 | WG2015641 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 03/02/2023 12:18 | WG2015641 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| 2-Butanone (MEK) | U | ~~J3~~ | 0.500 | 1.00 | 1 | 03/02/2023 12:18 | WG2015641 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 03/02/2023 12:18 | WG2015641 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 03/02/2023 12:18 | WG2015641 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 03/02/2023 12:18 | WG2015641 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| Styrene | U | | 0.109 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Toluene | U | | 0.0500 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Trichloroethene | 0.794 | | 0.0160 | 0.0400 | 1 | 03/02/2023 12:18 | WG2015641 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,2,4-Trimethylbenzene | U | | 0.0464 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| Vinyl chloride | 2.12 | | 0.0273 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Xylenes, Total | U | | 0.191 | 0.260 | 1 | 03/02/2023 12:18 | WG2015641 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 03/02/2023 12:18 | WG2015641 |
| Tetrahydrofuran | U | UJ | 0.0900 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 03/02/2023 12:18 | WG2015641 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 03/02/2023 12:18 | WG2015641 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 03/02/2023 12:18 | WG2015641 |
| *(S) Toluene-d8* | *102* | | | *75.0-131* | | *03/02/2023 12:18* | WG2015641 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *03/02/2023 12:18* | WG2015641 |
| *(S) 1,2-Dichloroethane-d4* | *101* | | | *70.0-130* | | *03/02/2023 12:18* | WG2015641 |

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## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 15200 | | 379 | 1000 | 1 | 02/25/2023 18:11 | WG2012897 |
| Nitrate | U | | 48.0 | 100 | 1 | 02/25/2023 18:11 | WG2012897 |
| Sulfate | 41200 | | 594 | 5000 | 1 | 02/25/2023 18:11 | WG2012897 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 1950 | B | 102 | 1000 | 1 | 02/26/2023 08:18 | WG2012977 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 1370 | | 0.287 | 0.678 | 1 | 02/28/2023 10:58 | WG2014773 |
| Ethane | U | | 0.296 | 1.29 | 1 | 02/28/2023 10:58 | WG2014773 |
| Ethene | 5.23 | | 0.422 | 1.27 | 1 | 02/28/2023 10:58 | WG2014773 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 1.68 U | ~~C3~~ | 0.548 | 1.00 | 1 | 03/02/2023 12:37 | WG2015641 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 12:37 | WG2015641 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 03/02/2023 12:37 | WG2015641 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 03/02/2023 12:37 | WG2015641 |
| Ethylbenzene | U | | 0.0212 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 03/02/2023 12:37 | WG2015641 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| 2-Butanone (MEK) | U | J3 | 0.500 | 1.00 | 1 | 03/02/2023 12:37 | WG2015641 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 03/02/2023 12:37 | WG2015641 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 03/02/2023 12:37 | WG2015641 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 03/02/2023 12:37 | WG2015641 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| Styrene | U | | 0.109 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Toluene | 0.0930 | J | 0.0500 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 12:37 | WG2015641 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,2,4-Trimethylbenzene | 0.170 | J | 0.0464 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,2,3-Trimethylbenzene | 0.0910 | J | 0.0460 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| Vinyl chloride | 1.06 | | 0.0273 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Xylenes, Total | 0.306 | | 0.191 | 0.260 | 1 | 03/02/2023 12:37 | WG2015641 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 03/02/2023 12:37 | WG2015641 |
| Tetrahydrofuran | U | | 0.0900 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 03/02/2023 12:37 | WG2015641 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 03/02/2023 12:37 | WG2015641 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 03/02/2023 12:37 | WG2015641 |
| *(S) Toluene-d8* | *105* | | | *75.0-131* | | *03/02/2023 12:37* | WG2015641 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *03/02/2023 12:37* | WG2015641 |
| *(S) 1,2-Dichloroethane-d4* | *99.7* | | | *70.0-130* | | *03/02/2023 12:37* | WG2015641 |



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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| Acetone | 6.10 U | ~~C3~~ | 0.548 | 1.00 | 1 | 03/02/2023 12:56 | WG2015641 |
| Acrylonitrile | U | | 0.0760 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| Benzene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 12:56 | WG2015641 |
| Bromobenzene | U | | 0.0420 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| Bromodichloromethane | U | | 0.0315 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Bromoform | U | | 0.239 | 1.00 | 1 | 03/02/2023 12:56 | WG2015641 |
| Bromomethane | U | | 0.148 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| n-Butylbenzene | U | | 0.153 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| sec-Butylbenzene | U | | 0.101 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| tert-Butylbenzene | U | | 0.0620 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| Carbon tetrachloride | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| Chlorobenzene | U | | 0.0229 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Chlorodibromomethane | U | | 0.0180 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Chloroethane | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| Chloroform | U | | 0.0166 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Chloromethane | U | | 0.0556 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| 2-Chlorotoluene | U | | 0.0368 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| 4-Chlorotoluene | U | | 0.0452 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,2-Dibromo-3-Chloropropane | U | | 0.204 | 1.00 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,2-Dibromoethane | U | | 0.0210 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Dibromomethane | U | | 0.0400 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,2-Dichlorobenzene | U | | 0.0580 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,3-Dichlorobenzene | U | | 0.0680 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,4-Dichlorobenzene | U | | 0.0788 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| Dichlorodifluoromethane | U | | 0.0327 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,1-Dichloroethane | U | | 0.0230 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,2-Dichloroethane | U | | 0.0190 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,1-Dichloroethene | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| cis-1,2-Dichloroethene | U | | 0.0276 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| trans-1,2-Dichloroethene | U | | 0.0572 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,2-Dichloropropane | U | | 0.0508 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,1-Dichloropropene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,3-Dichloropropane | U | | 0.0700 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| cis-1,3-Dichloropropene | U | | 0.0271 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| trans-1,3-Dichloropropene | U | | 0.0612 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| 2,2-Dichloropropane | U | | 0.0317 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Di-isopropyl ether | U | | 0.0140 | 0.0400 | 1 | 03/02/2023 12:56 | WG2015641 |
| Ethylbenzene | 0.315 | | 0.0212 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Hexachloro-1,3-butadiene | U | | 0.508 | 1.00 | 1 | 03/02/2023 12:56 | WG2015641 |
| Isopropylbenzene | U | | 0.0345 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| p-Isopropyltoluene | U | | 0.0932 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| 2-Butanone (MEK) | 3.15 | ~~J3~~ | 0.500 | 1.00 | 1 | 03/02/2023 12:56 | WG2015641 |
| Methylene Chloride | U | | 0.265 | 1.00 | 1 | 03/02/2023 12:56 | WG2015641 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.400 | 1.00 | 1 | 03/02/2023 12:56 | WG2015641 |
| Methyl tert-butyl ether | U | | 0.0118 | 0.0400 | 1 | 03/02/2023 12:56 | WG2015641 |
| Naphthalene | U | | 0.124 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| n-Propylbenzene | U | | 0.0472 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| Styrene | U | | 0.109 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,1,1,2-Tetrachloroethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,1,2,2-Tetrachloroethane | U | | 0.0156 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.0270 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Tetrachloroethene | U | | 0.0280 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Toluene | 0.711 | | 0.0500 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,2,3-Trichlorobenzene | U | | 0.0250 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,2,4-Trichlorobenzene | U | | 0.193 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,1,1-Trichloroethane | U | | 0.0110 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |

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1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result | Qualifier | MDL | RDL | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | ug/l | | ug/l | ug/l | | date / time | |
| 1,1,2-Trichloroethane | U | | 0.0353 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Trichloroethene | U | | 0.0160 | 0.0400 | 1 | 03/02/2023 12:56 | WG2015641 |
| Trichlorofluoromethane | U | | 0.0200 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,2,3-Trichloropropane | U | | 0.204 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,2,4-Trimethylbenzene | 0.111 | J | 0.0464 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,2,3-Trimethylbenzene | U | | 0.0460 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| 1,3,5-Trimethylbenzene | U | | 0.0432 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| Vinyl chloride | 1.59 | | 0.0273 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Xylenes, Total | 1.51 | | 0.191 | 0.260 | 1 | 03/02/2023 12:56 | WG2015641 |
| Ethyl Ether | U | | 0.0170 | 0.100 | 1 | 03/02/2023 12:56 | WG2015641 |
| Tetrahydrofuran | 1.81 | | 0.0900 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| Iodomethane | U | | 0.242 | 0.500 | 1 | 03/02/2023 12:56 | WG2015641 |
| Allyl chloride | U | | 0.580 | 1.00 | 1 | 03/02/2023 12:56 | WG2015641 |
| Trans-1,4-Dichloro-2-butene | U | | 0.0560 | 0.200 | 1 | 03/02/2023 12:56 | WG2015641 |
| *(S) Toluene-d8* | *104* | | | *75.0-131* | | *03/02/2023 12:56* | WG2015641 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *67.0-138* | | *03/02/2023 12:56* | WG2015641 |
| *(S) 1,2-Dichloroethane-d4* | *98.9* | | | *70.0-130* | | *03/02/2023 12:56* | WG2015641 |



JC
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## Wet Chemistry by Method 9056A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Chloride | 41900 | | 379 | 1000 | 1 | 03/14/2023 17:12 | WG2022825 |
| Nitrate | U | | 48.0 | 100 | 1 | 03/14/2023 17:12 | WG2022825 |
| Sulfate | 32600 | | 594 | 5000 | 1 | 03/14/2023 17:12 | WG2022825 |

## Wet Chemistry by Method 9060A

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| TOC (Total Organic Carbon) | 4180 | ~~B~~ | 102 | 1000 | 1 | 03/17/2023 01:01 | WG2024515 |

## Volatile Organic Compounds (GC) by Method RSK175

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Methane | 237 | | 0.287 | 0.678 | 1 | 03/15/2023 14:17 | WG2023557 |
| Ethane | 1.71 | | 0.296 | 1.29 | 1 | 03/15/2023 14:17 | WG2023557 |
| Ethene | 23.4 | | 0.422 | 1.27 | 1 | 03/15/2023 14:17 | WG2023557 |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| Acetone | 21.0 J- | C3 | 11.0 | 20.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| Acrylonitrile | U | | 1.52 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| Benzene | U | | 0.320 | 0.800 | 20 | 03/21/2023 16:24 | WG2027135 |
| Bromobenzene | U | ~~J4~~ | 0.840 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| Bromodichloromethane | U | | 0.630 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Bromoform | U | | 4.78 | 20.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| Bromomethane | U | | 2.96 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| n-Butylbenzene | U | | 3.06 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| sec-Butylbenzene | U | | 2.02 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| tert-Butylbenzene | U | | 1.24 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Carbon tetrachloride | U | | 0.864 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Chlorobenzene | U | | 0.458 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Chlorodibromomethane | U | | 0.360 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Chloroethane | U | | 0.864 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Chloroform | U | | 0.332 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Chloromethane | U | | 1.11 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| 2-Chlorotoluene | U | | 0.736 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 4-Chlorotoluene | U | ~~J4~~ | 0.904 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,2-Dibromo-3-Chloropropane | U UJ | C3 | 4.08 | 20.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,2-Dibromoethane | U | | 0.420 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Dibromomethane | U | | 0.800 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,2-Dichlorobenzene | U | | 1.16 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,3-Dichlorobenzene | U | | 1.36 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,4-Dichlorobenzene | U | | 1.58 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Dichlorodifluoromethane | U | | 0.654 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,1-Dichloroethane | U | | 0.460 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,2-Dichloroethane | U | | 0.380 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,1-Dichloroethene | 1.42 | J | 0.400 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| cis-1,2-Dichloroethene | 166 | | 0.552 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| trans-1,2-Dichloroethene | U | | 1.14 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,2-Dichloropropane | U | | 1.02 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,1-Dichloropropene | U | ~~J4~~ | 0.560 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,3-Dichloropropane | U | | 1.40 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| cis-1,3-Dichloropropene | U | | 0.542 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| trans-1,3-Dichloropropene | U | | 1.22 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |

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## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte | Result ug/l | Qualifier | MDL ug/l | RDL ug/l | Dilution | Analysis date / time | Batch |
|---|---|---|---|---|---|---|---|
| 2,2-Dichloropropane | U | | 0.634 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Di-isopropyl ether | U | | 0.280 | 0.800 | 20 | 03/21/2023 16:24 | WG2027135 |
| Ethylbenzene | U | | 0.424 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Hexachloro-1,3-butadiene | U | | 10.2 | 20.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| Isopropylbenzene | U | | 0.690 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| p-Isopropyltoluene | U | | 1.86 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 2-Butanone (MEK) | U | | 10.0 | 20.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| Methylene Chloride | U | | 5.30 | 20.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| 4-Methyl-2-pentanone (MIBK) | U | | 8.00 | 20.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| Methyl tert-butyl ether | U | | 0.236 | 0.800 | 20 | 03/21/2023 16:24 | WG2027135 |
| Naphthalene | U | UJ C3 | 2.48 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| n-Propylbenzene | U | ~~J4~~ | 0.944 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Styrene | U | | 2.18 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,1,1,2-Tetrachloroethane | U | | 0.400 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,1,2,2-Tetrachloroethane | U | | 0.312 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.540 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Tetrachloroethene | U | | 0.560 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Toluene | U | | 1.00 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,2,3-Trichlorobenzene | U | UJ C3 ~~J4~~ | 0.500 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,2,4-Trichlorobenzene | U | UJ C3 | 3.86 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,1,1-Trichloroethane | U | | 0.220 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,1,2-Trichloroethane | U | | 0.706 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Trichloroethene | U | | 0.320 | 0.800 | 20 | 03/21/2023 16:24 | WG2027135 |
| Trichlorofluoromethane | U | | 0.400 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,2,3-Trichloropropane | U | | 4.08 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,2,4-Trimethylbenzene | U | | 0.928 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,2,3-Trimethylbenzene | U | | 0.920 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| 1,3,5-Trimethylbenzene | U | | 0.864 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Vinyl chloride | 145 | | 0.546 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Xylenes, Total | U | | 3.82 | 5.20 | 20 | 03/21/2023 16:24 | WG2027135 |
| Ethyl Ether | U | | 0.340 | 2.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| Tetrahydrofuran | 8.24 | U ~~J~~ | 1.80 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| Iodomethane | U | | 4.84 | 10.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| Allyl chloride | U | | 11.6 | 20.0 | 20 | 03/21/2023 16:24 | WG2027135 |
| Trans-1,4-Dichloro-2-butene | U | ~~J4~~ | 1.12 | 4.00 | 20 | 03/21/2023 16:24 | WG2027135 |
| *(S) Toluene-d8* | *101* | | | *75.0-131* | | *03/21/2023 16:24* | WG2027135 |
| *(S) 4-Bromofluorobenzene* | *91.8* | | | *67.0-138* | | *03/21/2023 16:24* | WG2027135 |
| *(S) 1,2-Dichloroethane-d4* | *112* | | | *70.0-130* | | *03/21/2023 16:24* | WG2027135 |

JC 3/27/2023

# MEMORANDUM

**TO:** Project File **DATE:** March 13, 2023

**FROM:** Jessie Compeau

**SUBJECT:** Laboratory Data Validation Review

**PROJECT:** American Linen Data Validation

PROJECT #: 443022-1413001.10.701.04

TASK: EIM Data Validation Level EPA2A for Q1 2023 – Soil Vapor Samples

**LAB:** Pace Sample Delivery Group (SDG): L1589070

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Two soil vapor samples were collected as part of the 2023 quarterly (Q1) monitoring event at the Former American Linen Supply Site, in Seattle, Washington on February 23, 2023. The samples were shipped and delivered to Pace Lab Sciences (Pace) of Mount Juliet, TN for laboratory analysis. Samples were analyzed for the following:

- Volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method TO-15.

The 1st quarter of RI sampling, including groundwater samples, was conducted in February 2023. Results for groundwater are reported in two SDGs by Pace. The quality assurance review of the soil vapor extraction sample data associated with SDG L1589070 is summarized below.

## DATA QUALIFICATIONS

Guidelines established by USEPA for a limited data validation review of analytical data along with PACE control limit criteria were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA National Functional Guidelines for Organic Superfund Methods Data Review (USEPA, 2020). Following Guidelines, non-project-specific laboratory duplicates and matrix spike results were not evaluated as part of this data validation.

## DATA VALIDATION

### Completeness

All samples were collected and analyzed as requested with the following discussion:

- The chain of custody in the original laboratory report did not show the laboratory signature or date of receipt. A revised report was requested on March 10 and received on March 13, 2013.

## Sample Collection and Preservation

The laboratory supplied Summa Canister ™ (1 Liter) for the air samples. The samples were shipped, delivered by FedEx, and received in good condition by the laboratory. The samples were collected, handled, and delivered in an appropriate manner. No data qualifications were warranted based upon sampling techniques or preservation.

## Holding Times

*USEPA Method TO-15:*
The analyses for VOCs by Method TO-15 were performed within the 30-day recommended holding time limit for the air samples collected in Summa canisters. All holding time criteria are met.

## Initial and Continuing Calibration

Initial and continuing calibration data for this project are retained by the laboratory and available for review if necessary. Case narrative and laboratory notes do not indicate that there are any issues with calibration.

## Method Blank Results

*USEPA Method TO-15:*
A laboratory method blank is included with the analytical batch per method requirement. The target analytes were not detected in the method blank at or above the reporting detection limits (RDLs) with the following discussions:

- Analytical Batch WG2012931: A low level of propene is detected in the method blank below the RDL. No action is needed since this compound is not detected in the associated samples.

## Trip Blank Results

A trip blank is not required for the VOCs by TO-15 analyses. No action is taken other than to note this.

## Field Duplicate Analyses

Field duplicate samples were not collected. Refer to laboratory control sample results for precision data.

## Laboratory Duplicate/Replicate Analyses

*USEPA Method TO-15:*
A laboratory replicate was not performed. Refer to the Laboratory Control Sample section for additional information.

## Surrogate Recoveries

*USEPA Method TO-15*
The surrogate percent recovery (% R) results for the VOCs by TO-15 air samples, method blanks, and laboratory control sample are within the laboratory surrogate control limits of 60 - 140% R.

## Laboratory Control Samples

*USEPA Method TO-15:*
Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) samples were analyzed for the VOCs by TO-15 along with each analytical batch. The LCS/LCSD recoveries and relative percent differences (RPDs) for all control compounds met laboratory control limit criteria.

## Matrix Spike/Matrix Spike Duplicates

A matrix spike/matrix spike duplicate (MS/MSD) is not required for the VOCs by TO-15.

## Other Quality Control Issues

No laboratory quality control issues were identified in the laboratory report with the following discussion:

- Electronic data deliverables (EDDs) for these SDGs were provided by the laboratory and data validator qualifiers were entered. In some cases, different chemical synonyms are used between the EDD and the hardcopy however associated Chemical Abstracts Service (CAS) numbers are provided in the EDD to confirm chemical identifications.

## Quantitation Limits

Results of the VOCs by TO-15 analysis are reported based on laboratory RDLs (assuming standard temperature and pressure is equal to 24.45) and reported in units of parts per million volume (ppbv) and micrograms per cubic meter ($\mu g/m^3$). Quality control results are reported in ppbv units only.

The RDLs indicate the minimum quantity of a target analyte that can be confidently determined by the reference method. The RDLs were acceptable for the project; therefore, no data qualifications were warranted.

## Data Assessment

The laboratory data reported for this project were reviewed based on the criteria outlined in:

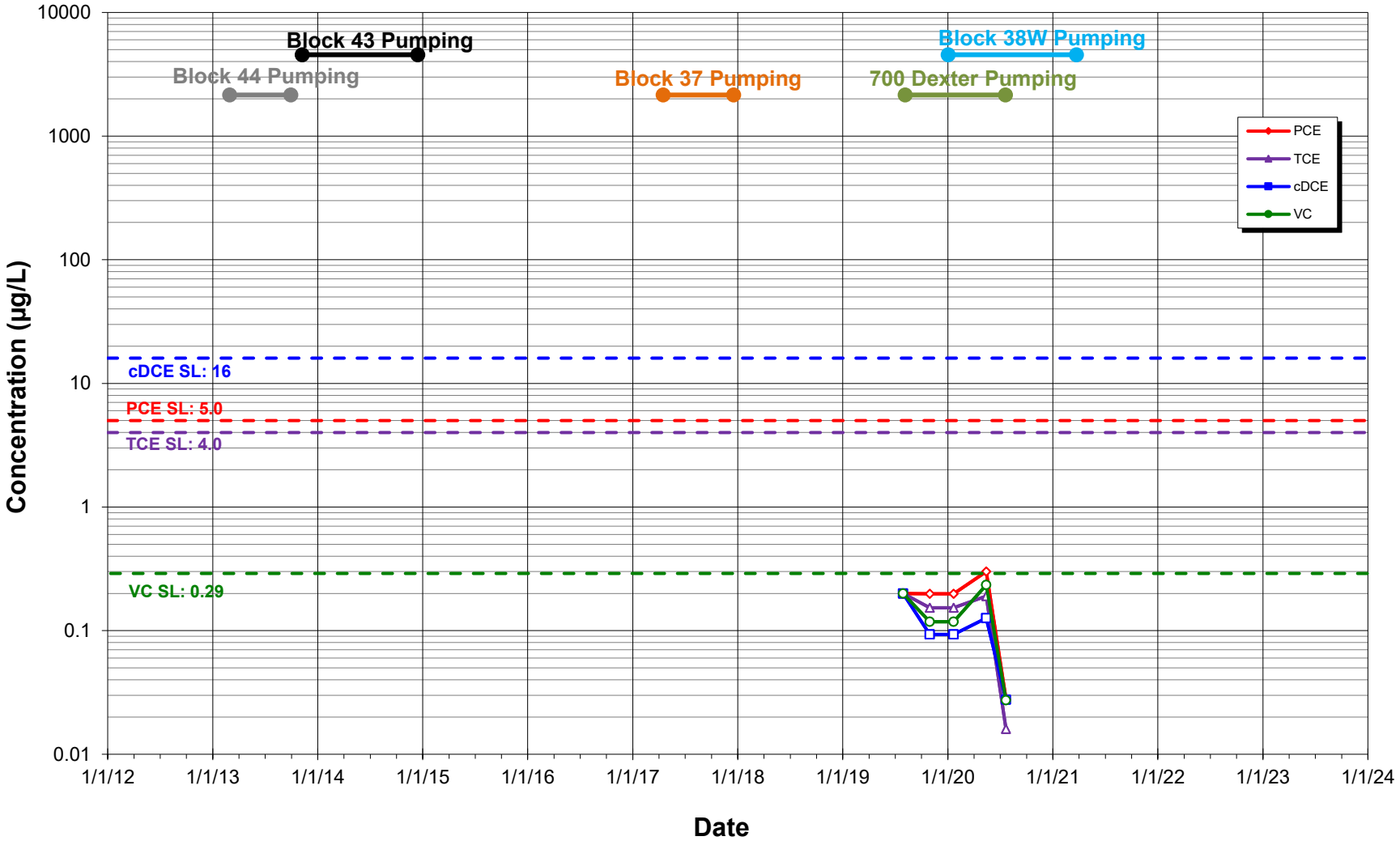
- USEPA National Functional Guidelines for Organic Superfund Methods Data Review (USEPA, 2020).

No data qualifiers are assigned. All data are judged to be acceptable for their intended use.

# APPENDIX K

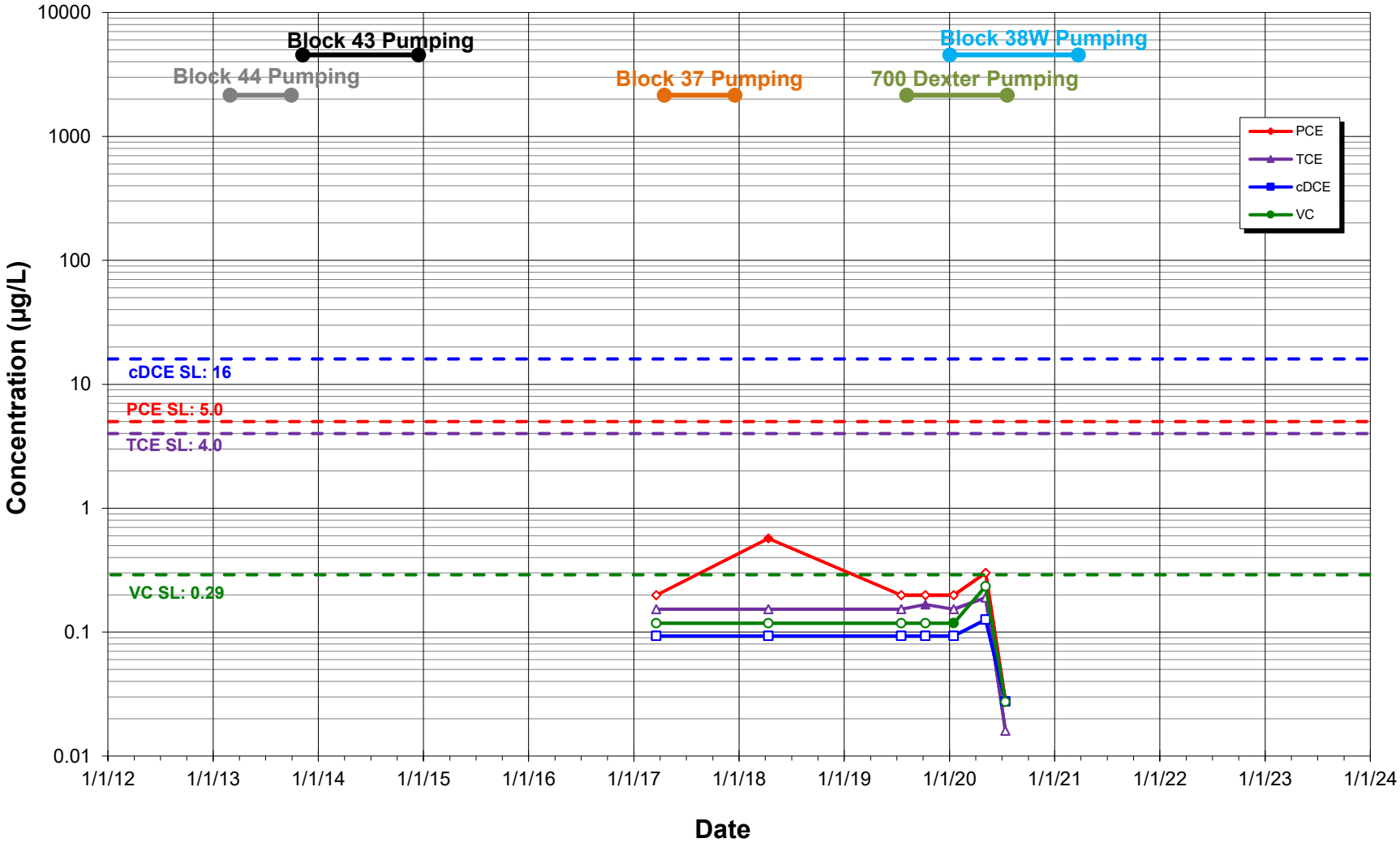
# CVOC TIME-TREND PLOTS

# Concentration vs Time
## FMW-143 (10 to 5 feet NAVD), 9th Ave N ROW, E Side
## American Linen Supply Co Dexter Ave Site



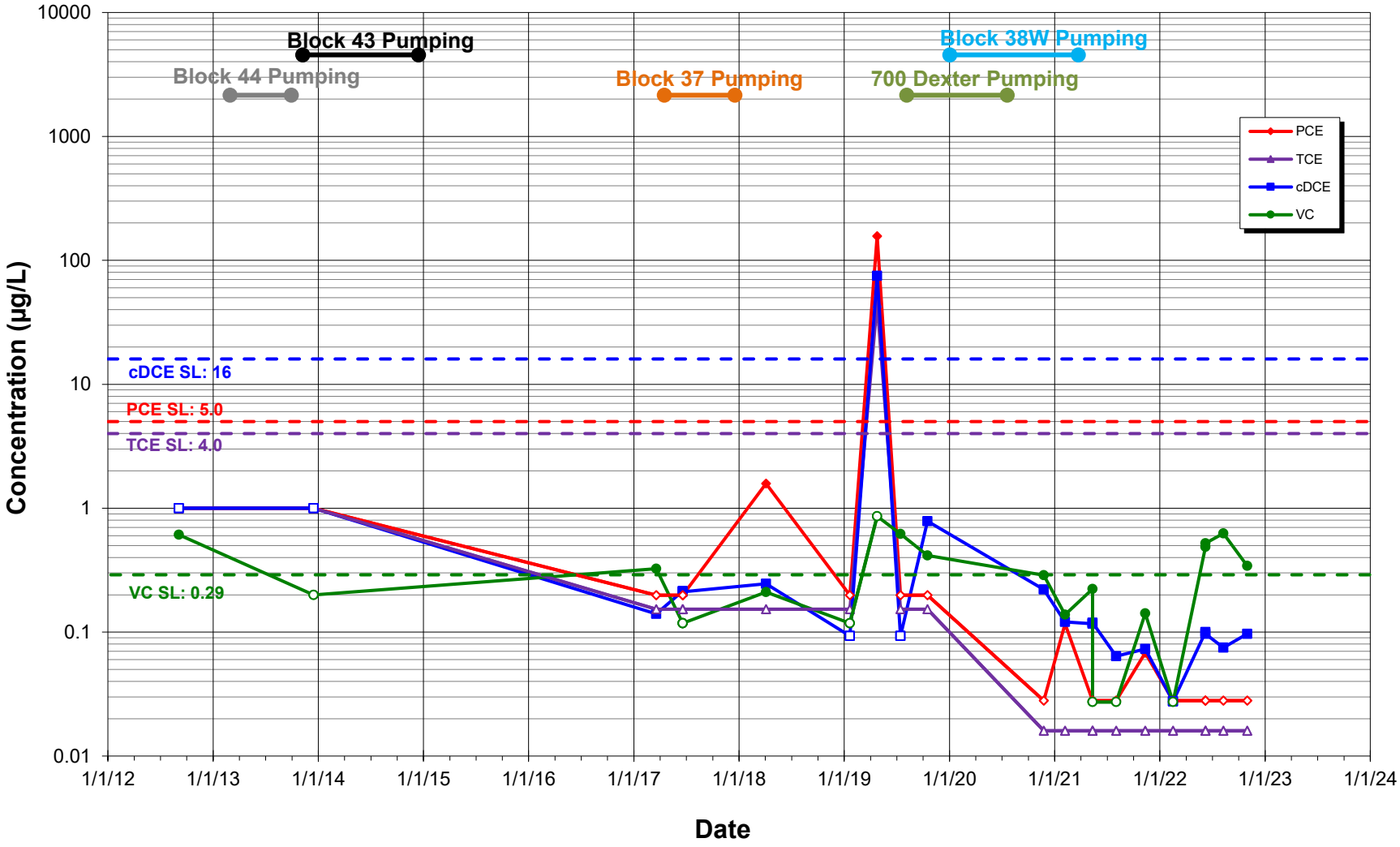

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening Levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-8 (28.7 to 14.2 NAVD), Seattle Roy Aloha Shops, N end
## American Linen Supply Co Dexter Ave Site



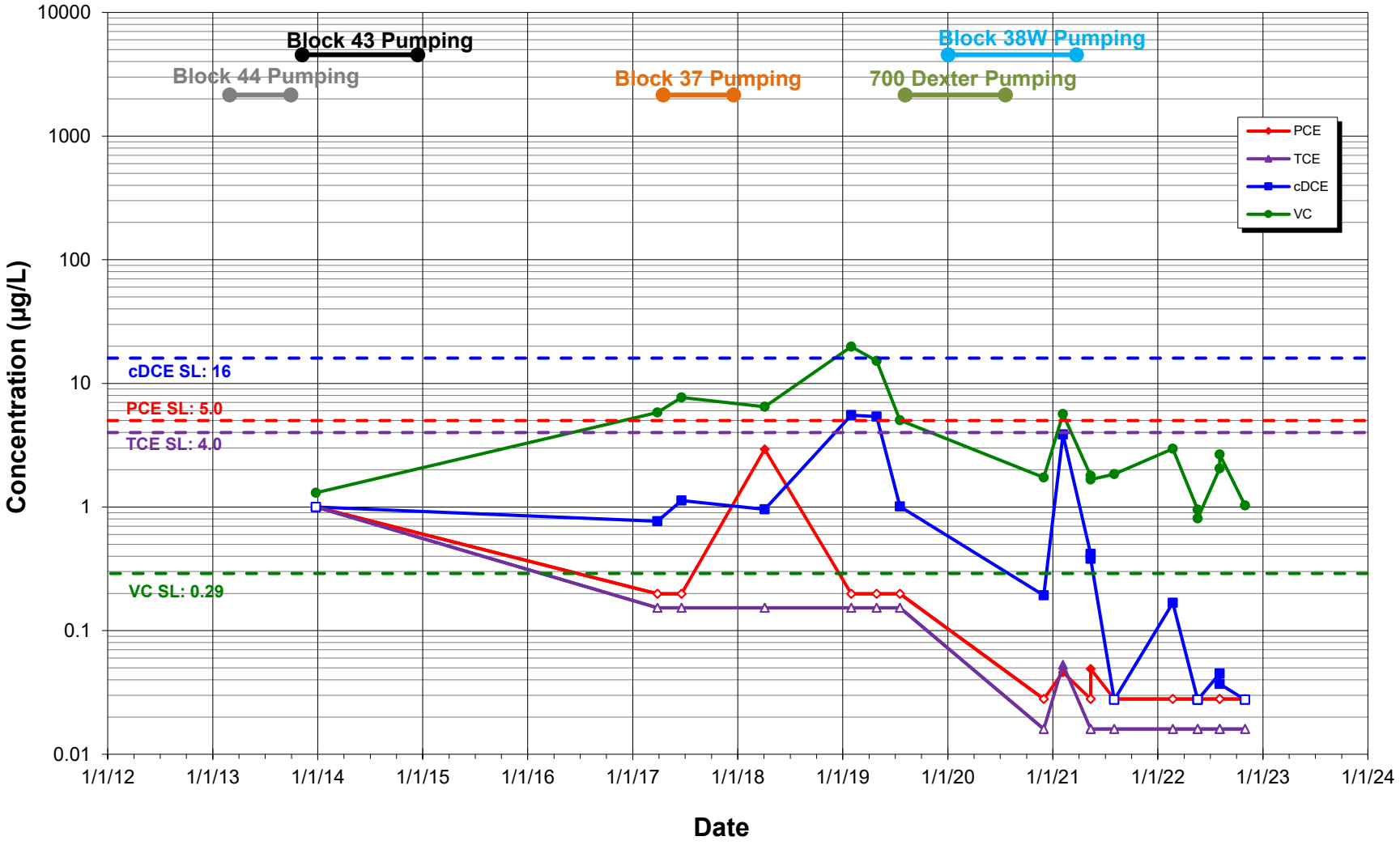

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening Levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-9 (34.1 to 19.1 feet NAVD), 8th Ave N ROW, E side
## American Linen Supply Co Dexter Ave Site



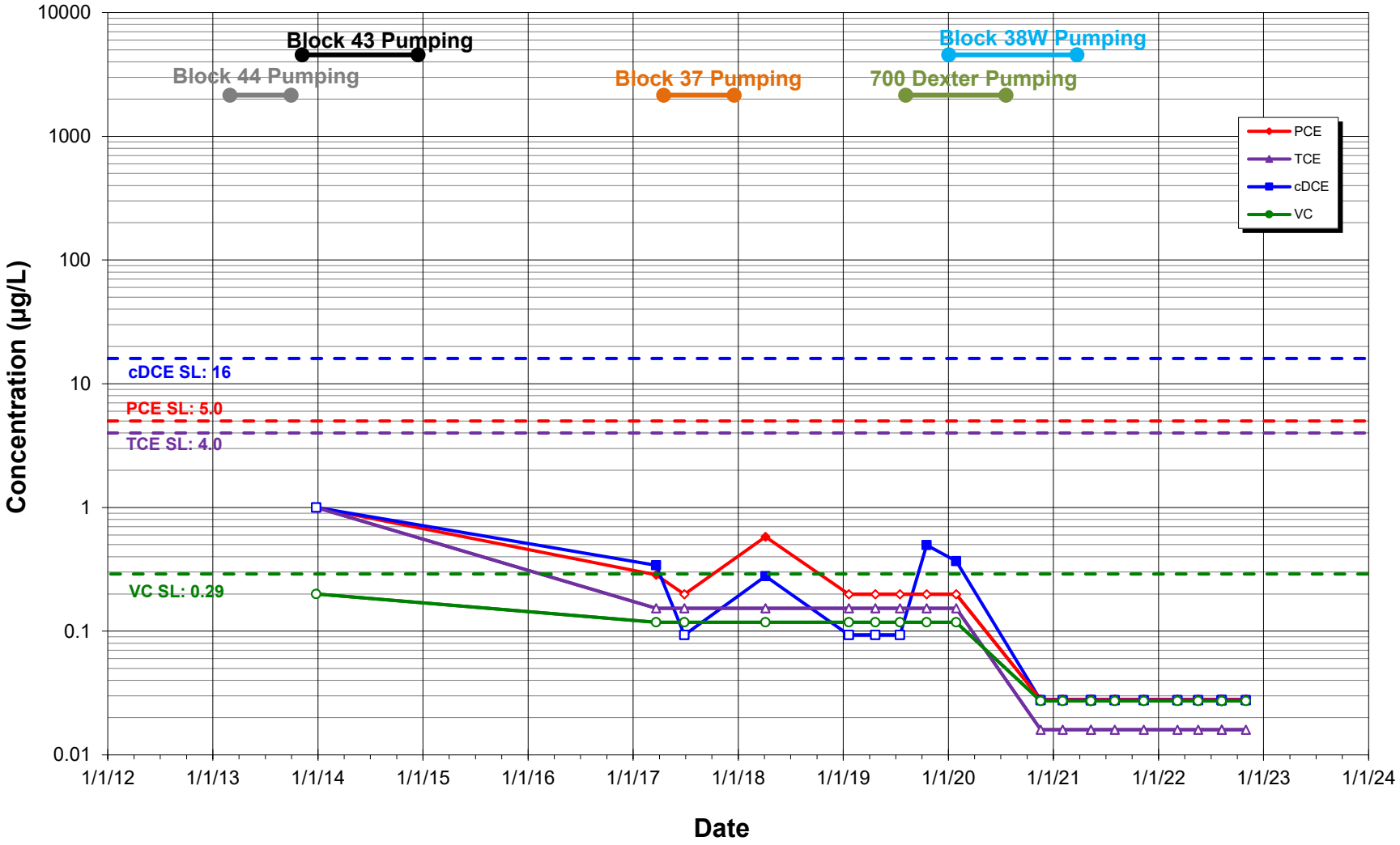

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening Levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW121 (26.7 to 16.7 feet NAVD), 8th Ave N ROW, E side
## American Linen Supply Co Dexter Ave Site



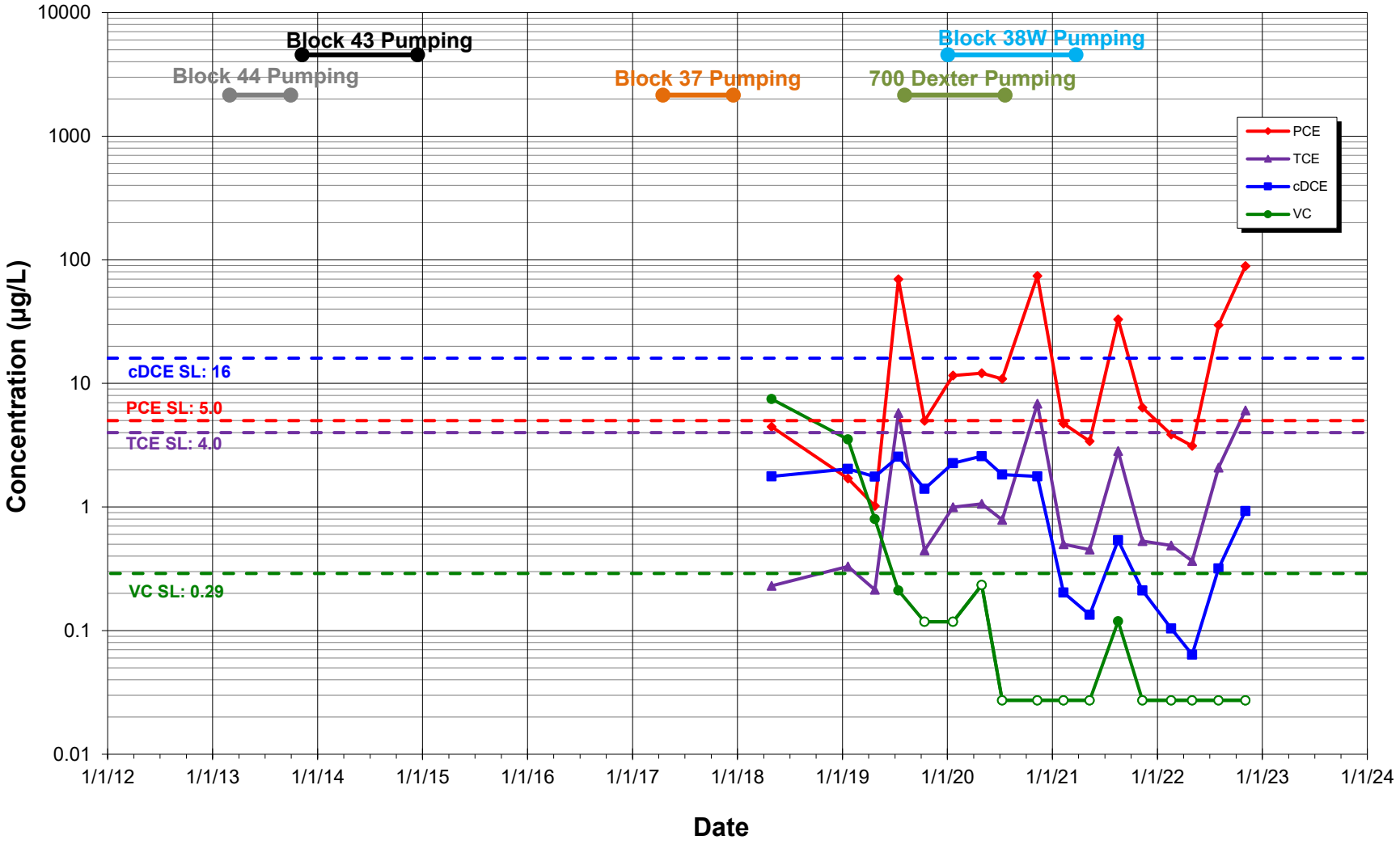

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW125 (28.6 to 13.6 feet NAVD), Valley St ROW, N side
## American Linen Supply Co Dexter Ave Site



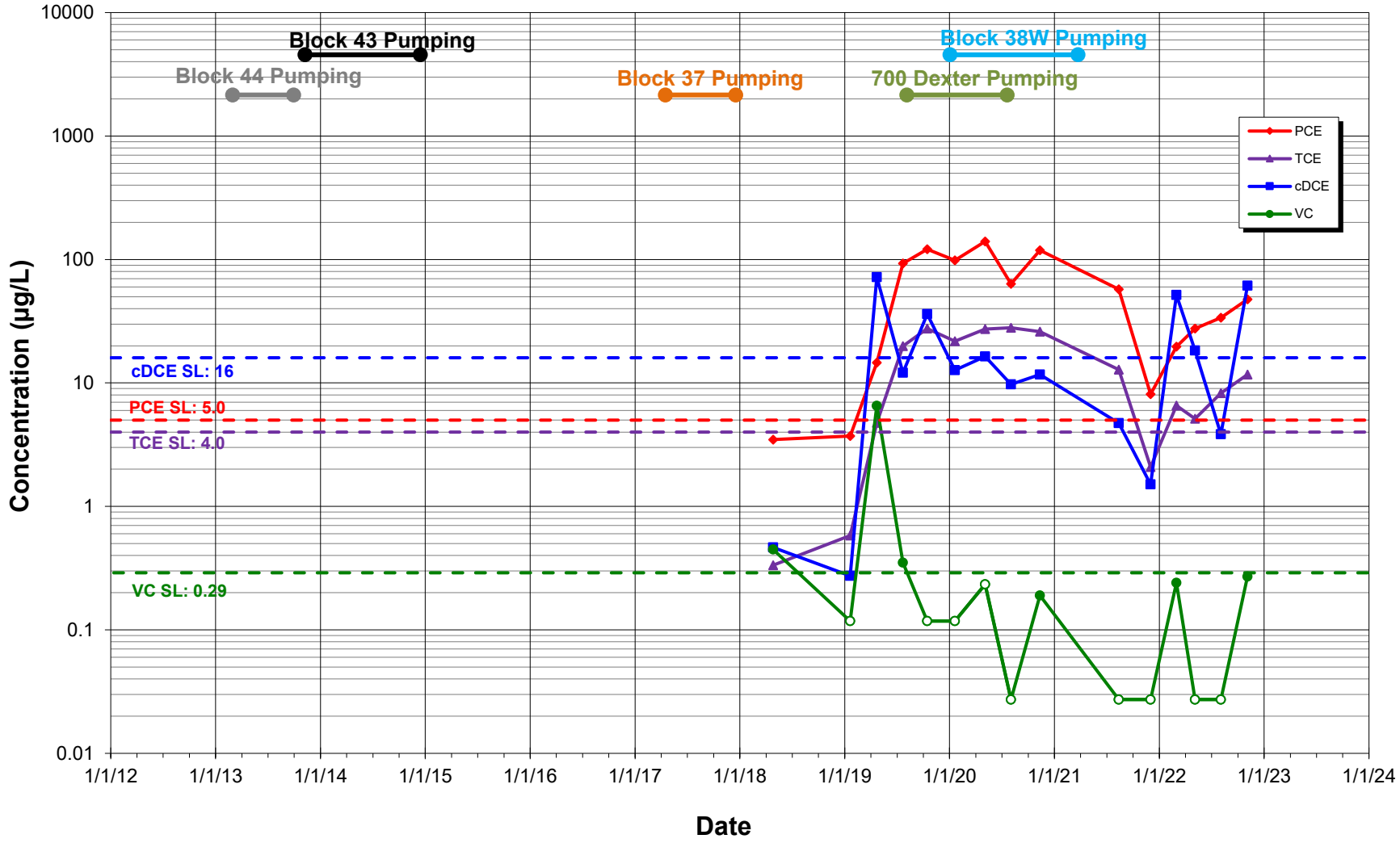

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-154 (27.8 to 17.9 feet NAVD), Roy St ROW, S side
## American Linen Supply Co–Dexter Ave Site



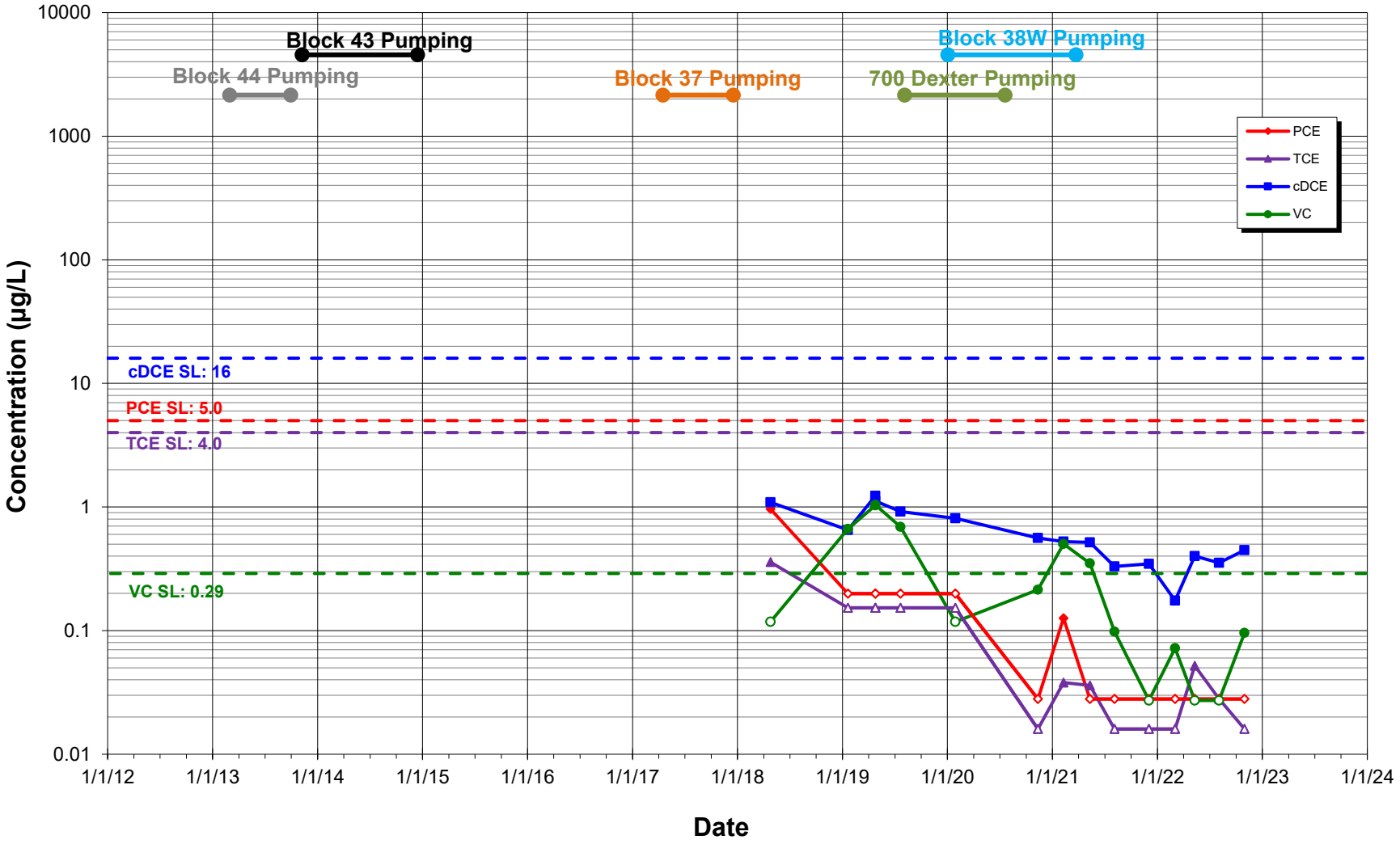

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-155 (24.4 to 14.4 feet NAVD), Roy St ROW, S side
## American Linen Supply Co Dexter Ave Site



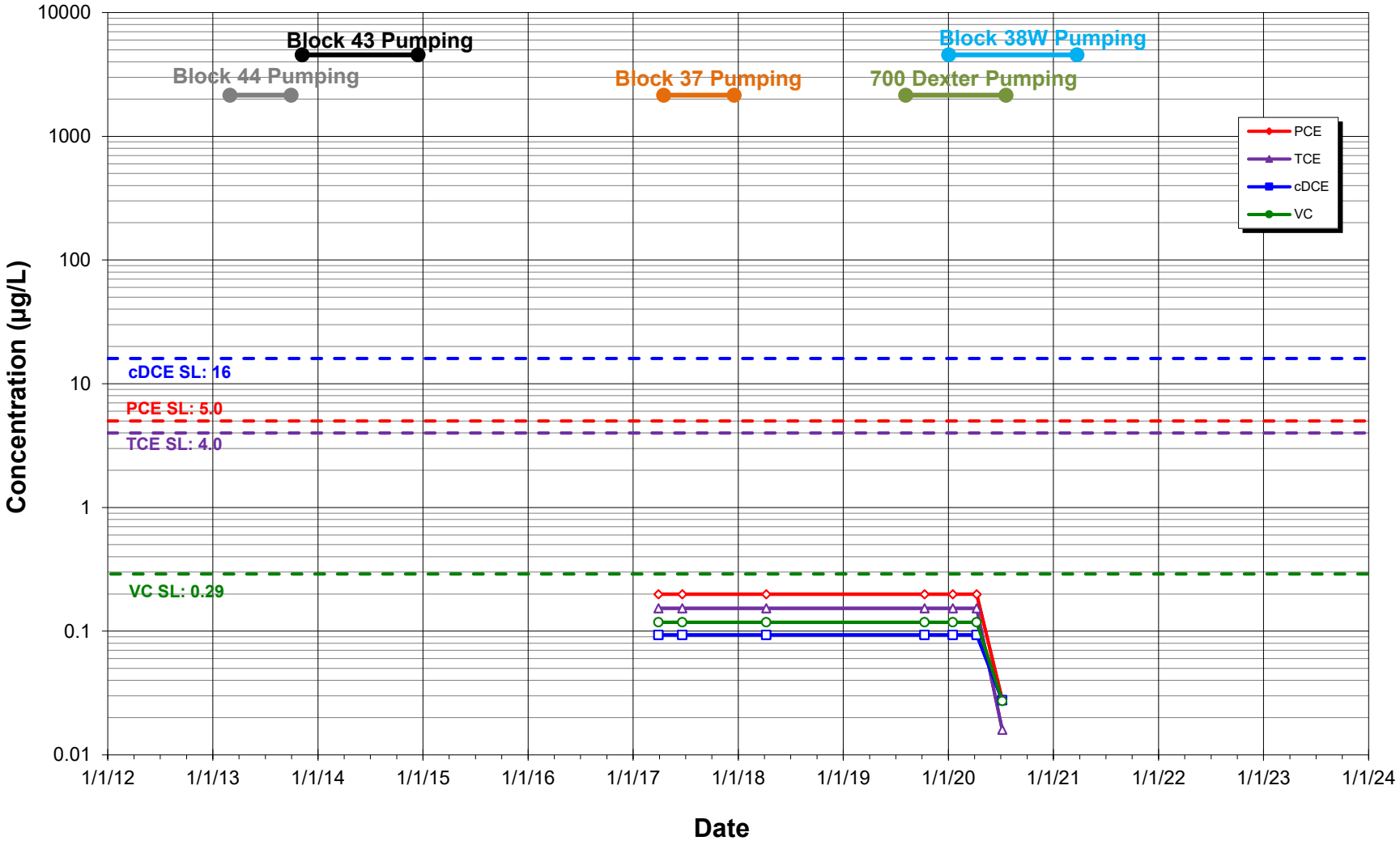

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-159 (22.9 to 12.9 feet NAVD), 8th Ave N, E side
## American Linen Supply Co Dexter Ave Site



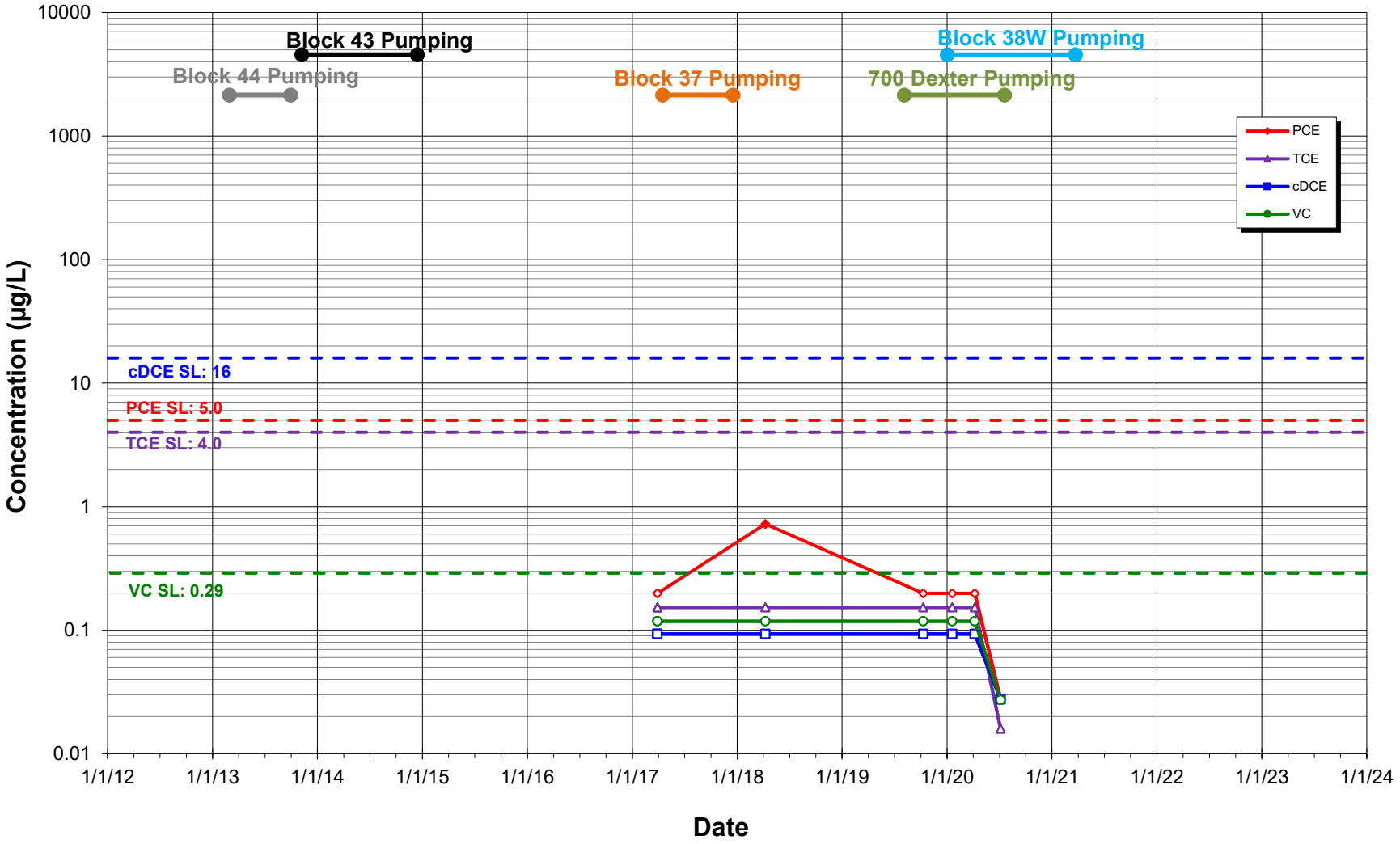

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-210 (17.1 to 7.1 feet NAVD), Valley St ROW, N side
## American Linen Supply Co Dexter Ave Site



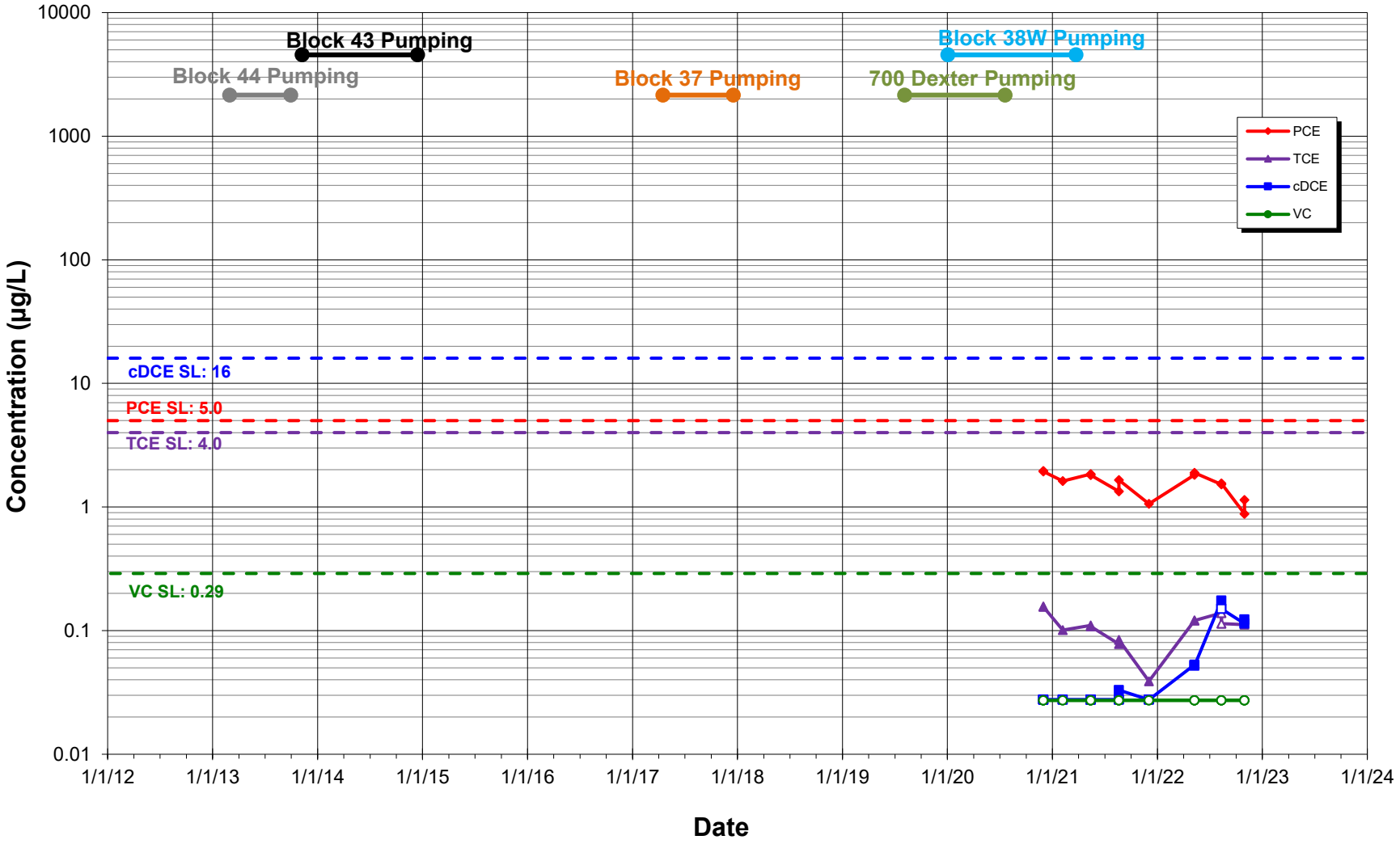

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-214 (20.8 to 10.8 feet NAVD), Valley St ROW, S side
## American Linen Supply Co Dexter Ave Site



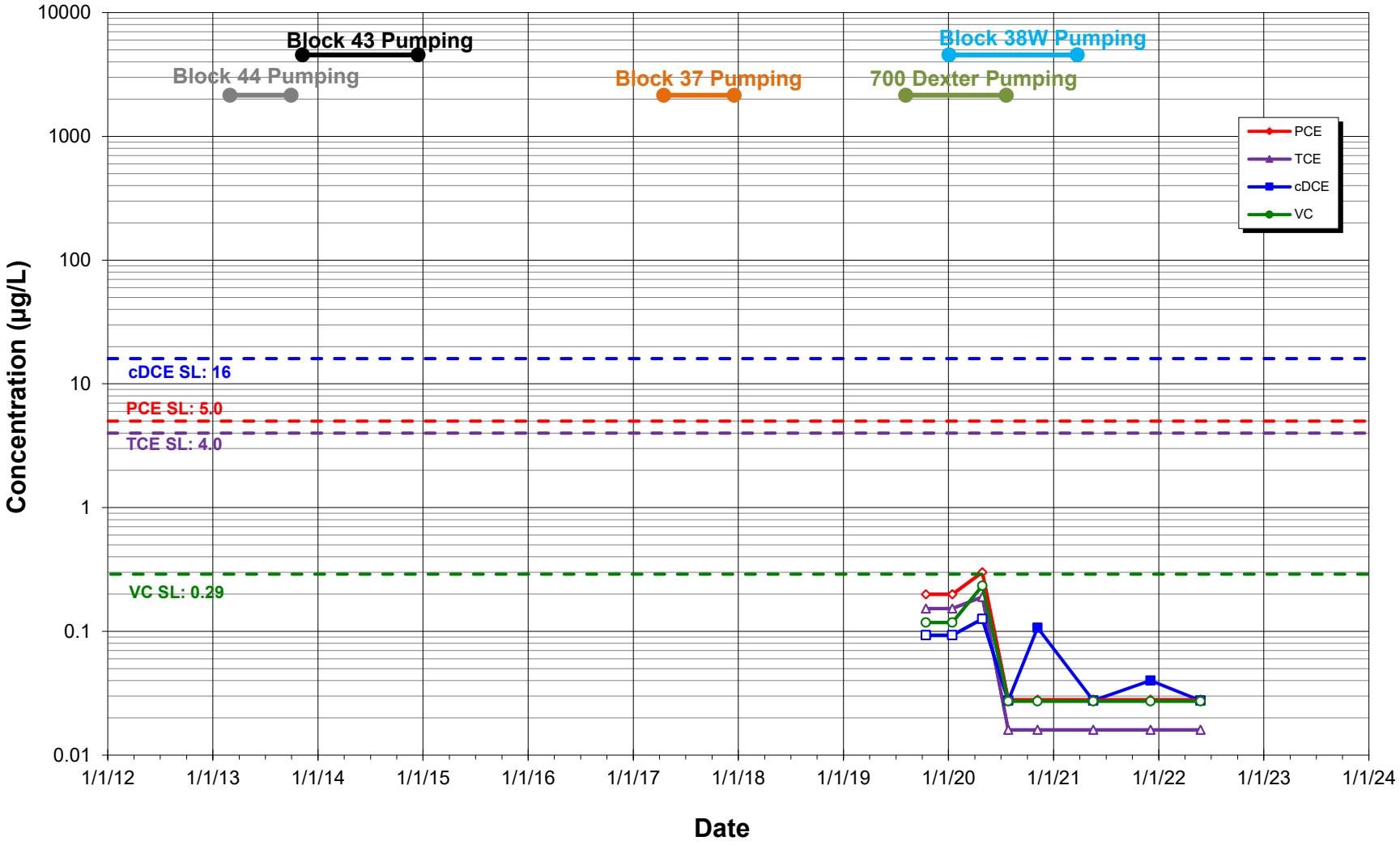

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-301 (35.6 to 25.6 feet NAVD), Valley St ROW, S side
## American Linen Supply Co Dexter Ave Site



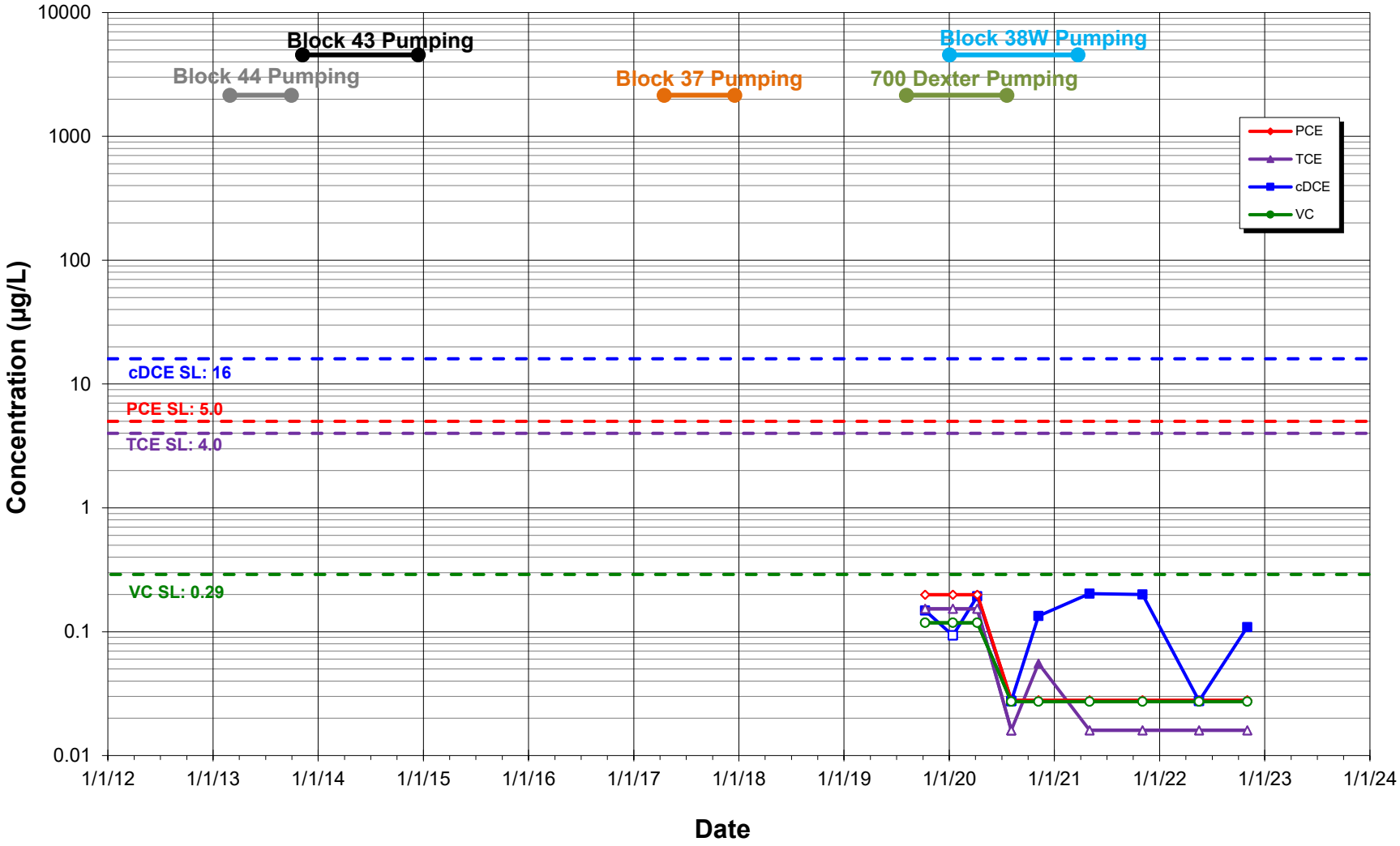

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-305 (37.4 to 27.4 feet NAVD), Roy St ROW, S side
## American Linen Supply Co Dexter Ave Site



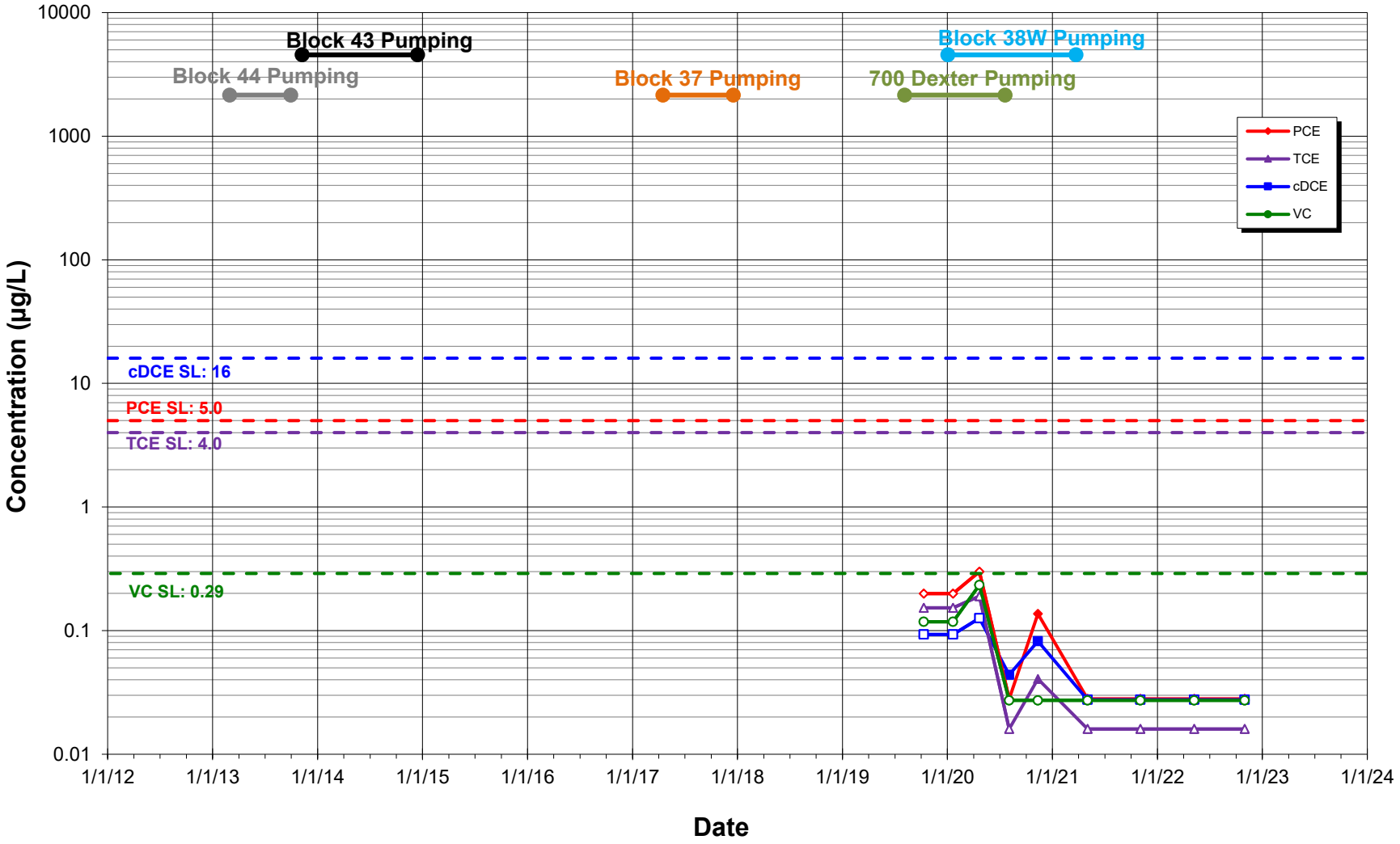

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-310 (19.2 to 9.2 feet NAVD), Alley E of Seattle Roy Aloha Shops
## American Linen Supply Co Dexter Ave Site



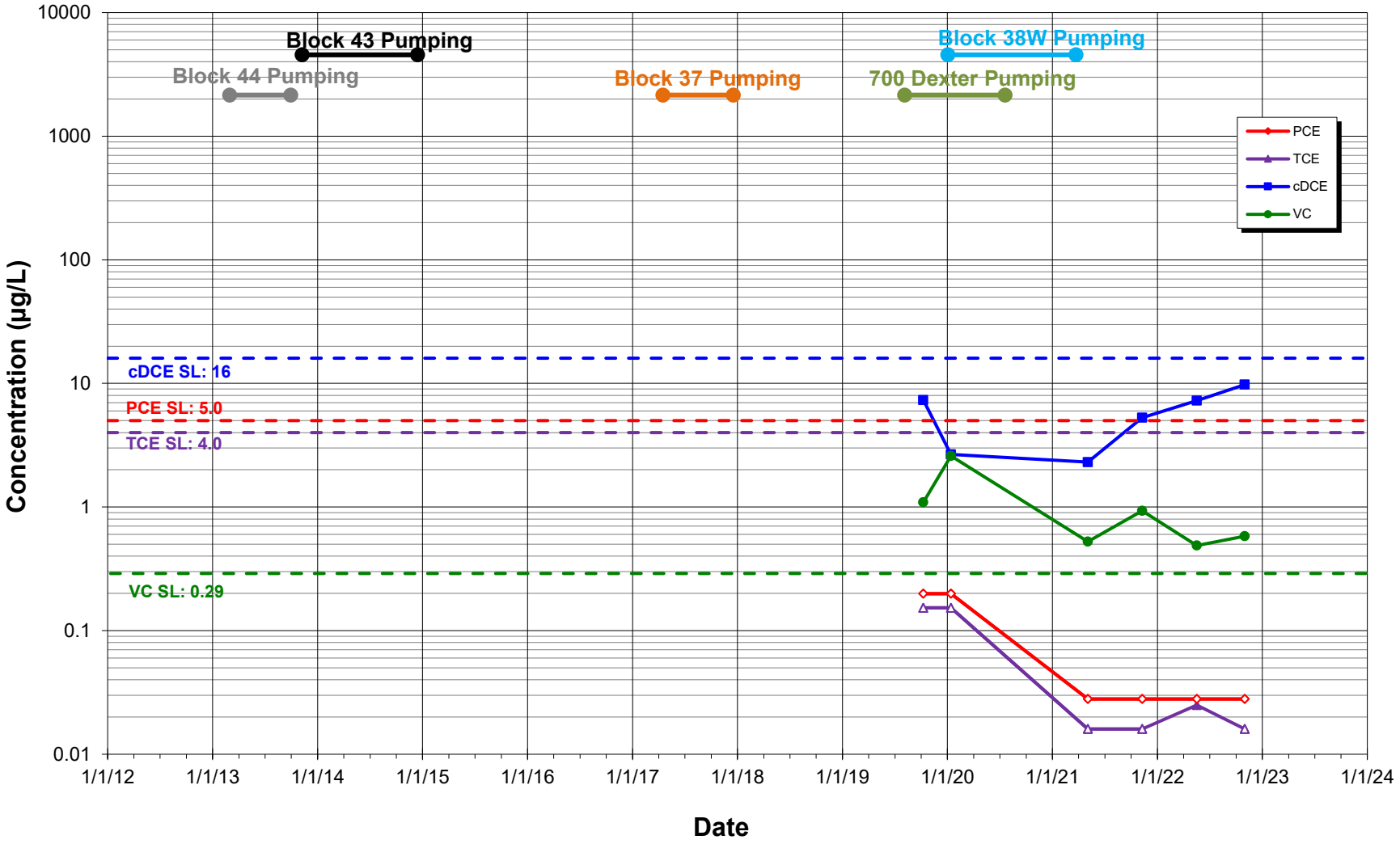

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-312 (19.9 to 9.9 feet NAVD), Alley E of Seattle Roy Aloha Shops
## American Linen Supply Co Dexter Ave Site



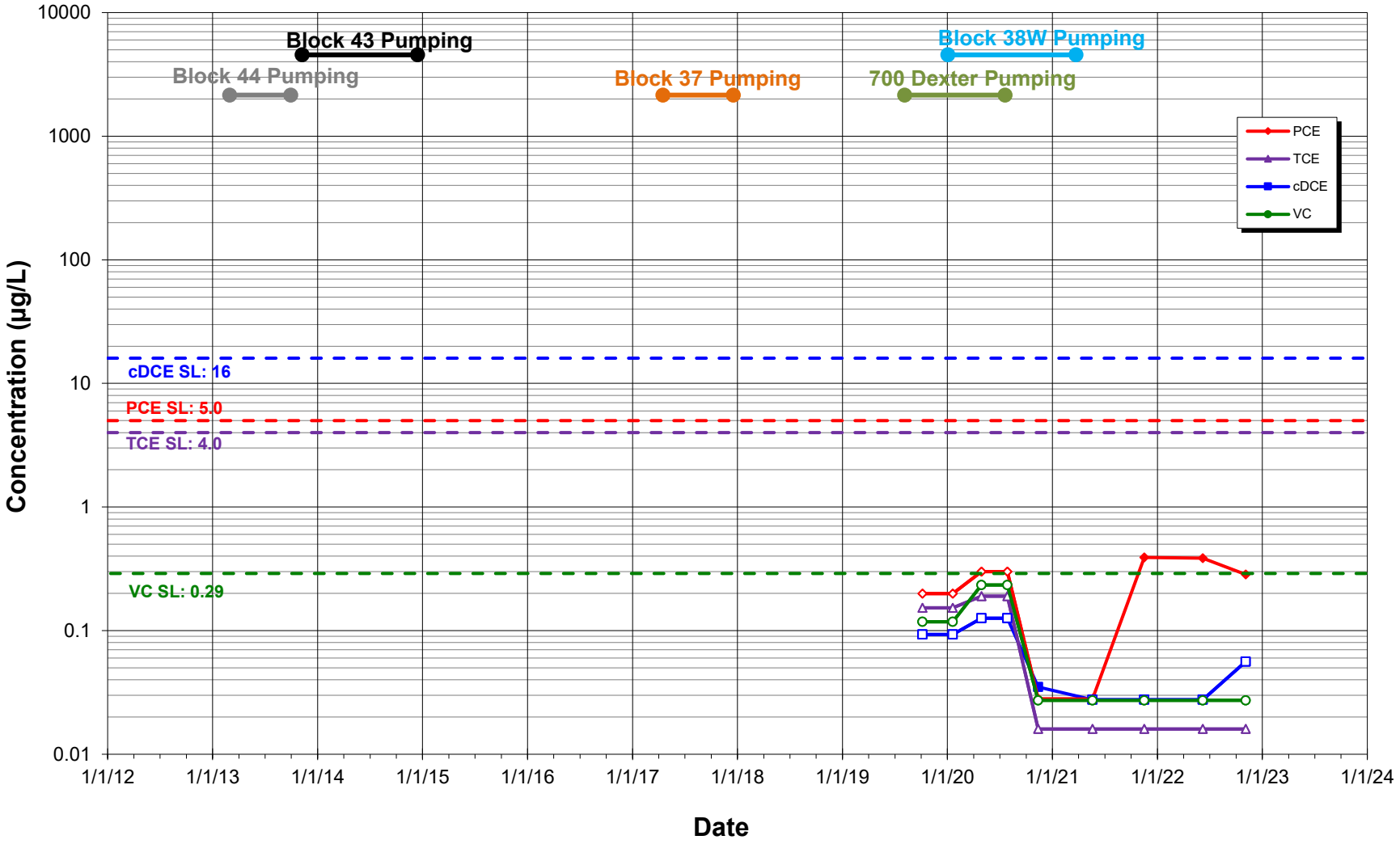

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-313 (20.4 to 10.4 feet NAVD), Alley E of Seattle Roy Aloha Shops
## American Linen Supply Co Dexter Ave Site



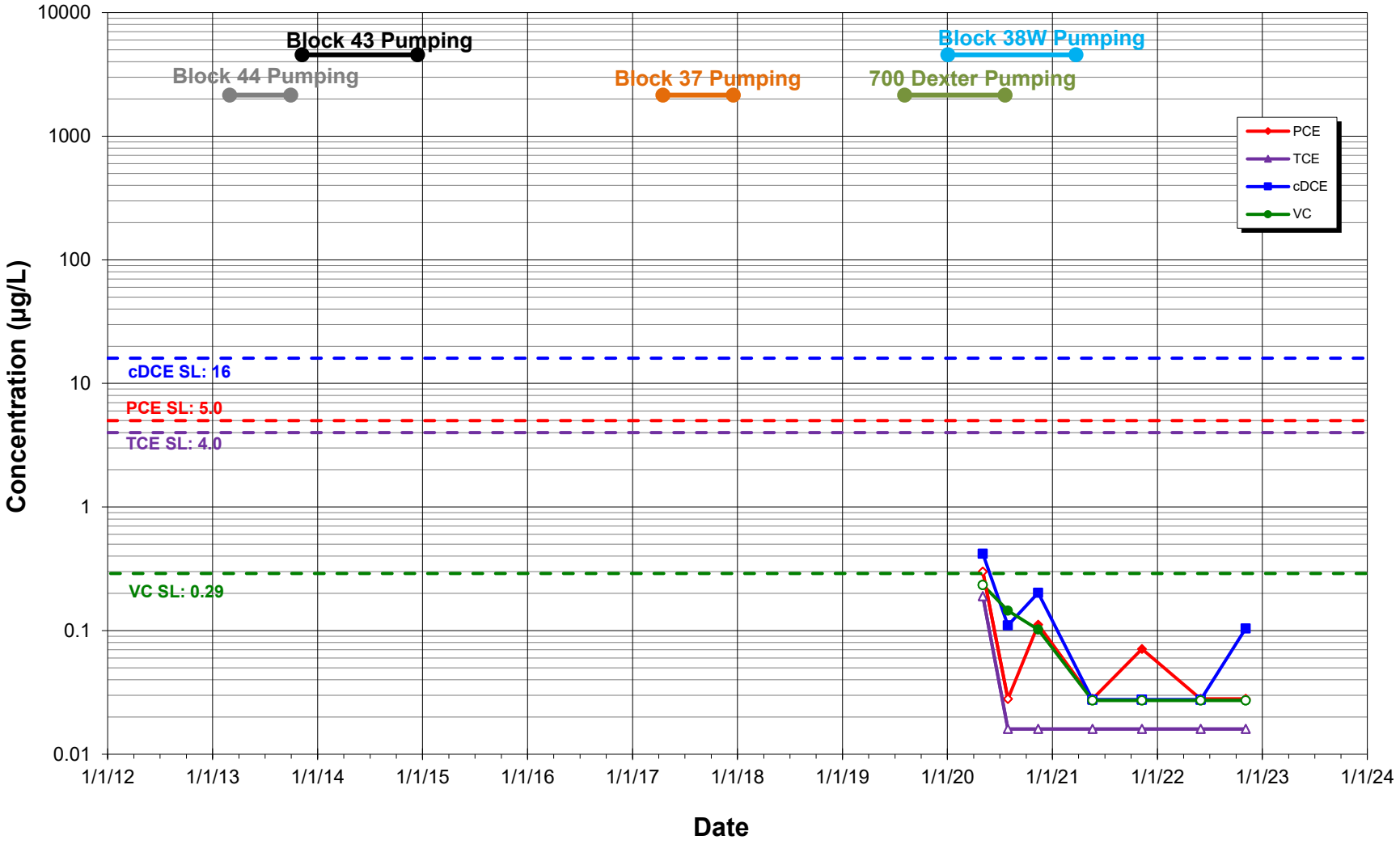

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-320 (18.6 to 8.6 feet NAVD), 9th Ave N, W side
## American Linen Supply Co Dexter Ave Site



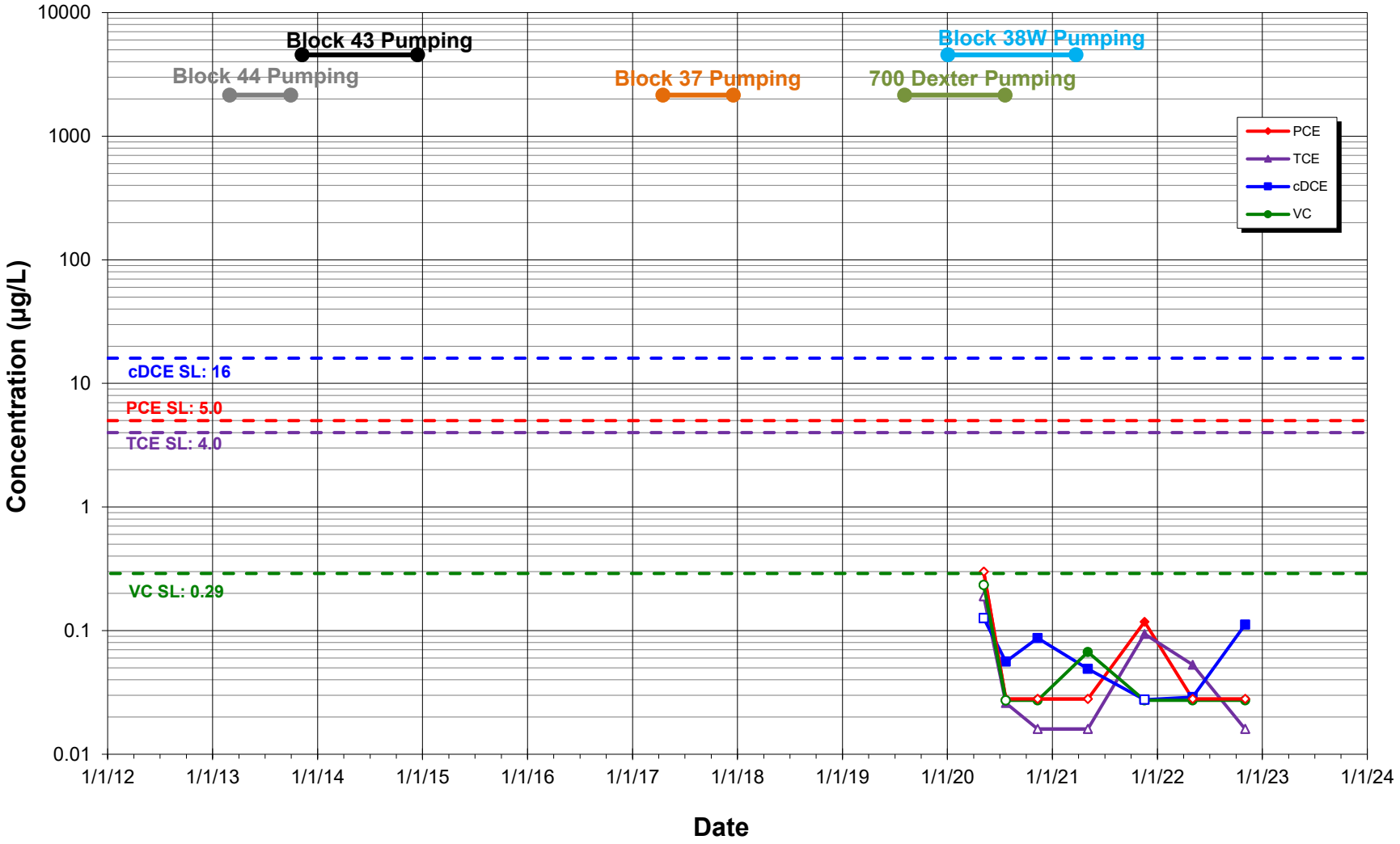

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-332 (16.0 to 6.0 feet NAVD), Roy St ROW, N side
## American Linen Supply Co Dexter Ave Site



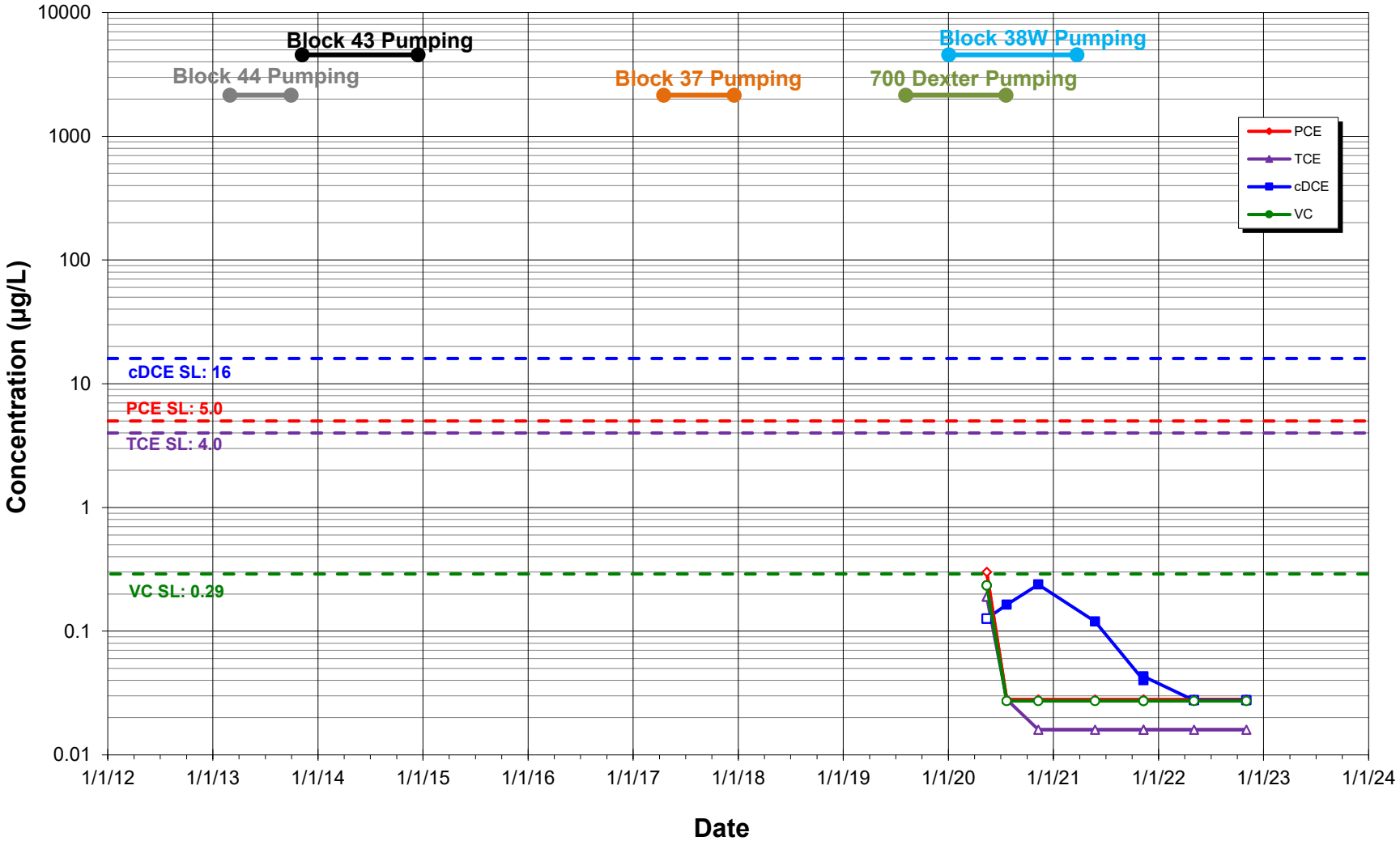

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-337 (18.1 to 8.1 feet NAVD), Lake Union Park, N end
## American Linen Supply Co Dexter Ave Site



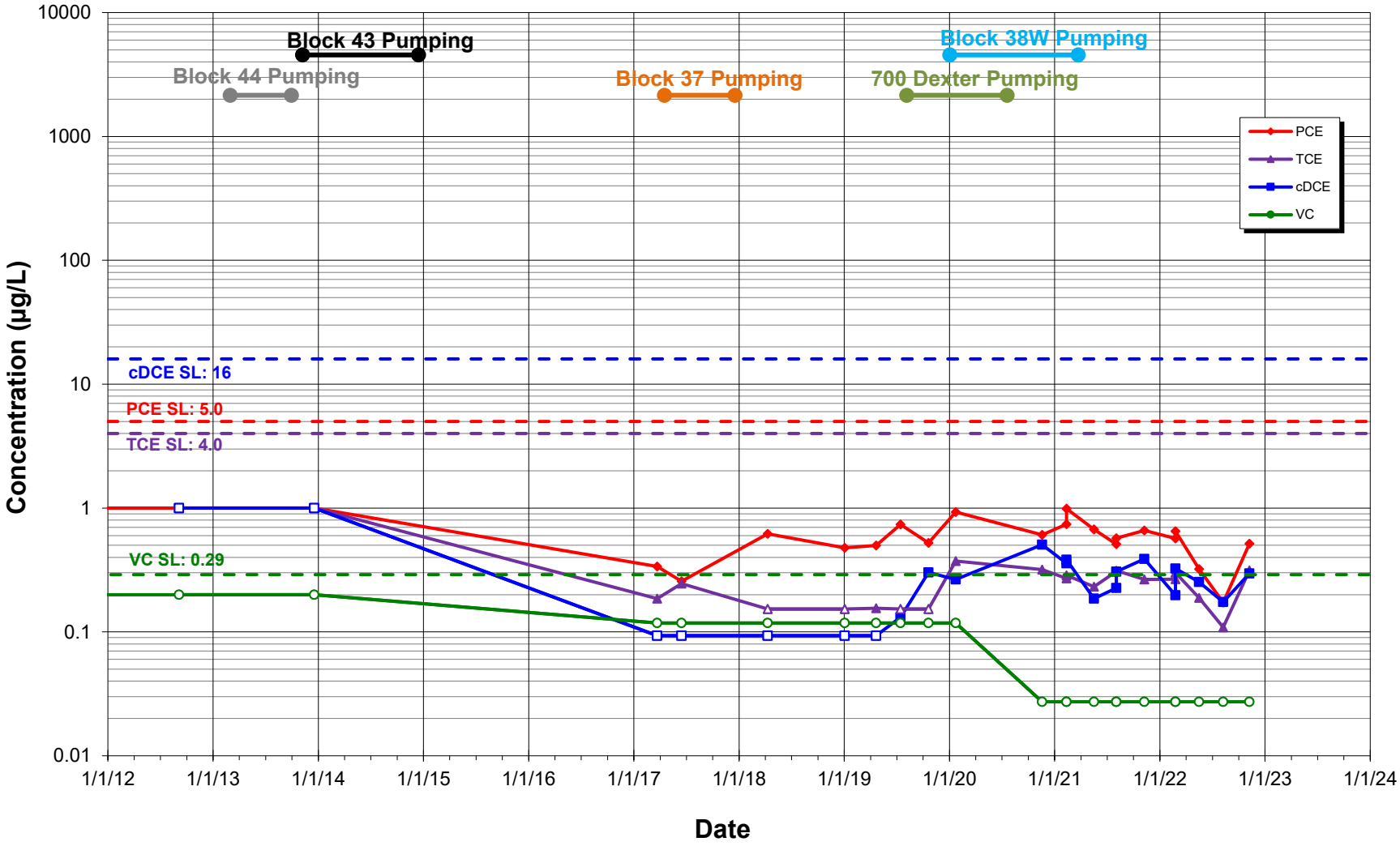

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-339 (18.2 to 8.2 feet NAVD), Lake Union Park, S end
## American Linen Supply Co Dexter Ave Site



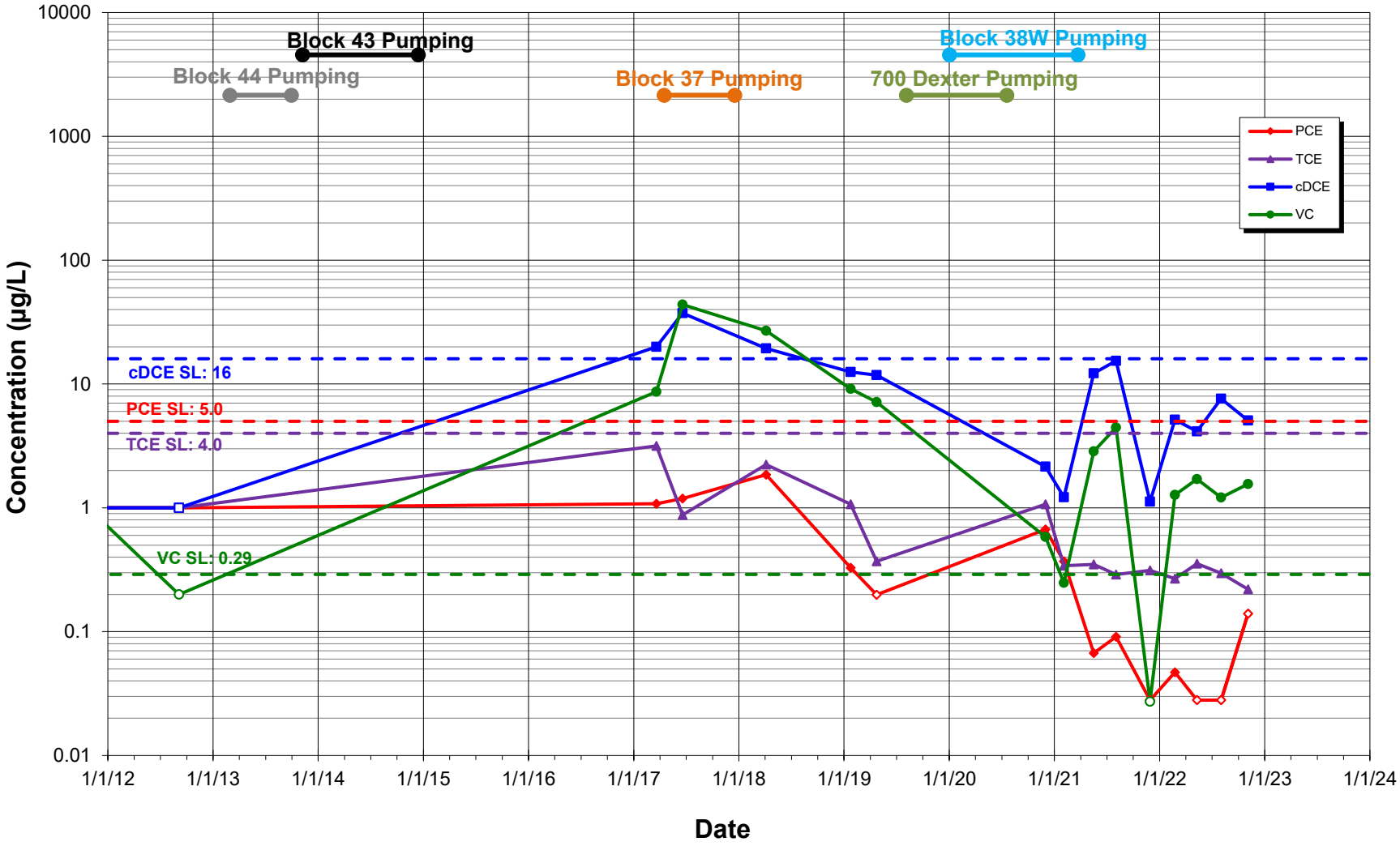

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## R-MW5 (42.4 to 27.4 feet NAVD), Dexter Ave N ROW, E side
## American Linen Supply Co Dexter Ave Site



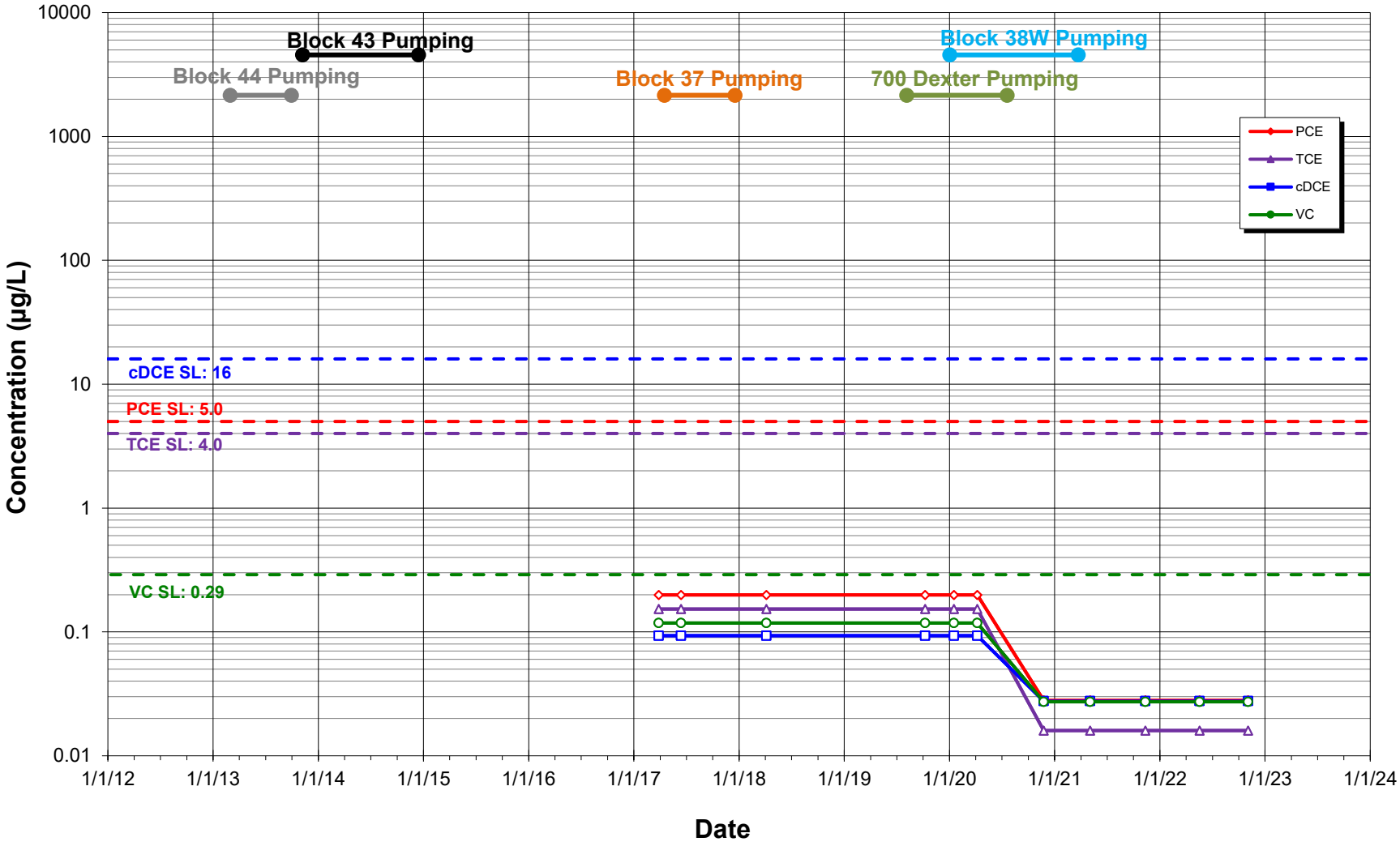

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## R-MW6 (33.3 to 23.3 feet NAVD), 8th Ave N ROW, W side
## American Linen Supply Co Dexter Ave Site



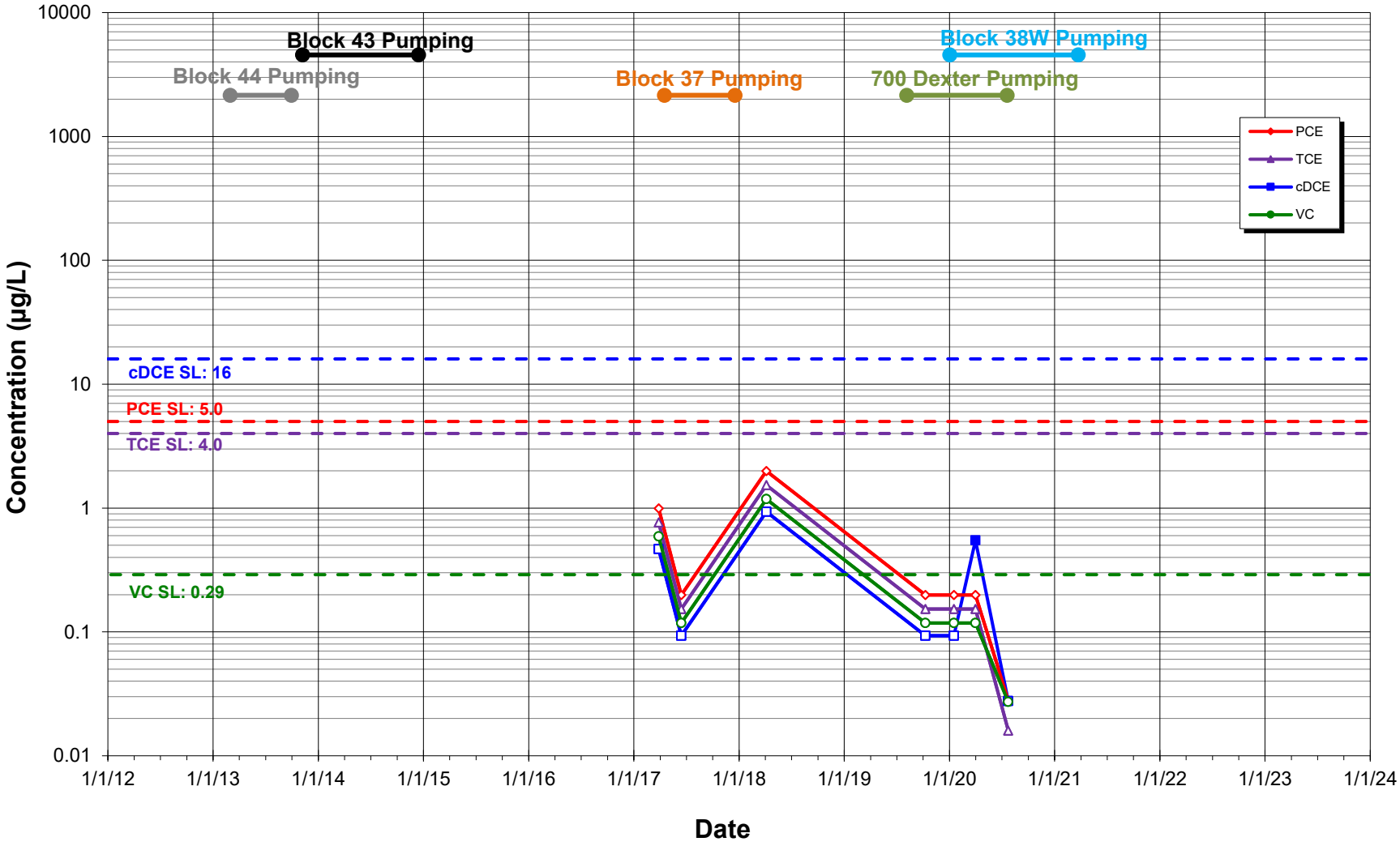

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## SCL-MW101 (25.5 to 15.5 feet NAVD), Alley E of Seattle Roy Aloha Shops
## American Linen Supply Co Dexter Ave Site



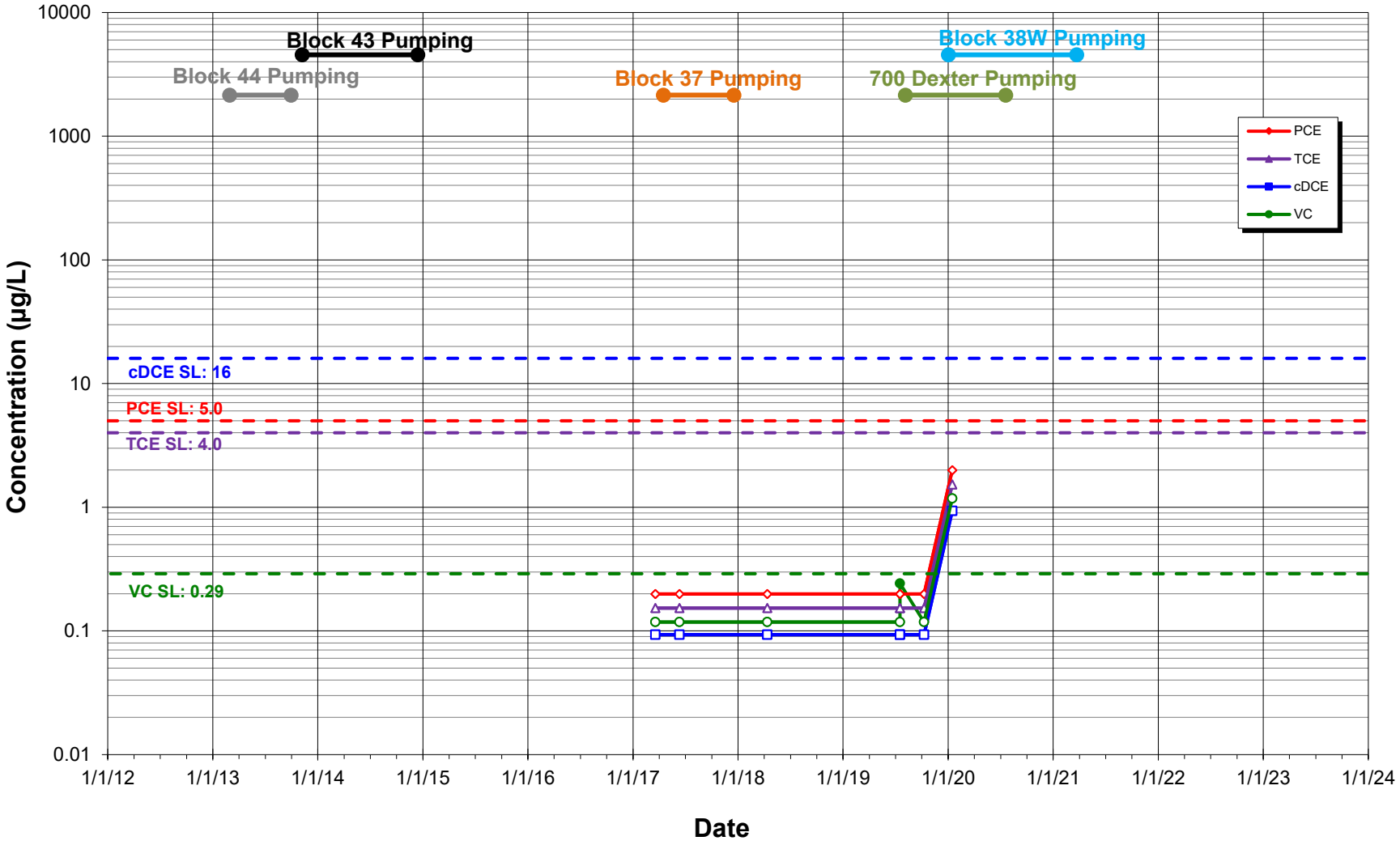

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## SCL-MW105 (11.1 to 1.1 feet NAVD), Alley E of Seattle Roy Aloha Shops
## American Linen Supply Co Dexter Ave Site



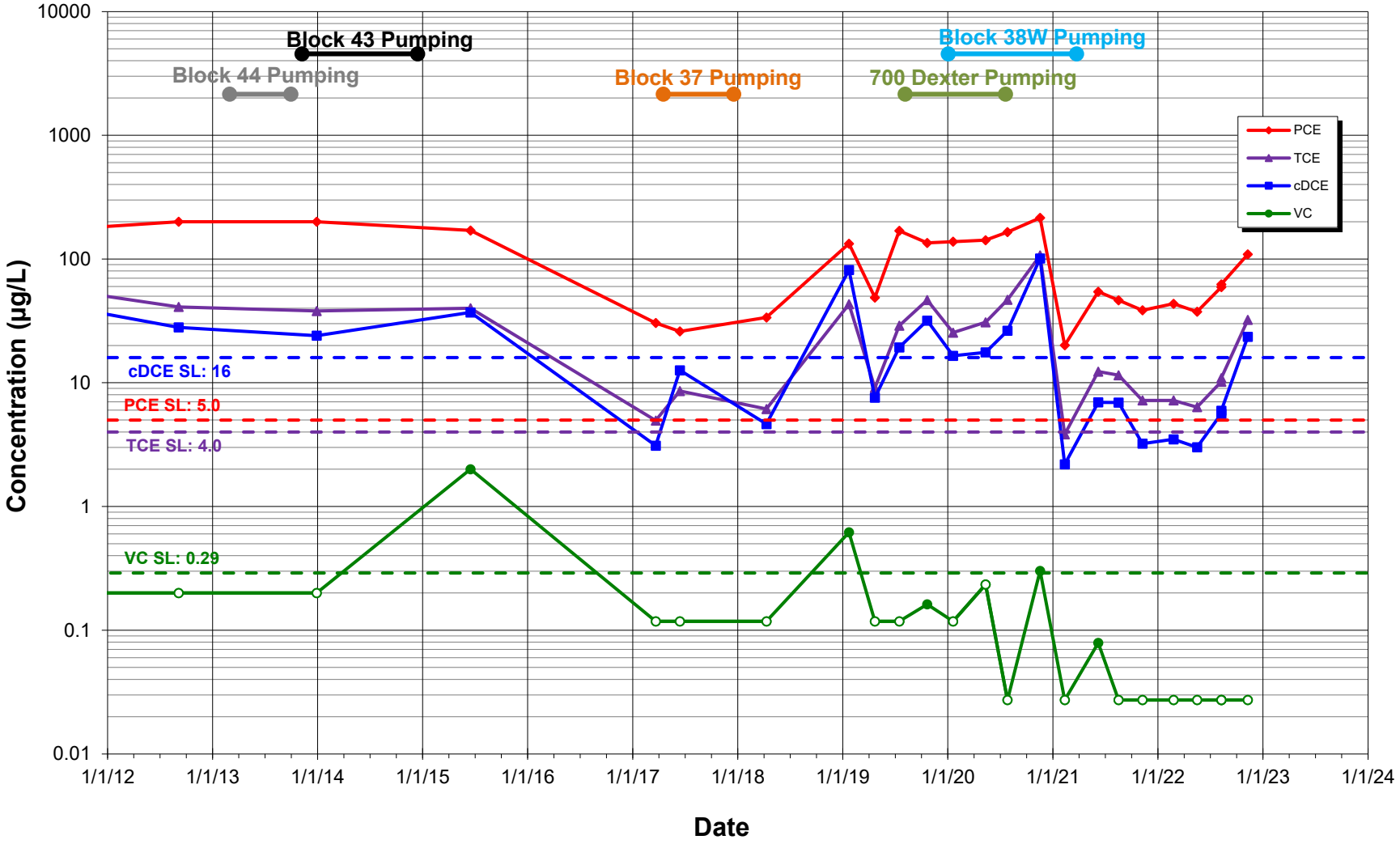

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## SCS-2 (28.2 to 18.2 feet NAVD), Seattle Roy Aloha Shops, N end
## American Linen Supply Co Dexter Ave Site



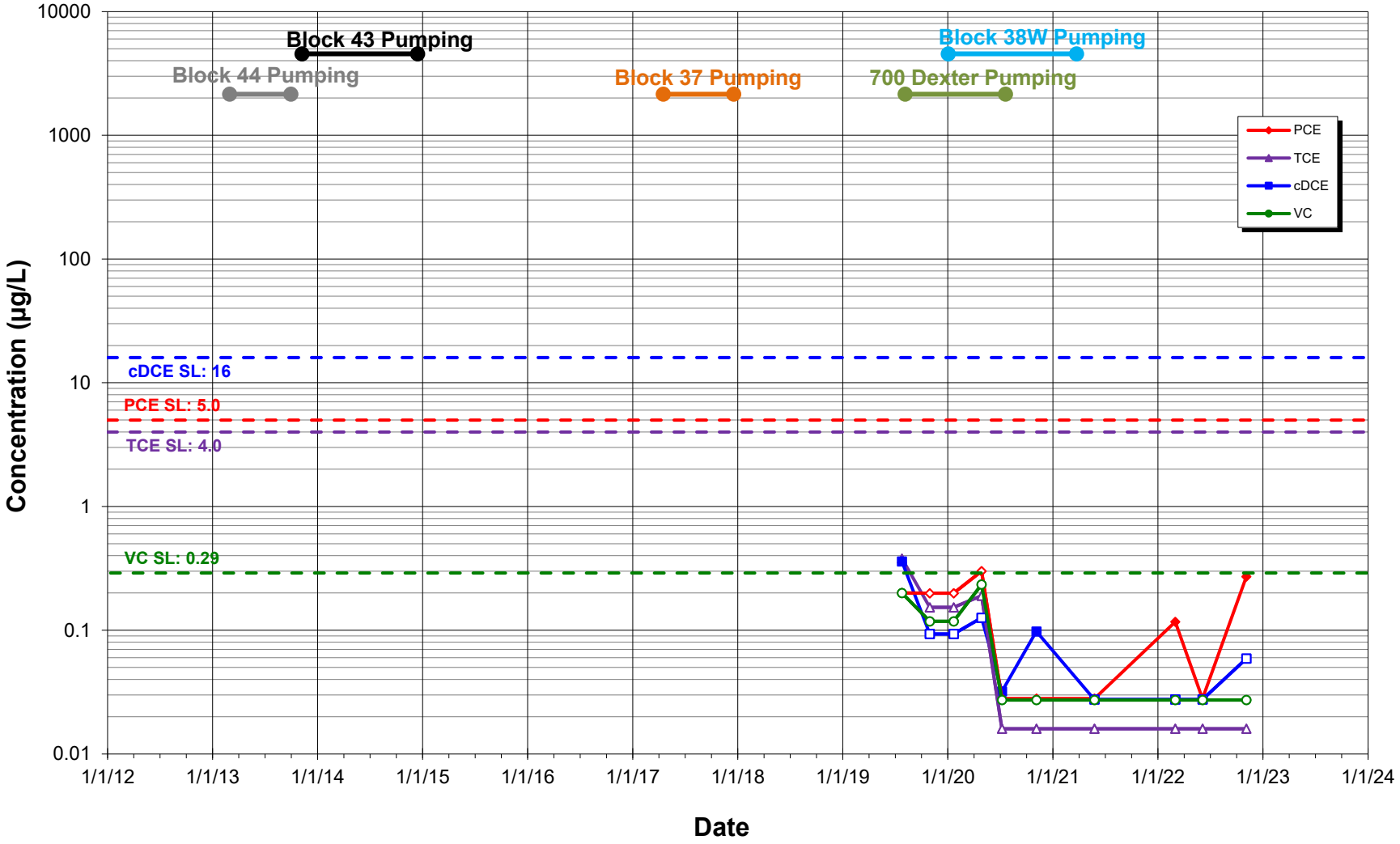

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5 µg/L, TCE = 4 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## BB-8 (14.0 to 4.0 feet NAVD), Roy St ROW, S side
## American Linen Supply Co Dexter Ave Site



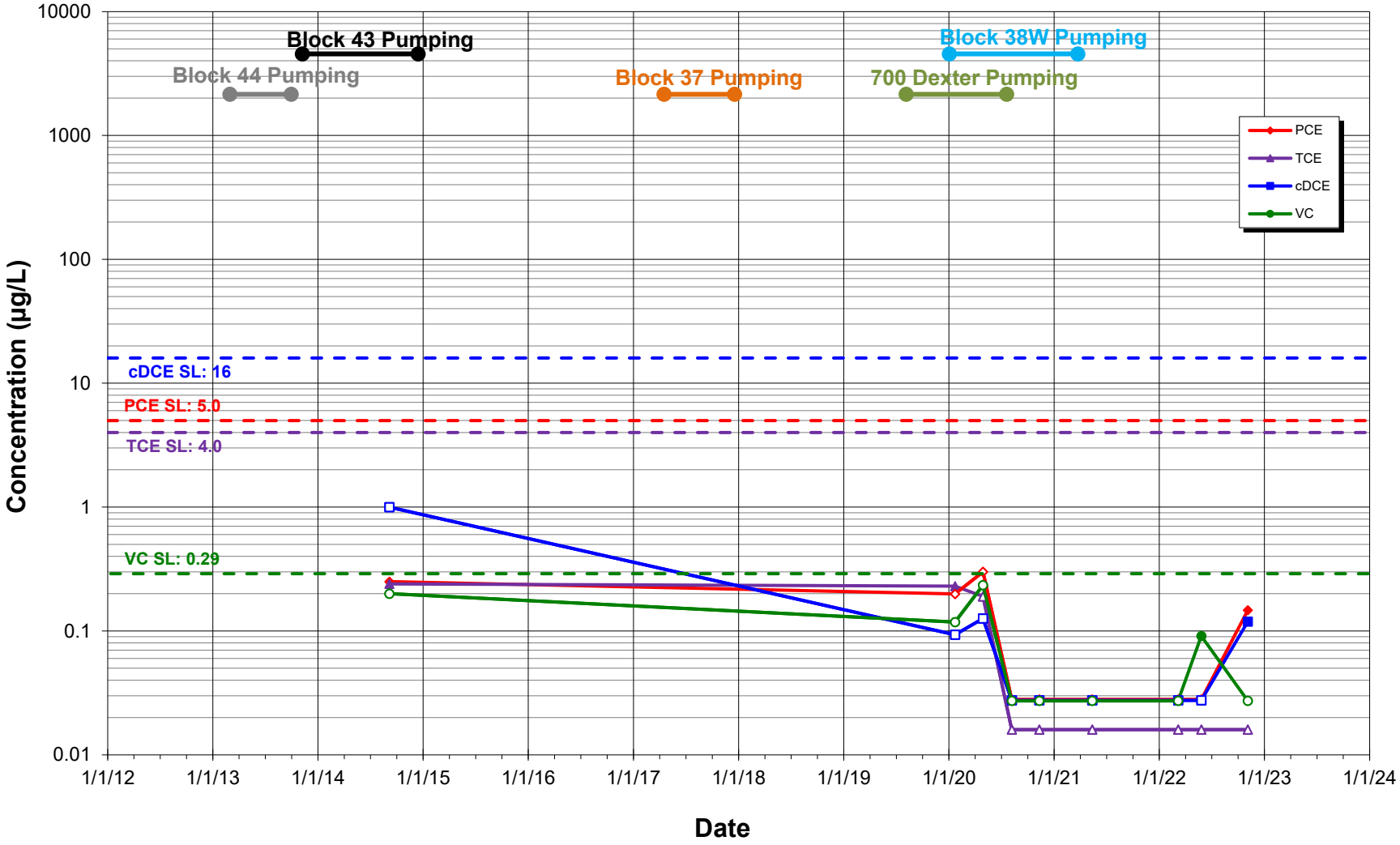

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE =4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## FMW-142 (-4.2 to -9.6 feet NAVD), 9th Ave N ROW, E side
## American Linen Supply Co Dexter Ave Site



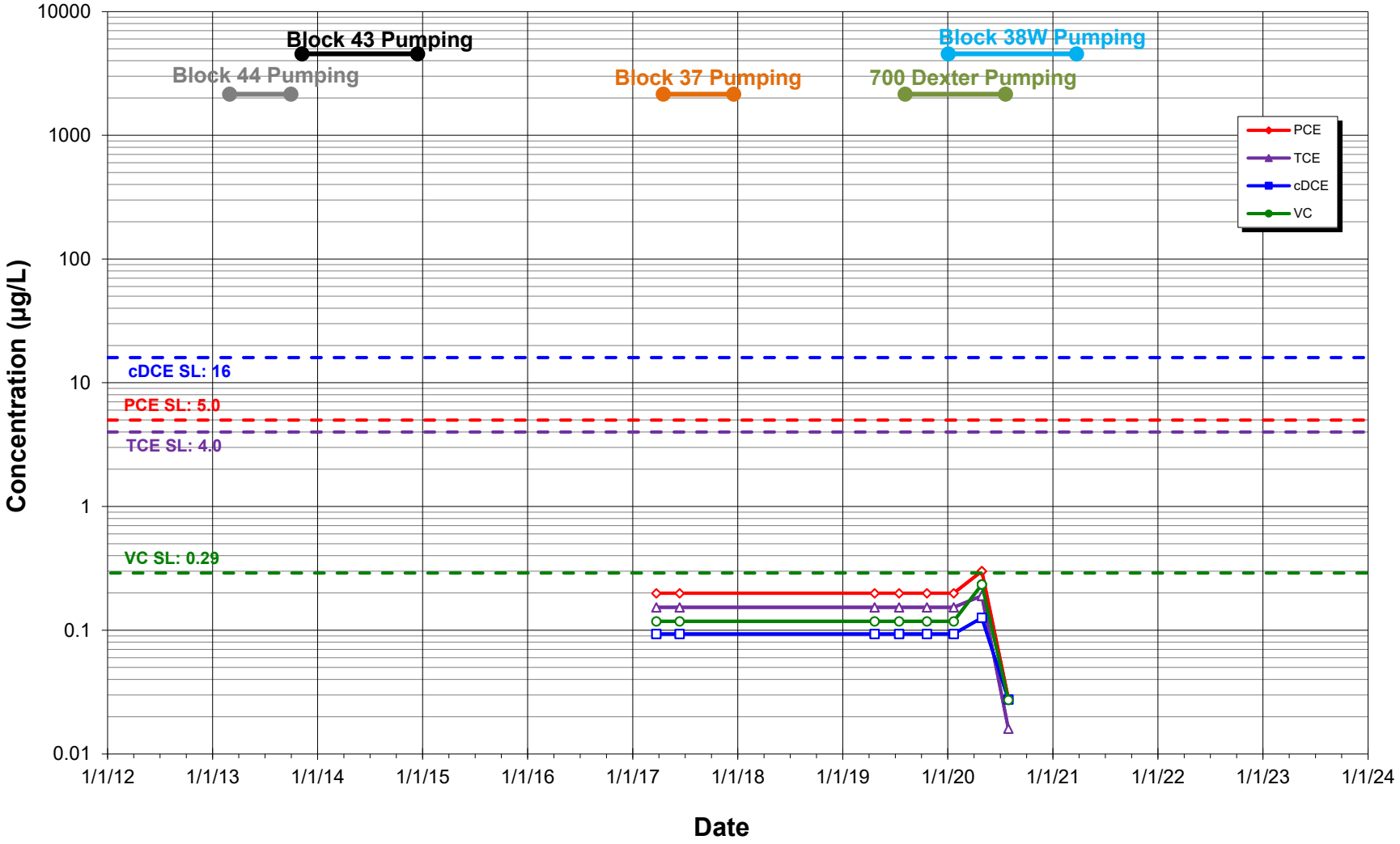

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE =4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

## Concentration vs Time
## GEI-MW-1 (-9.7 to -29.7 feet NAVD), Block 79 East, N end
## American Linen Supply Co Dexter Ave Site



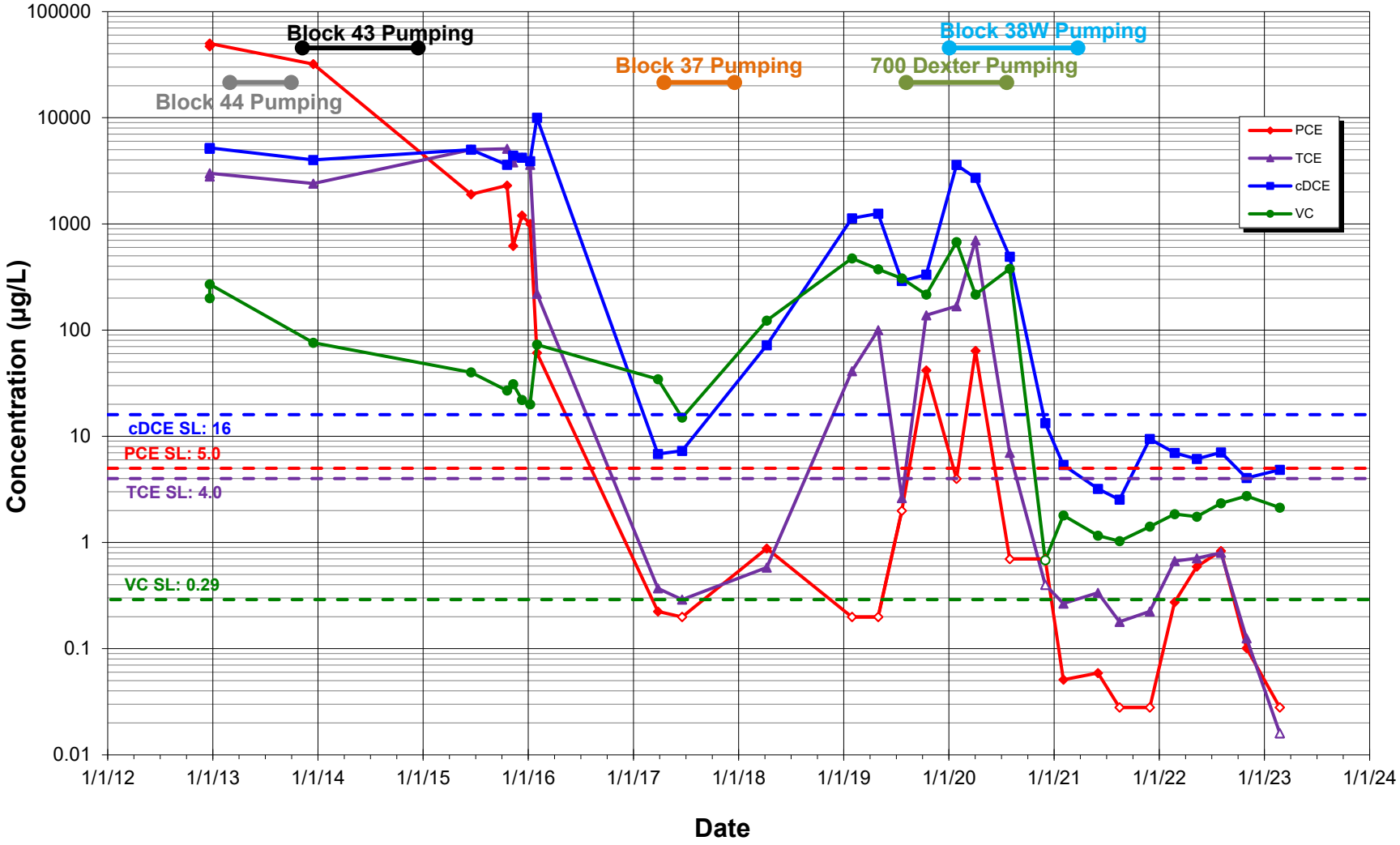

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE =4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## GEI-1 (1.2 to -8.9 feet NAVD), Block 37, NW Quadrant
## American Linen Supply Co Dexter Ave Site



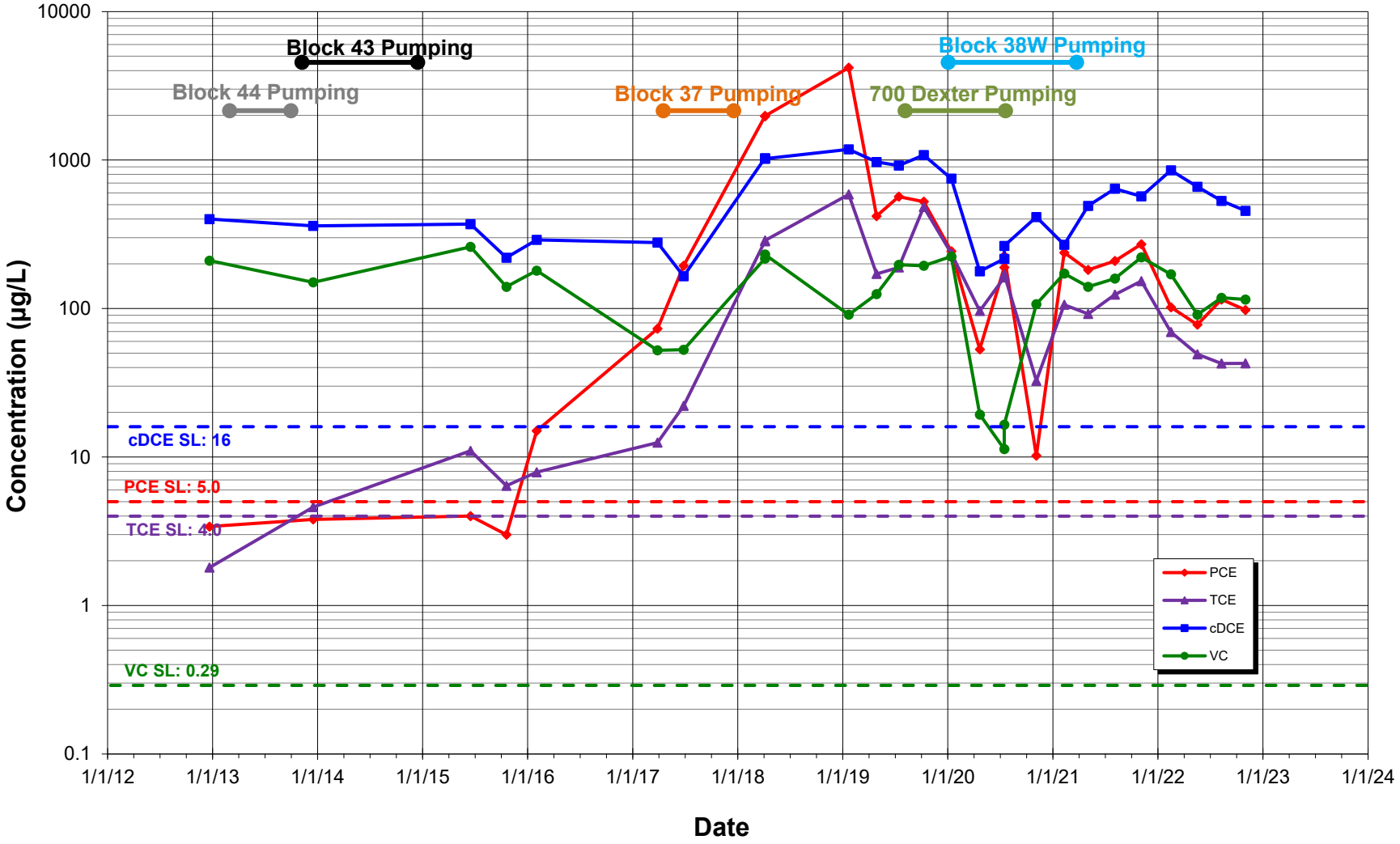

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE =4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

## Concentration vs Time
## MW107 (8.8 to -1.2 feet NAVD), 8th Ave N ROW, W side
## American Linen Supply Co Dexter Ave Site



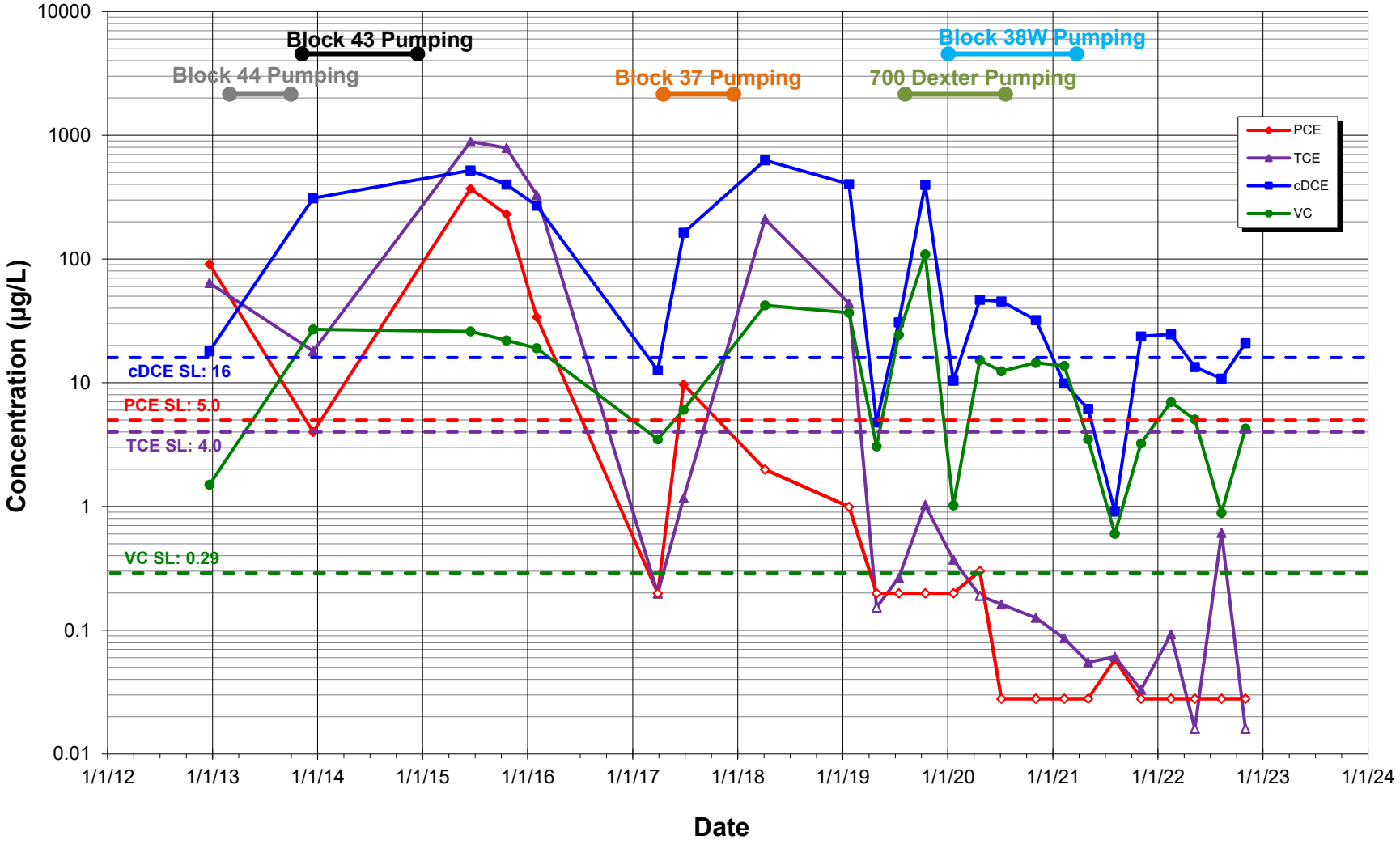

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE =4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW108 (-7.2 to -17.2 feet NAVD), Alley E of Seattle Roy Aloho Shops
## American Linen Supply Co Dexter Ave Site



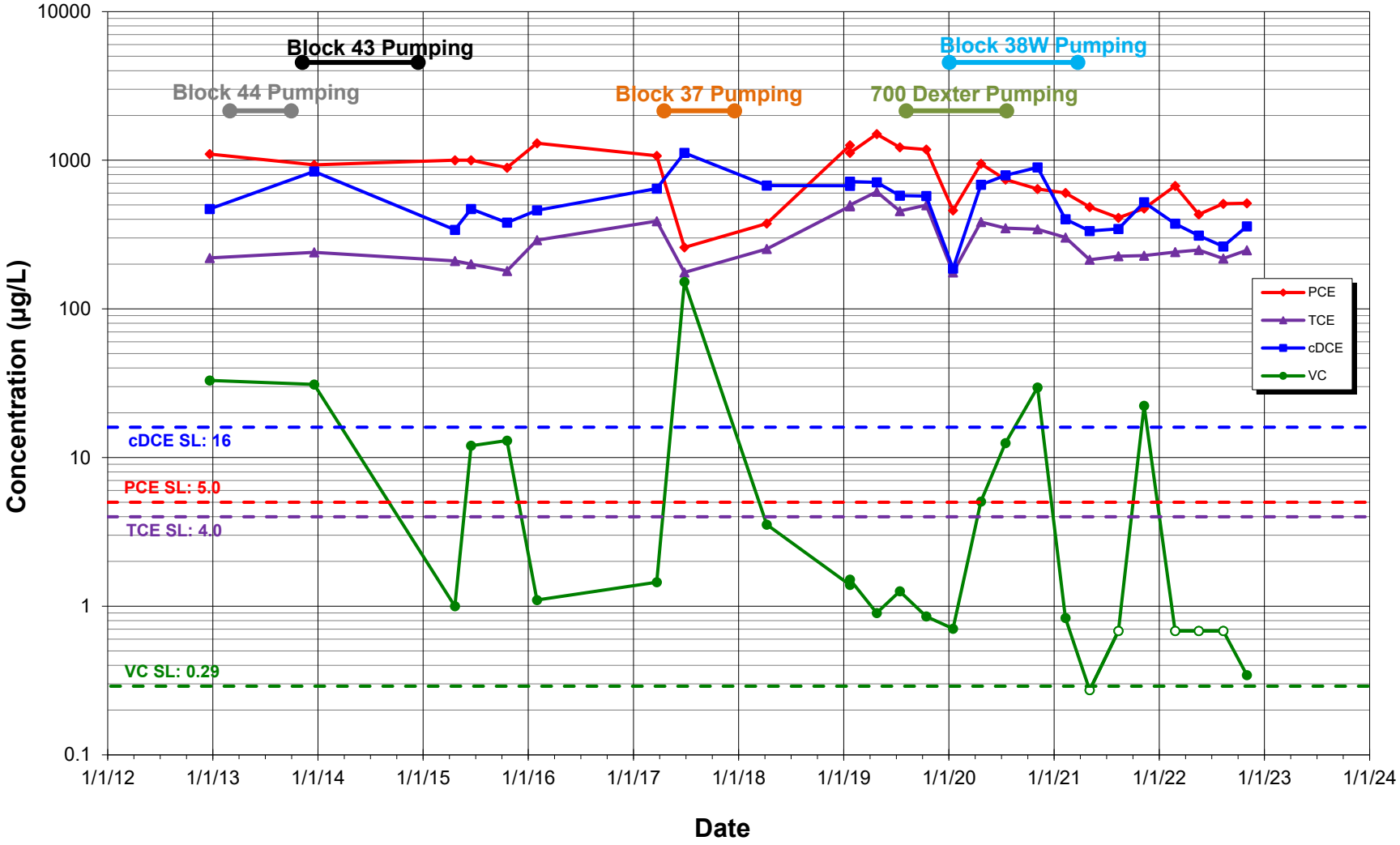

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE =4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW109 (0.0 to -10.0 feet NAVD), Alley E of Seattle Roy Aloha Shops
## American Linen Supply Co Dexter Ave Site



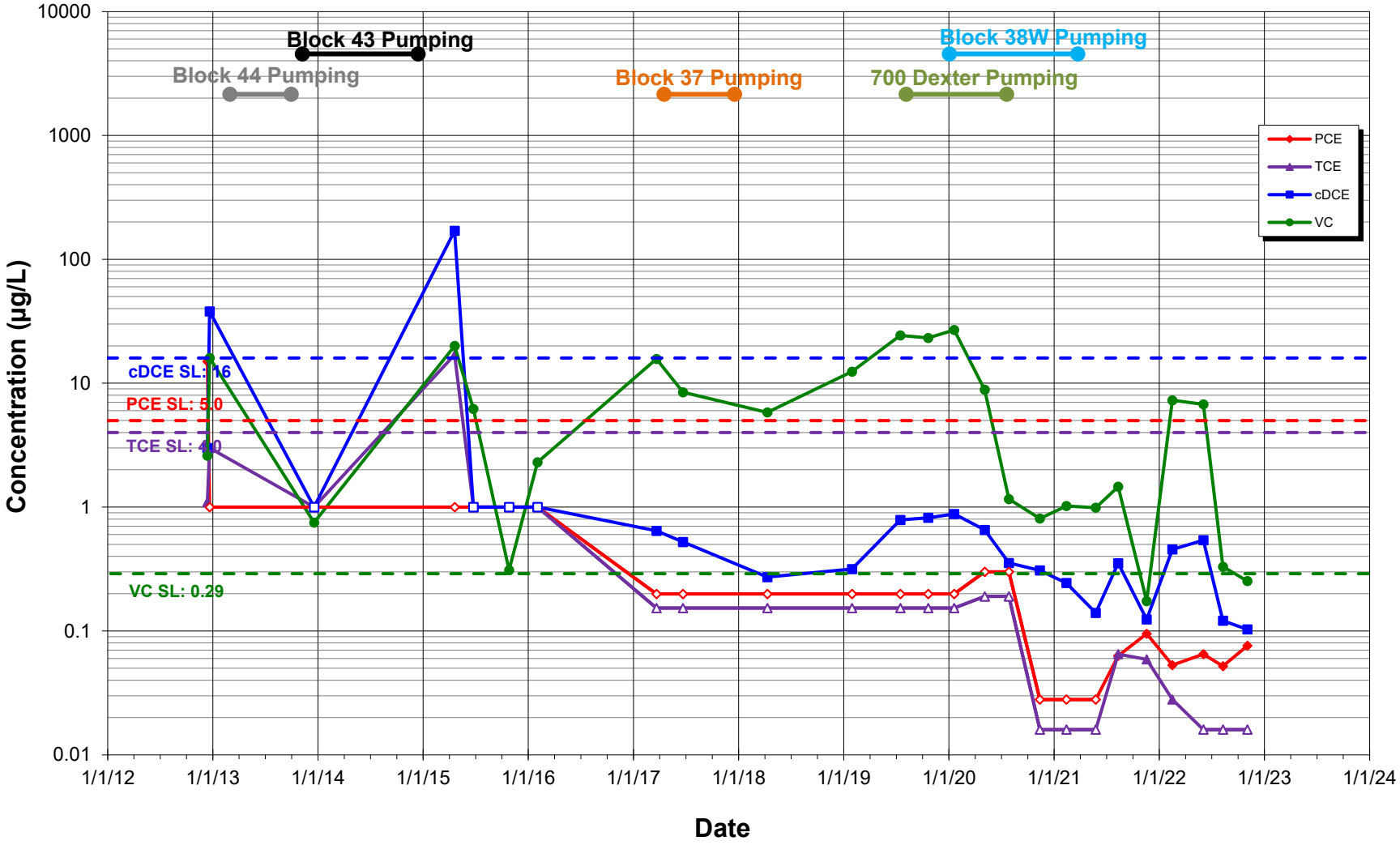

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE =4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW110 (4.7 to -5.3 feet NAVD), Alley E of Seattle Roy Aloha Shops
## American Linen Supply Co Dexter Ave Site



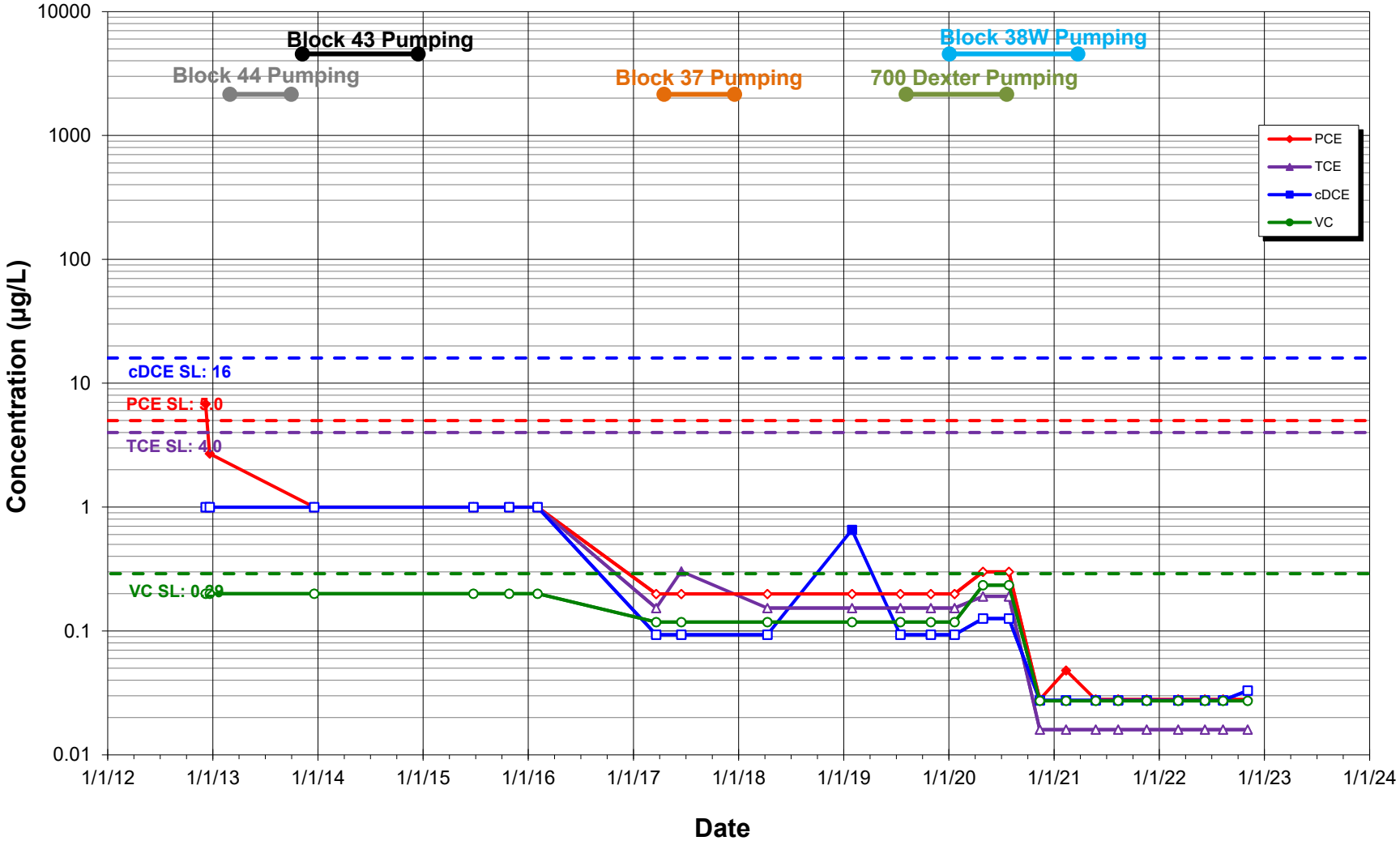

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE =4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW115 (-0.6 to -10.6 feet NAVD), 9th Ave N ROW, W side
## American Linen Supply Co Dexter Ave Site



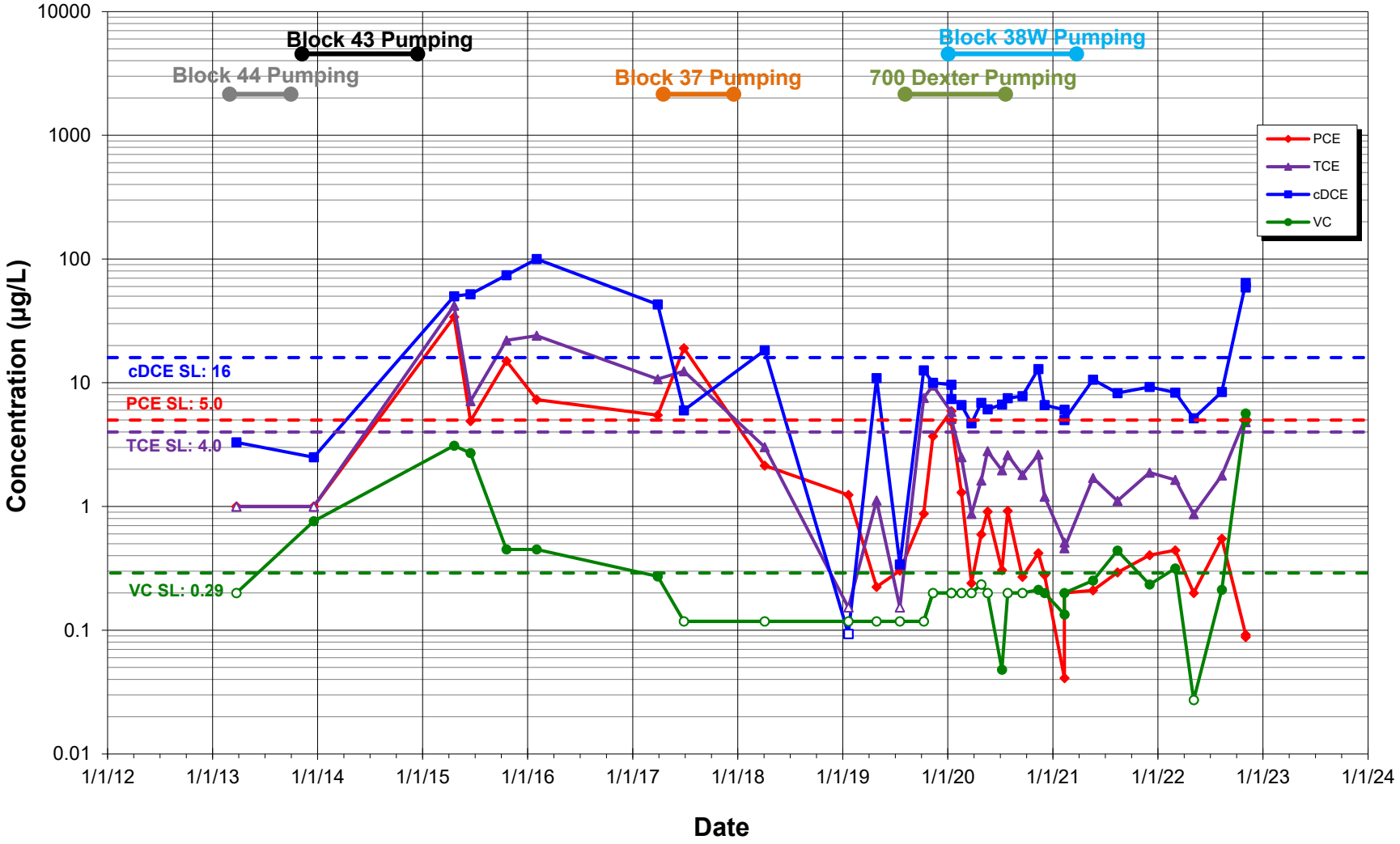

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW116 (-3.1 to -13.1 feet NAVD) 9th Ave N ROW, W side
## American Linen Supply Co Dexter Ave Site



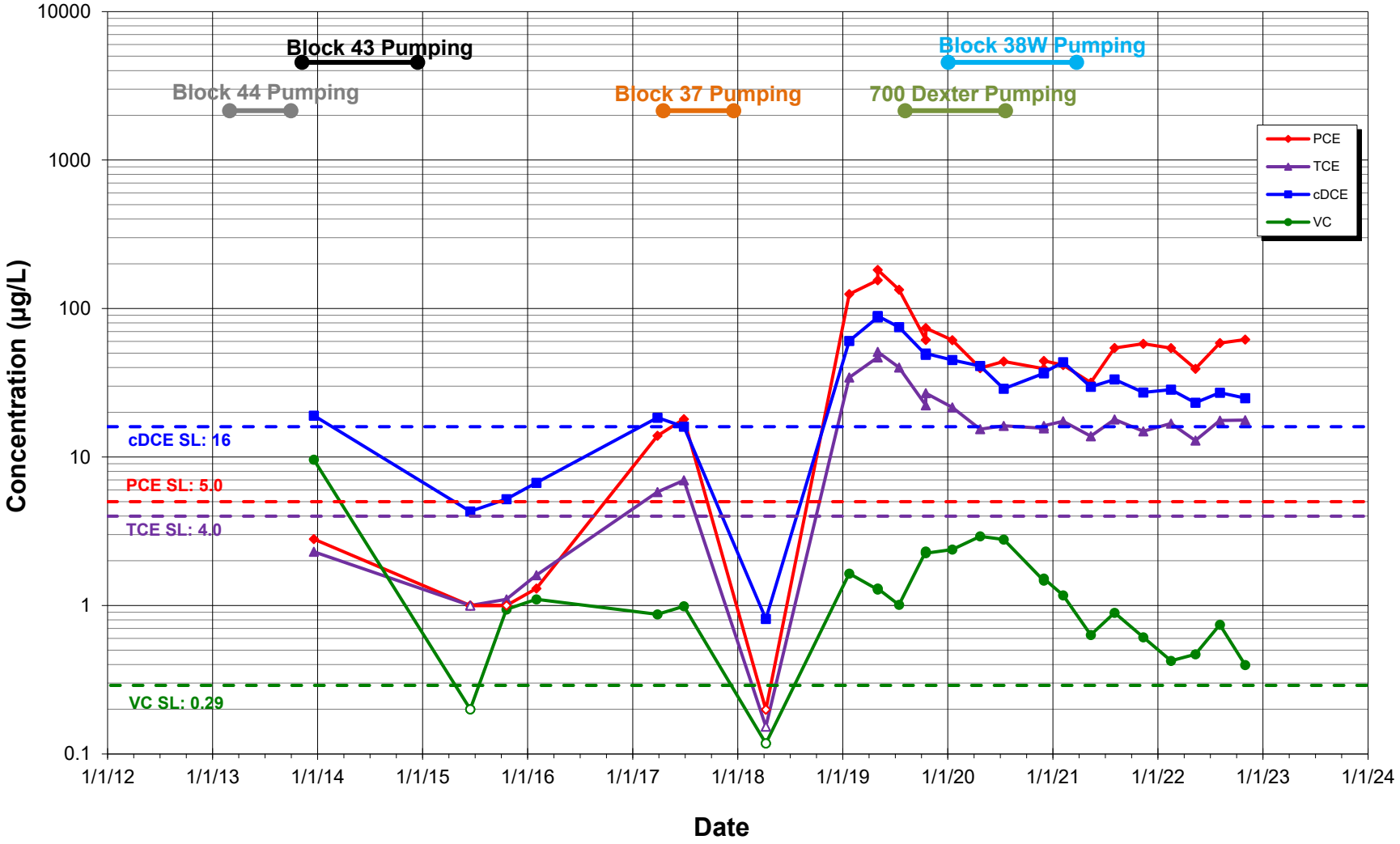

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW119 (2.7 to -7.3 feet NAVD), 9th Ave N ROW, W side
## American Linen Supply Co Dexter Ave Site



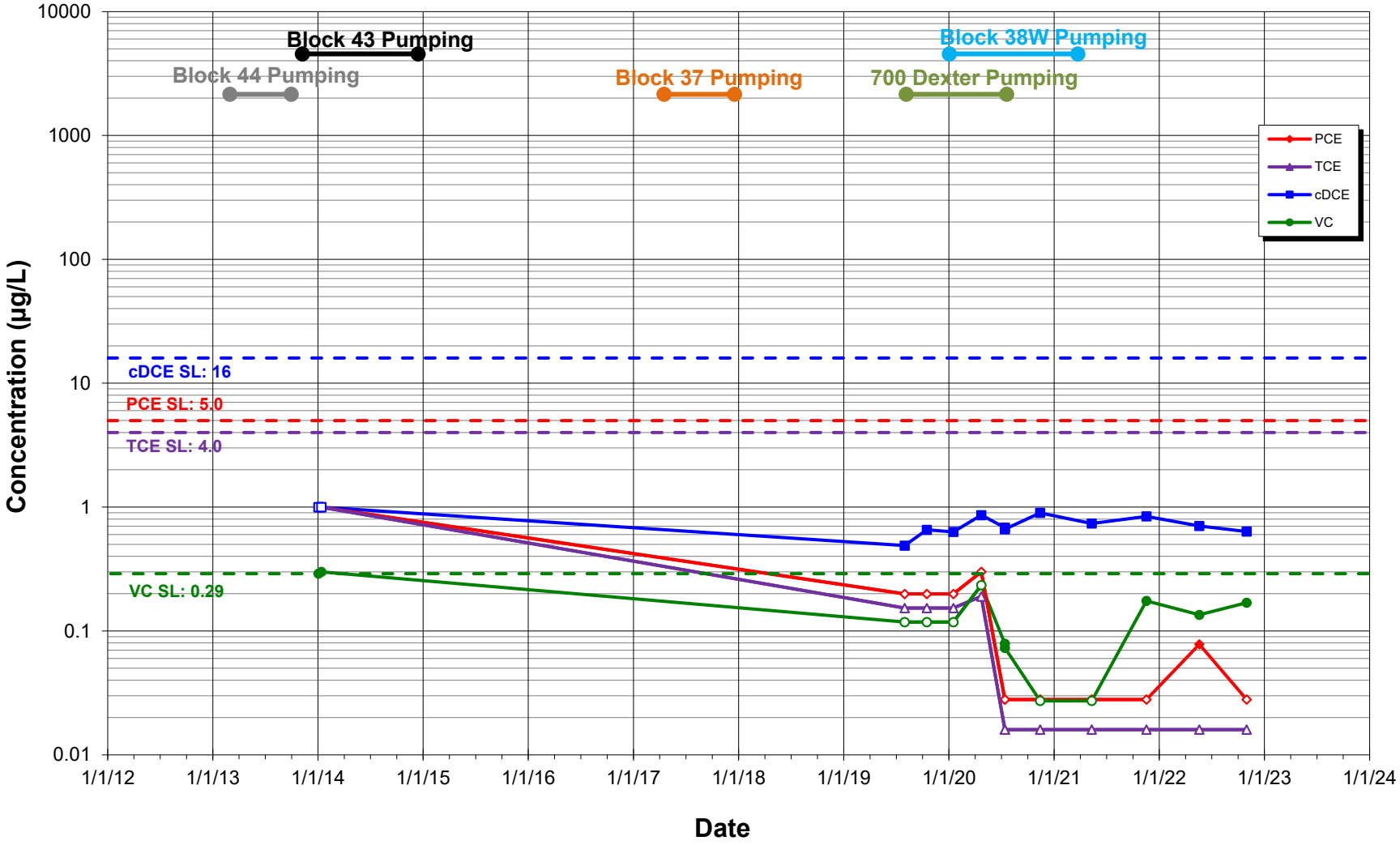

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW120 (0.0 to -10.0 feet NAVD), 8th Ave N ROW, E side
## American Linen Supply Co Dexter Ave Site



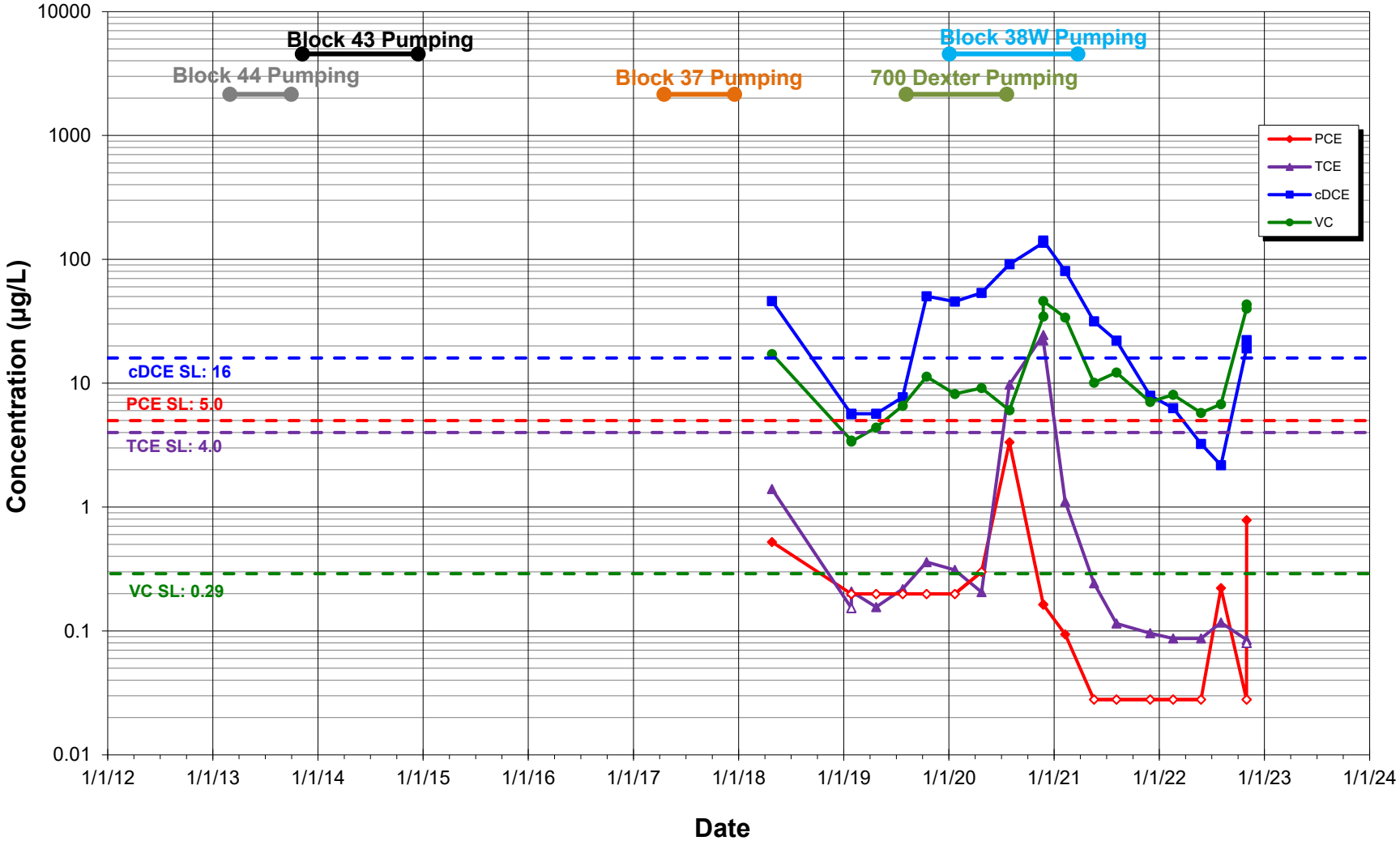

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW127 (-1 to -11.0 feet NAVD), 8th Ave N ROW, E side
## American Linen Supply Co Dexter Ave Site



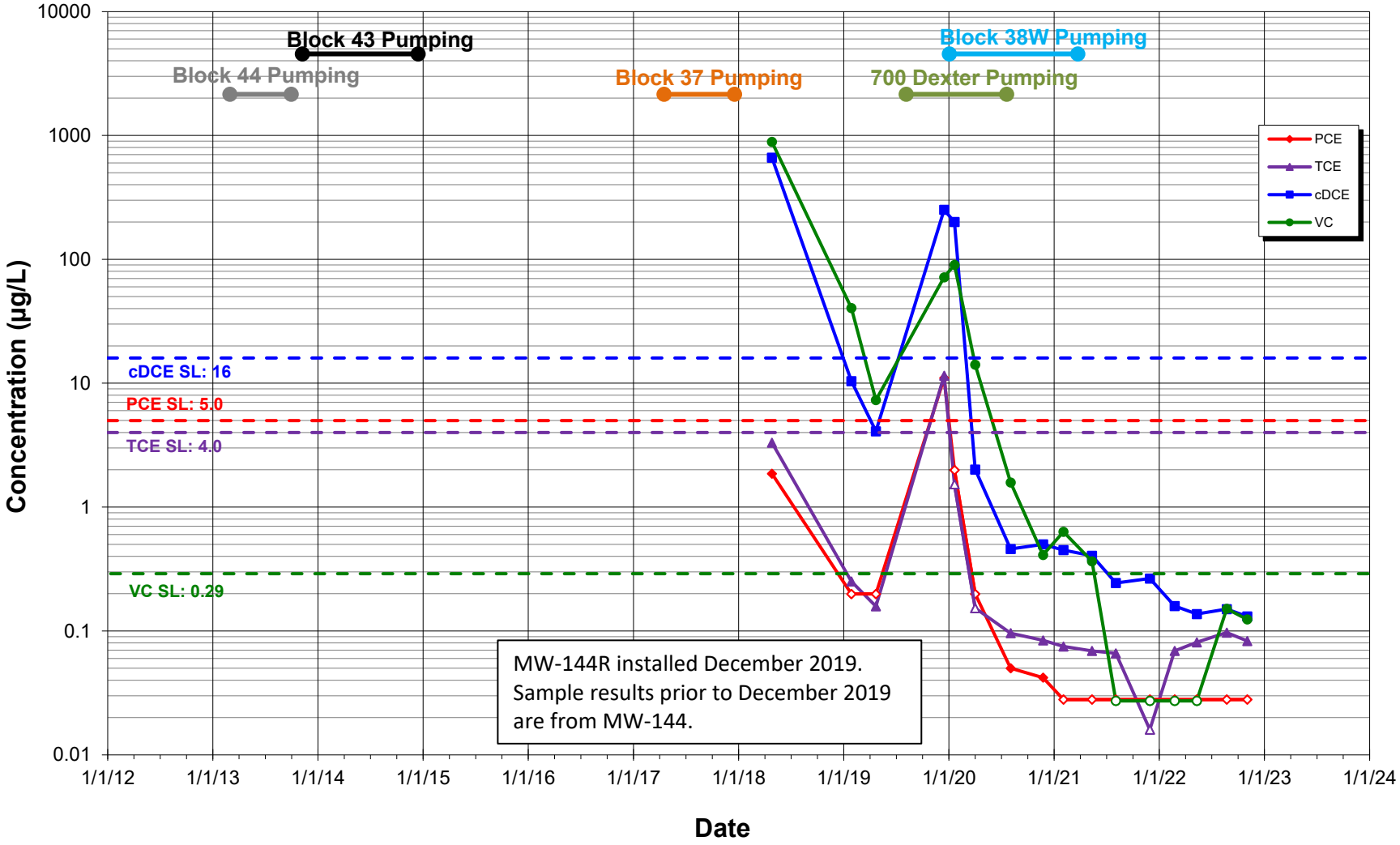

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-142 (2.4 to -7.6 feet NAVD), 8th Ave N ROW, E side
## American Linen Supply Co–Dexter Ave Site



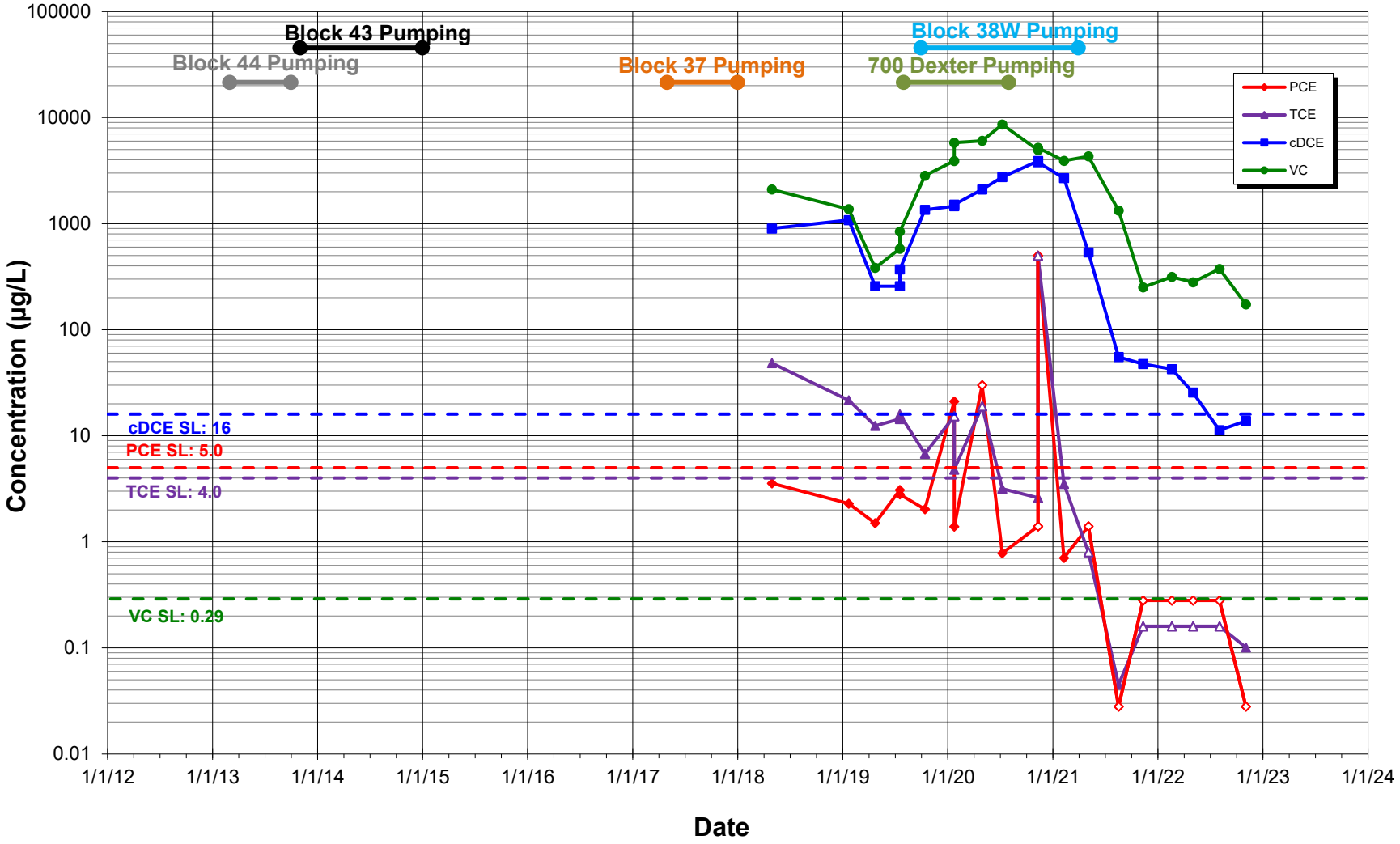

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-144R (3.9 to -6.5 feet NAVD), 8th Ave N ROW, E side
## American Linen Supply Co Dexter Ave Site



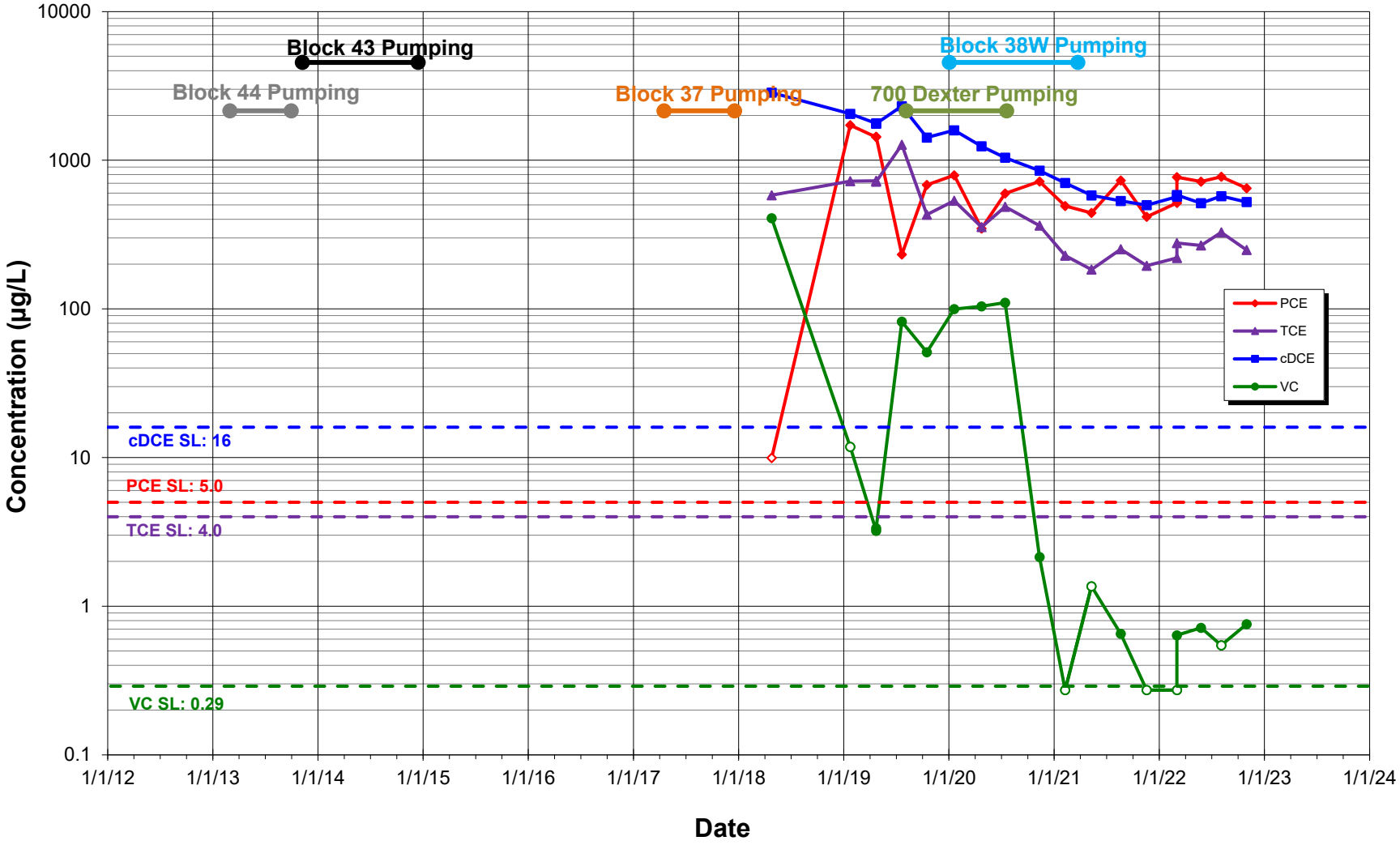

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-146 (12.8 to 2.8 feet NAVD), Roy St ROW, S side
## American Linen Supply Co Dexter Ave Site



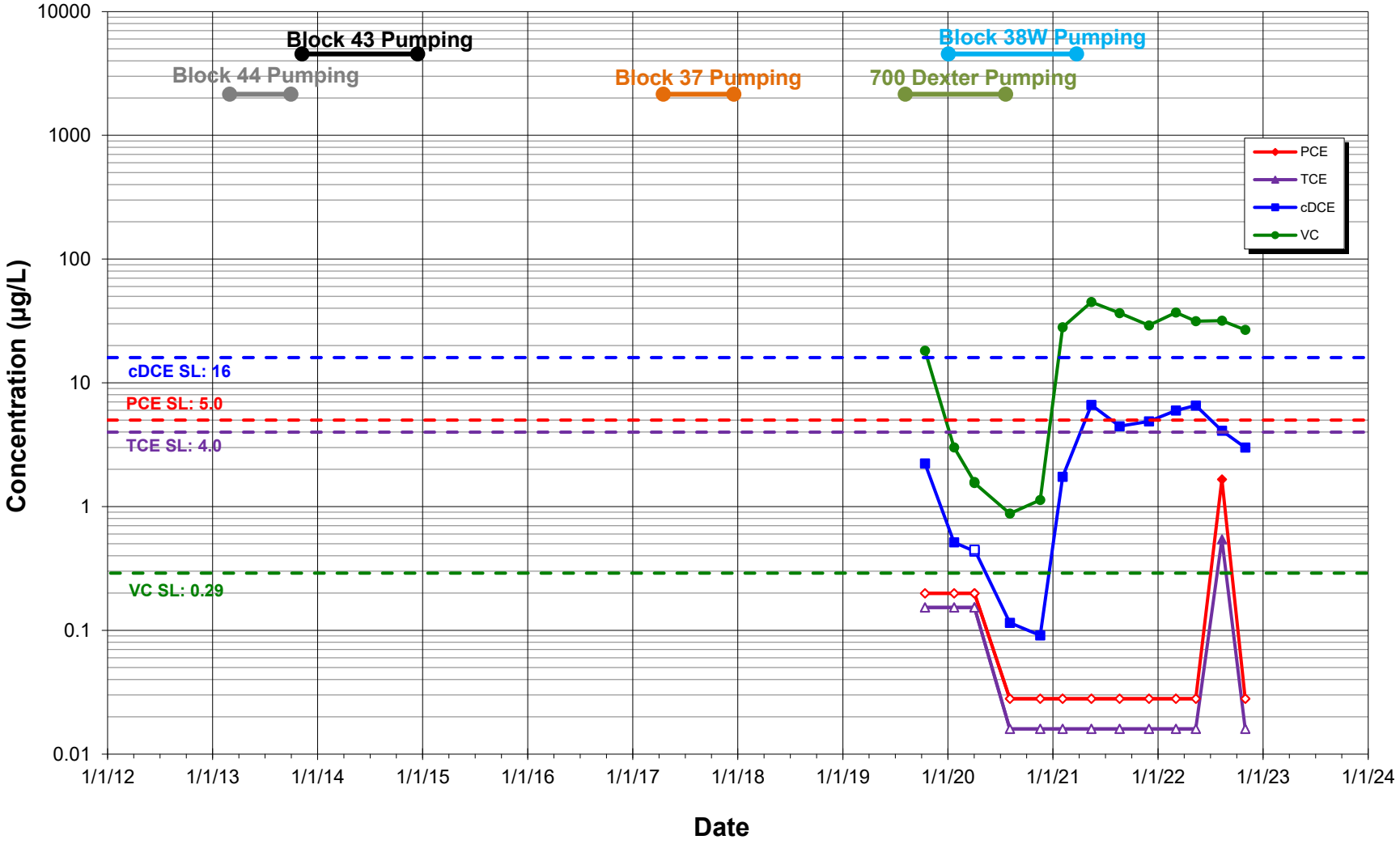

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-156 (2.0 to -8.0 feet NAVD), 8th Ave N ROW, E side
## American Linen Supply Co Dexter Ave Site



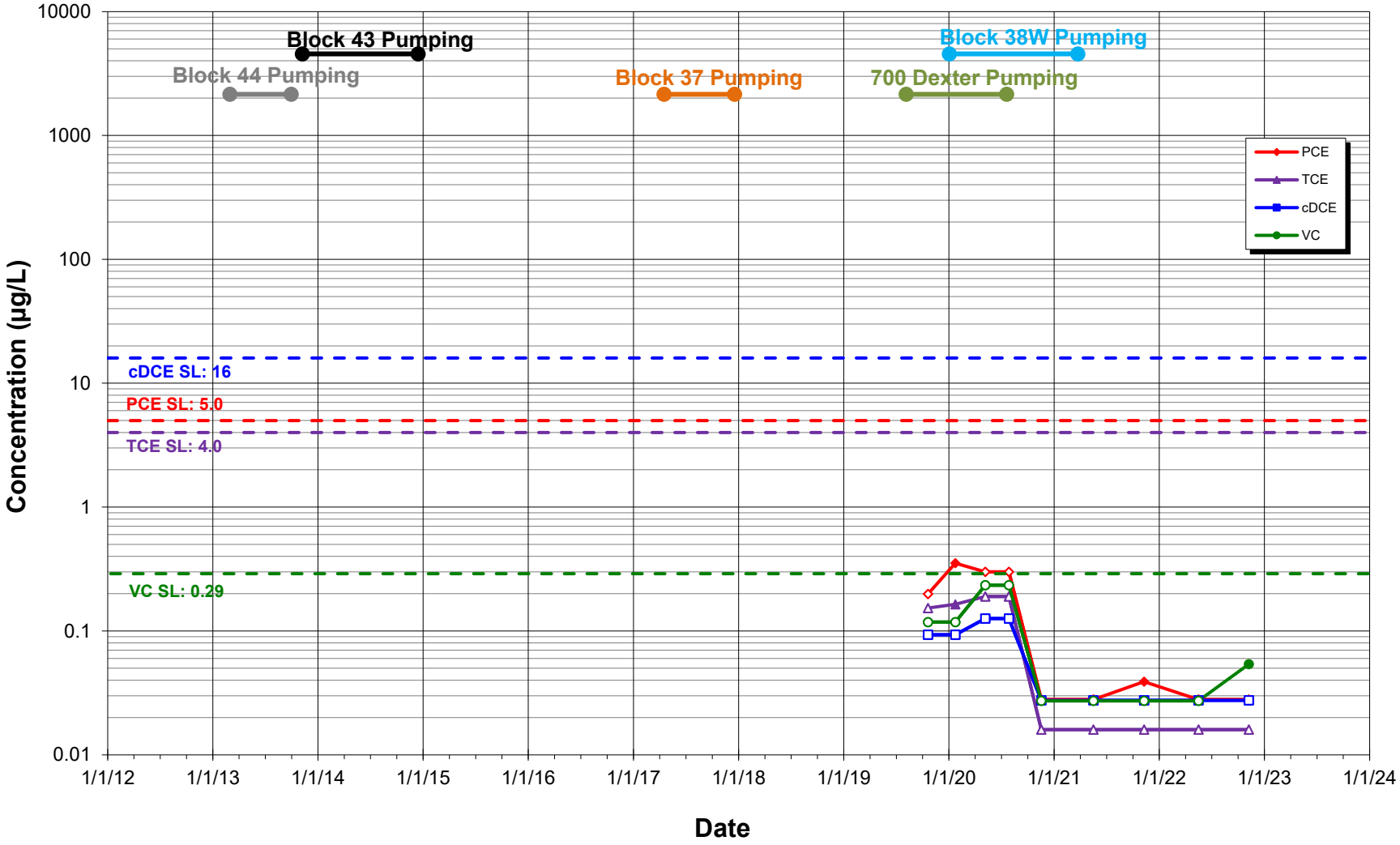

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-189 (-1.2 to -11.2 feet NAVD), Valley St ROW, S side
## American Linen Supply Co Dexter Ave Site



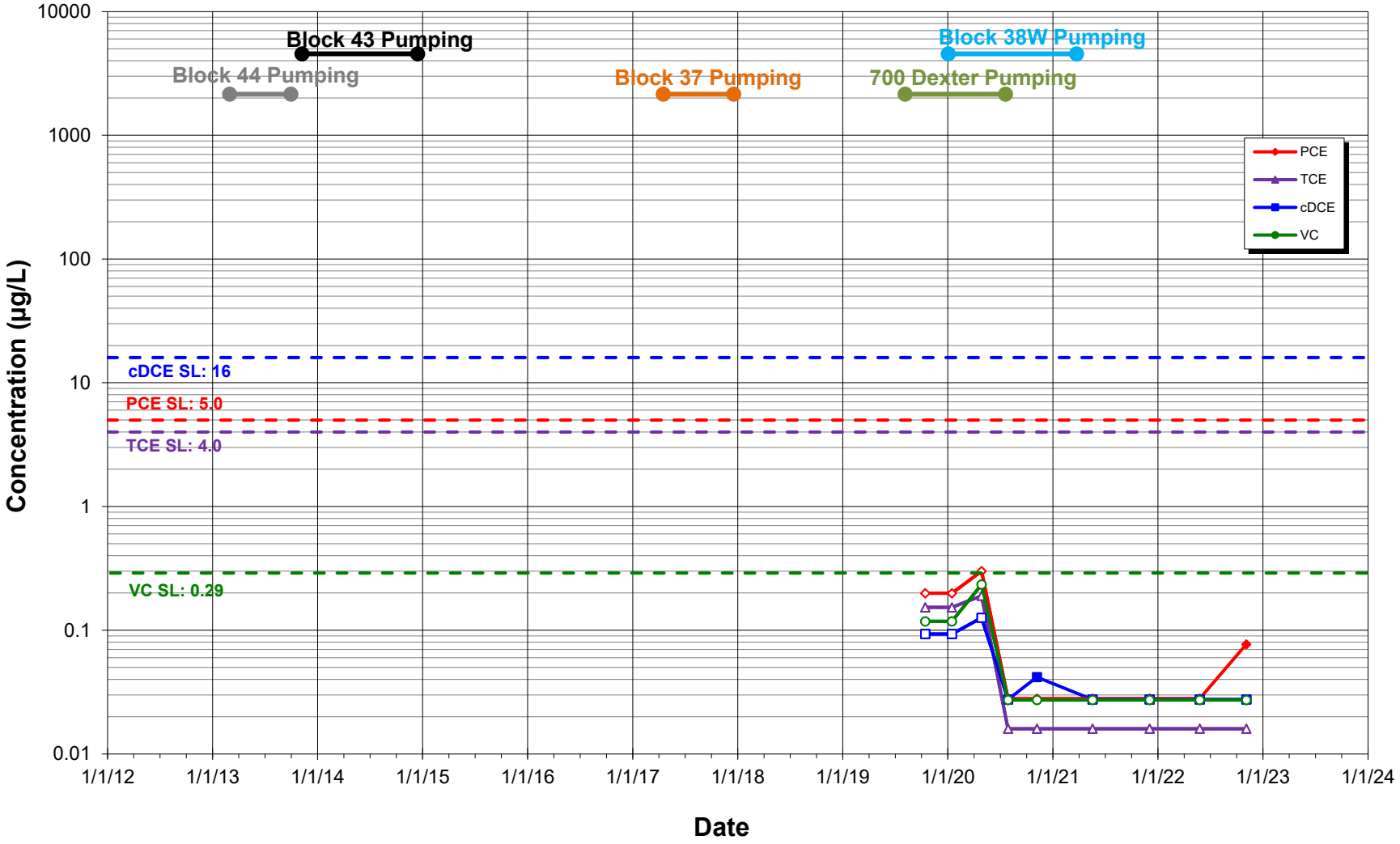

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

## Concentration vs Time
## MW-302 (3.0 to -7.0 feet NAVD), Dexter Ave N ROW, E side
## American Linen Supply Co Dexter Ave Site



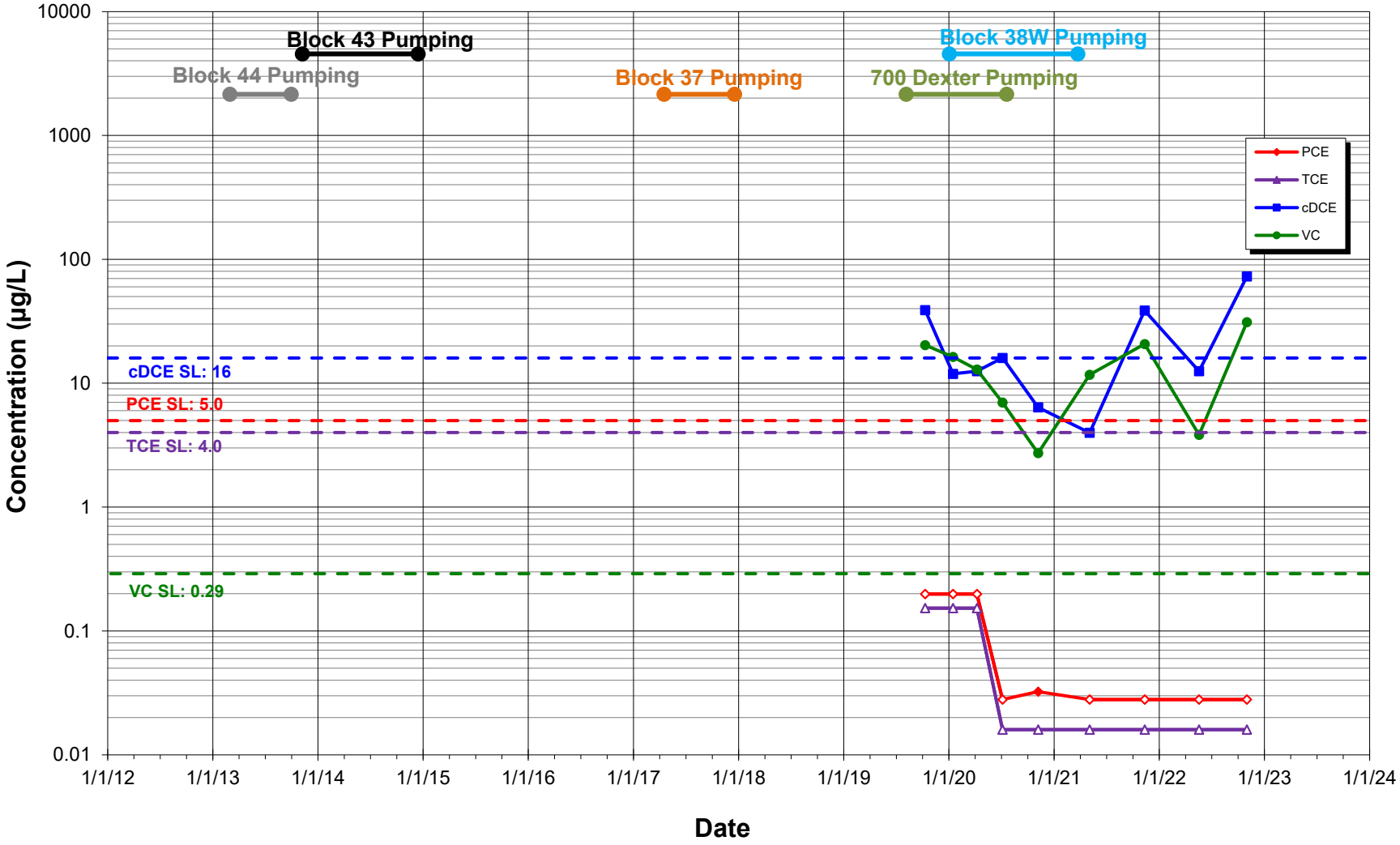

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-306 (17.2 to 7.2 feet NAVD), Roy St ROW, S side
## American Linen Supply Co Dexter Ave Site



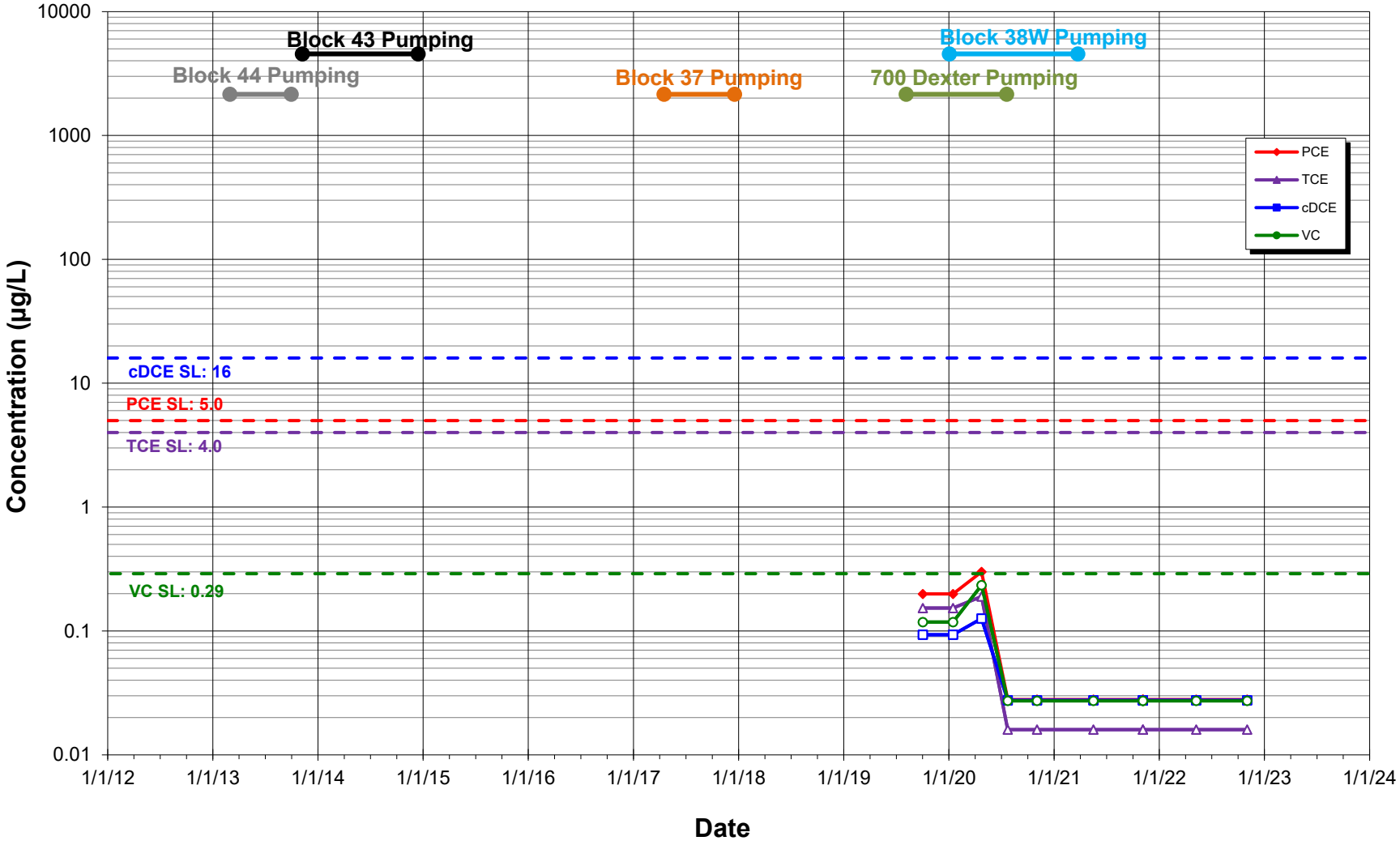

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-308 (-4.7 to -14.7 feet NAVD), Alley E of Seattle Roy Aloha Shops
## American Linen Supply Co Dexter Ave Site



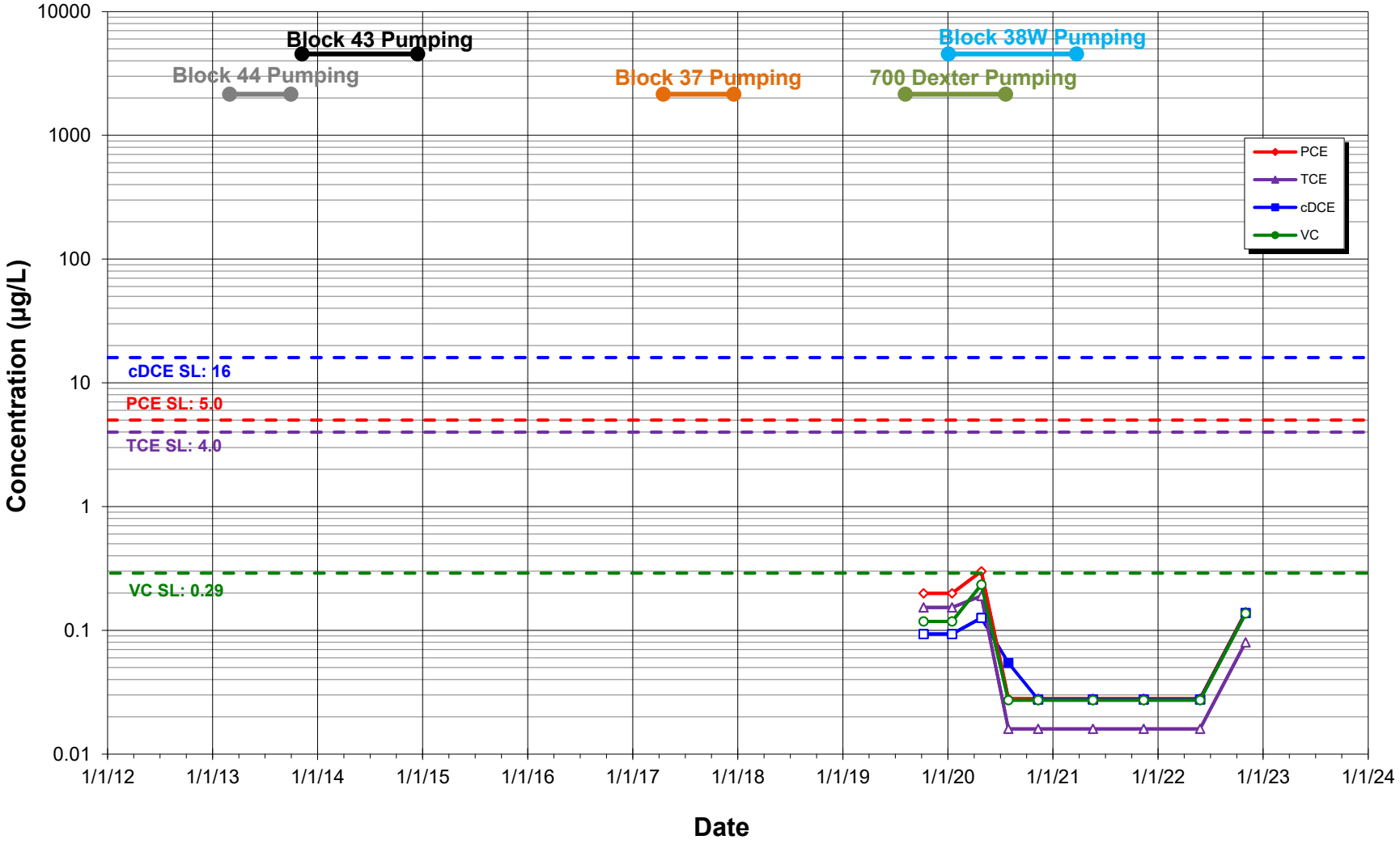

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

## Concentration vs Time
## MW-315 (12.2 to 2.3 feet NAVD), Mercer St ROW, N side
## American Linen Supply Co Dexter Ave Site



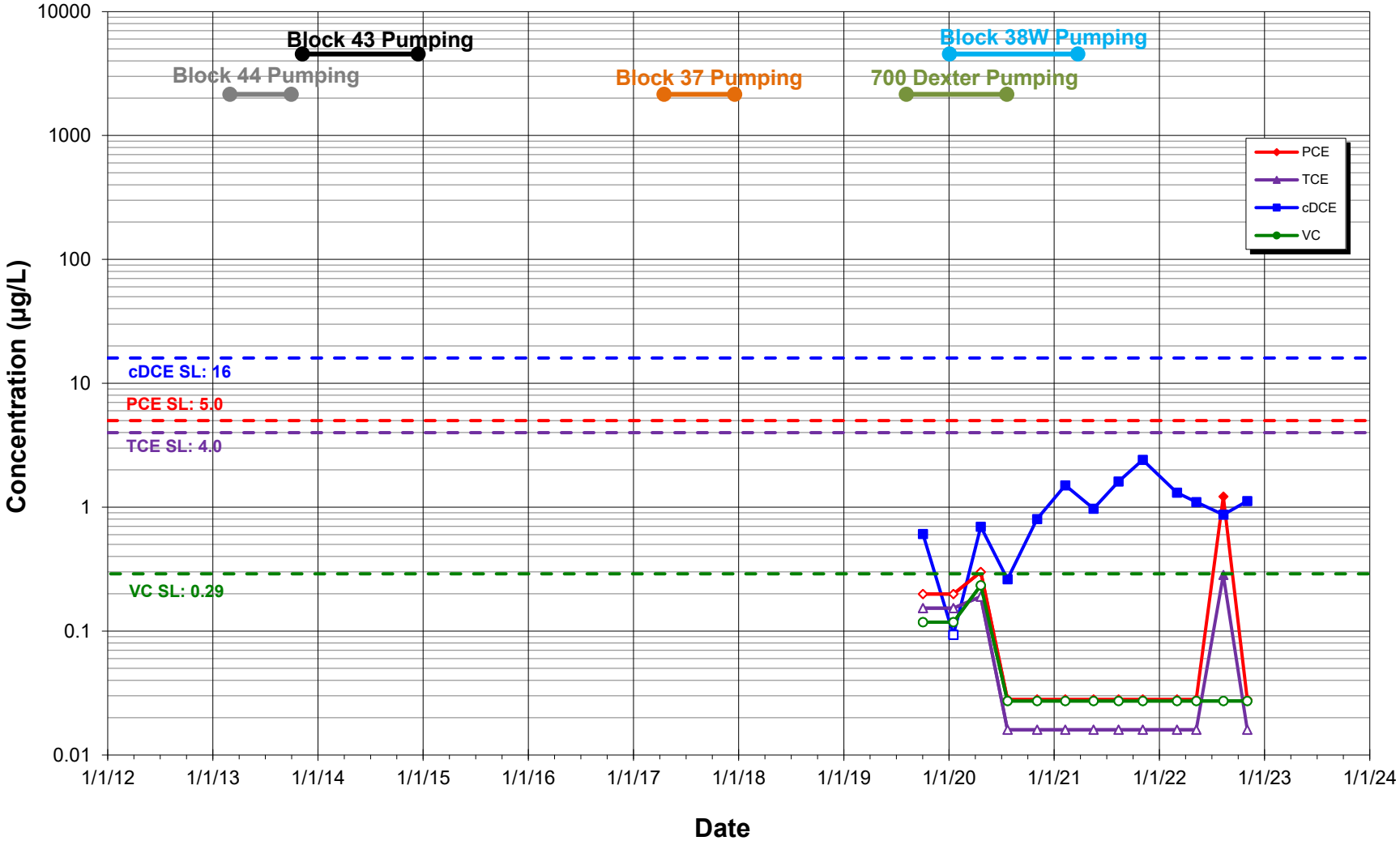

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-317 (3.4 to -6.6 feet NAVD), 9th Ave N ROW, W side
## American Linen Supply Co Dexter Ave Site



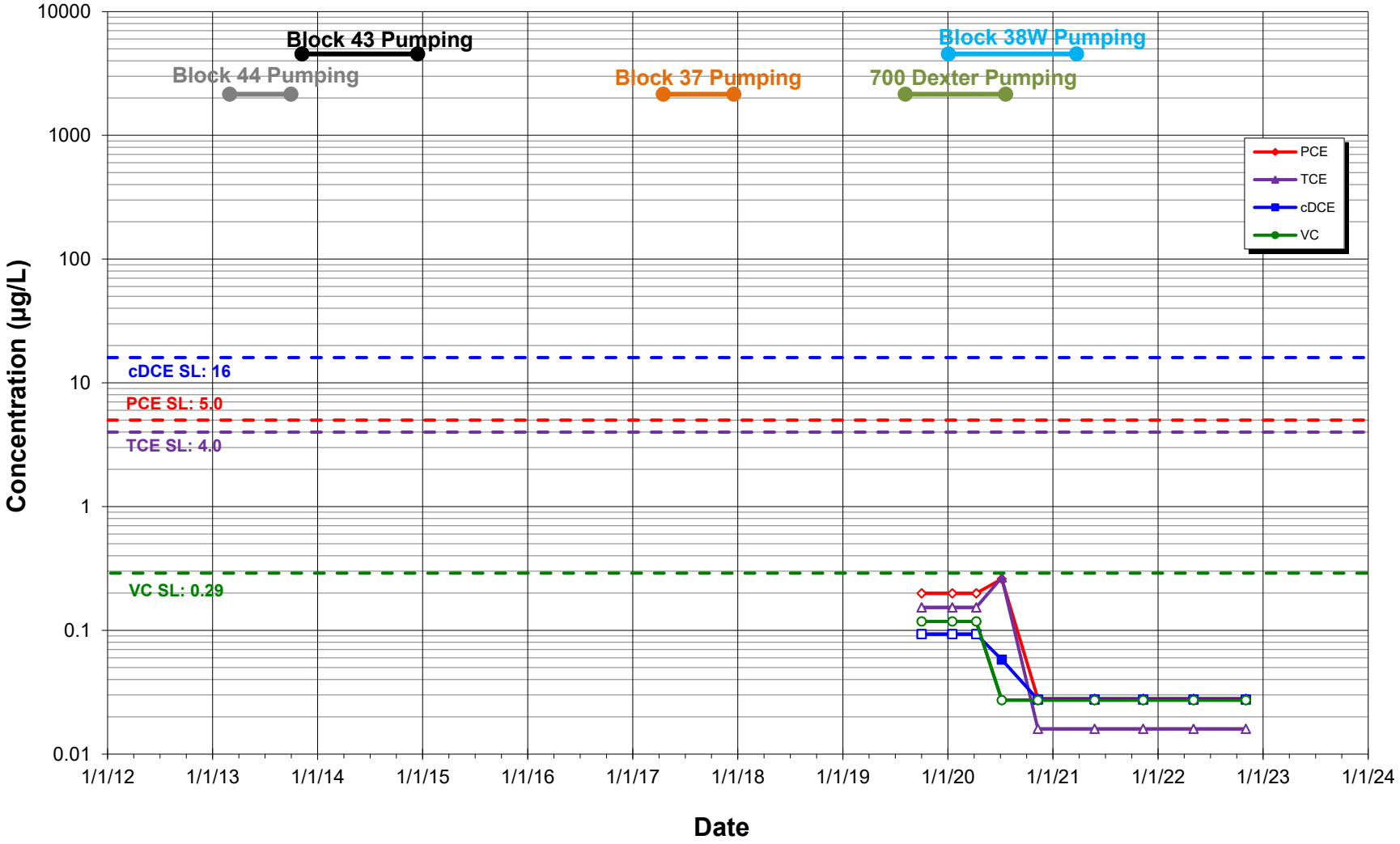

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-325 (7.0 to -3.0 feet NAVD), Mercer St ROW, N side
## American Linen Supply Co–Dexter Ave Site



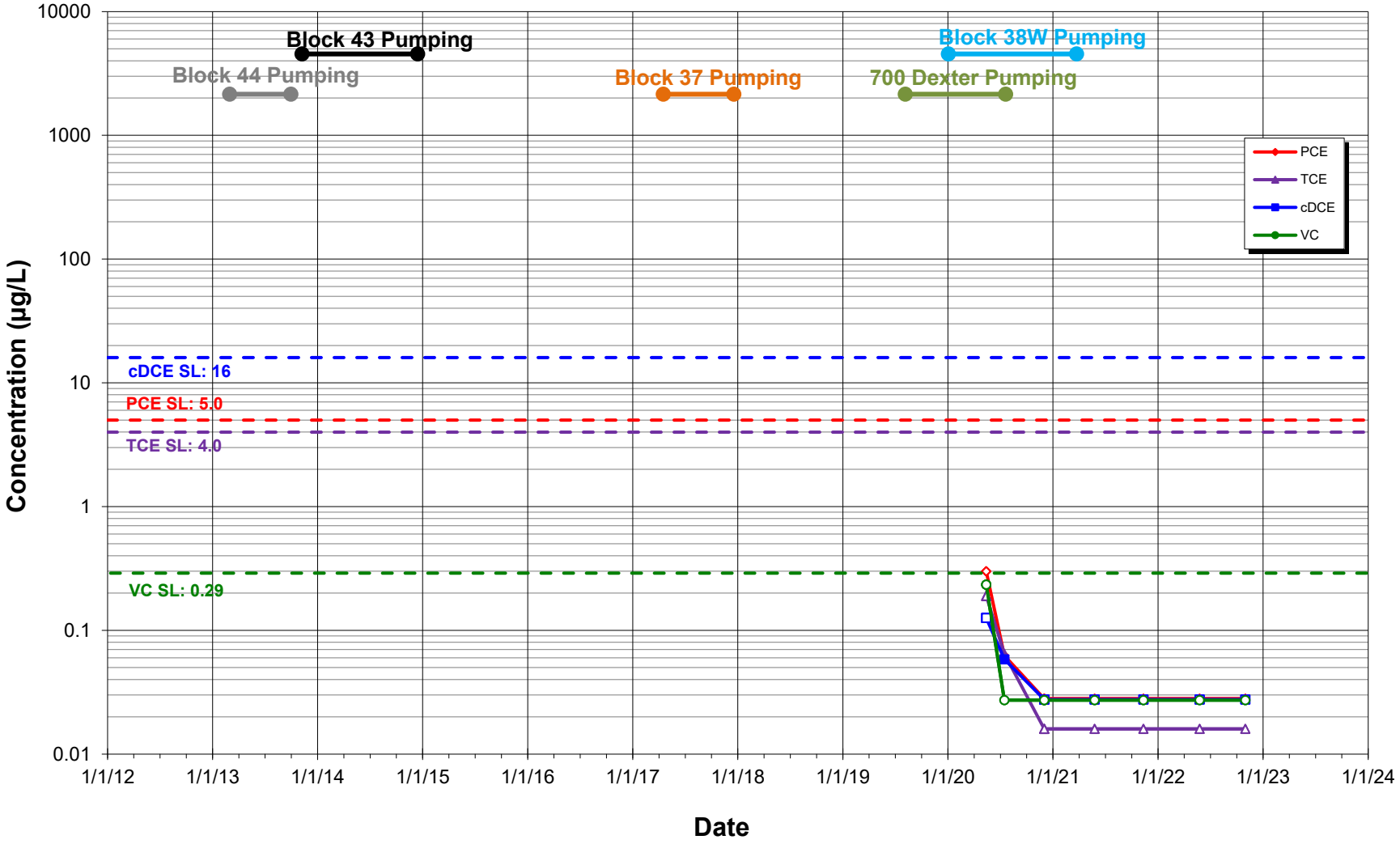

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-327 (3.6 to -6.3 feet NAVD), Lake Union Park, S side
## American Linen Supply Co Dexter Ave Site



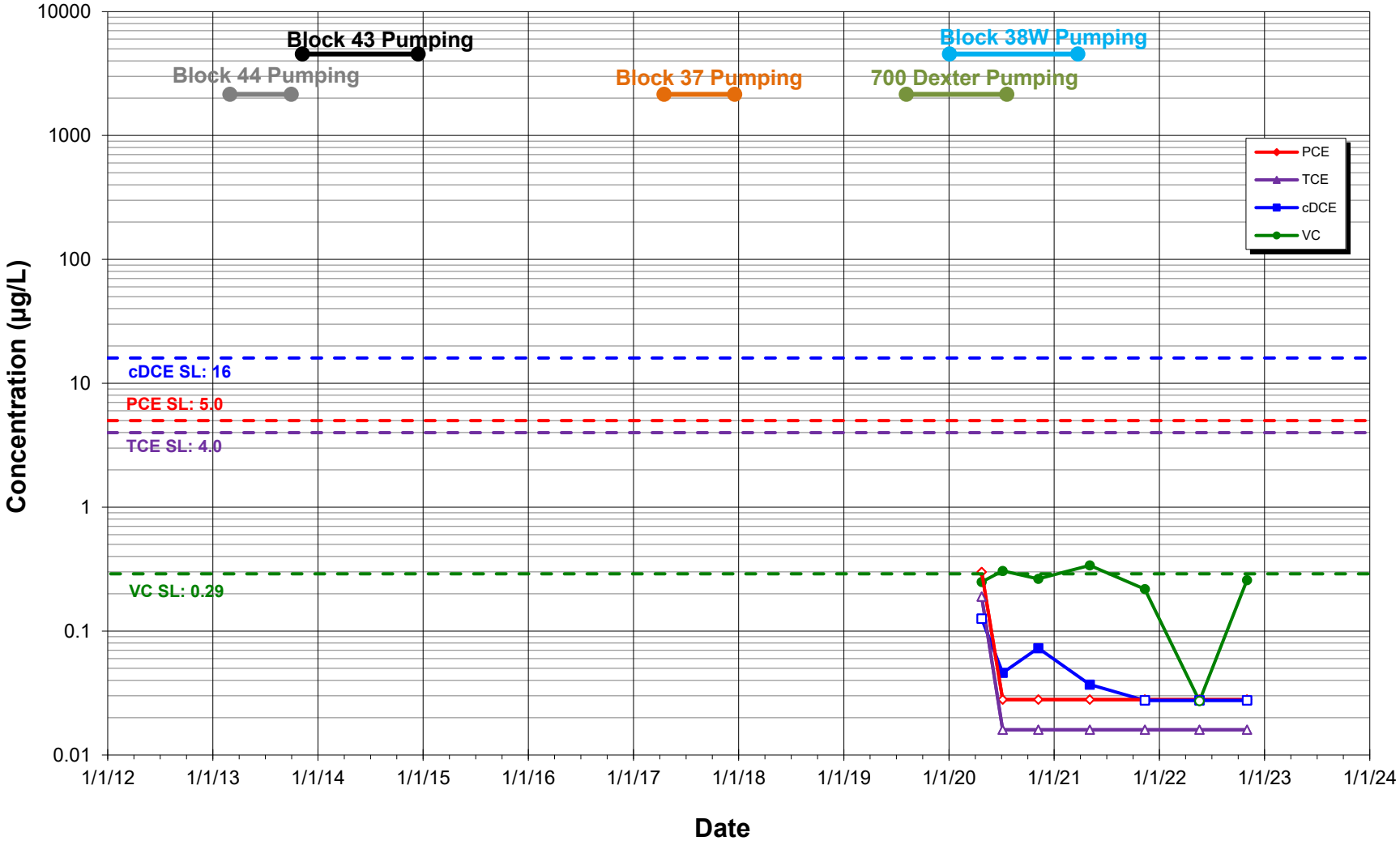

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-330 (0.0 to -10.0 feet NAVD), Valley St ROW, N side
## American Linen Supply Co Dexter Ave Site



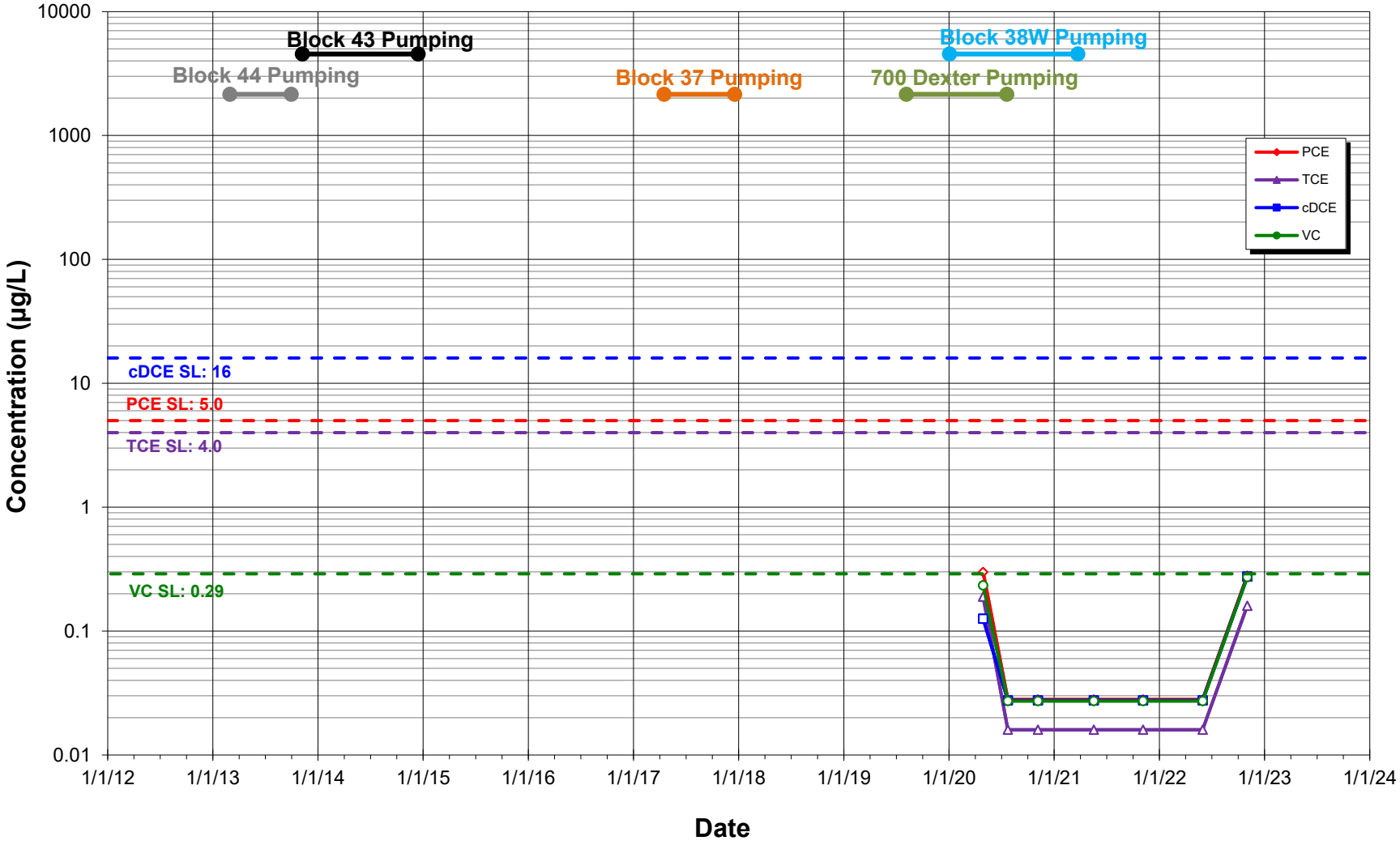

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-331 (-4.3 to -14.3 feet NAVD), Alley E of Seattle Roy Aloha Shops
## American Linen Supply Co Dexter Ave Site



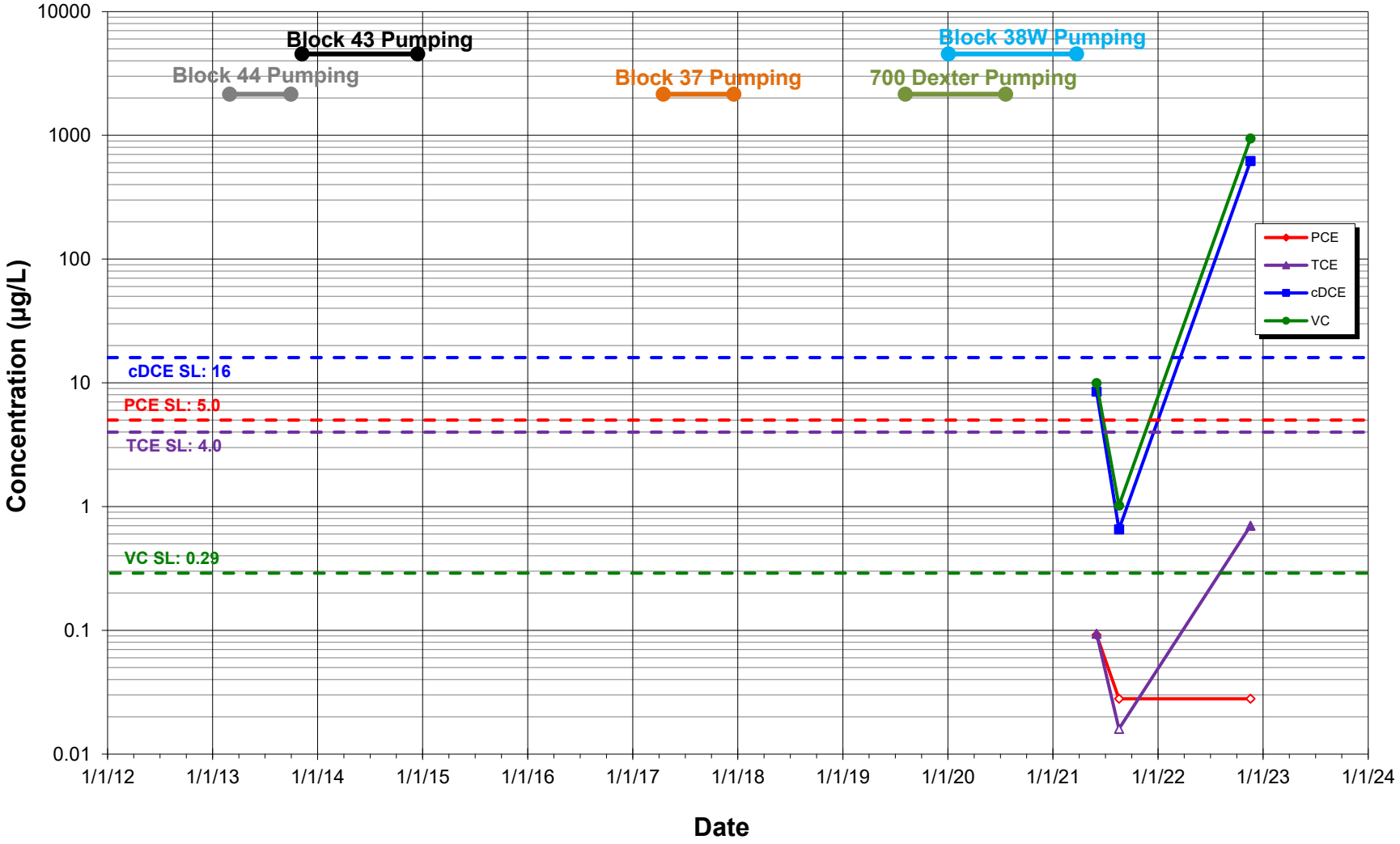

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-333 (-1.5 to -11.5 feet NAVD), 900 Roy St, S end
## American Linen Supply Co Dexter Ave Site



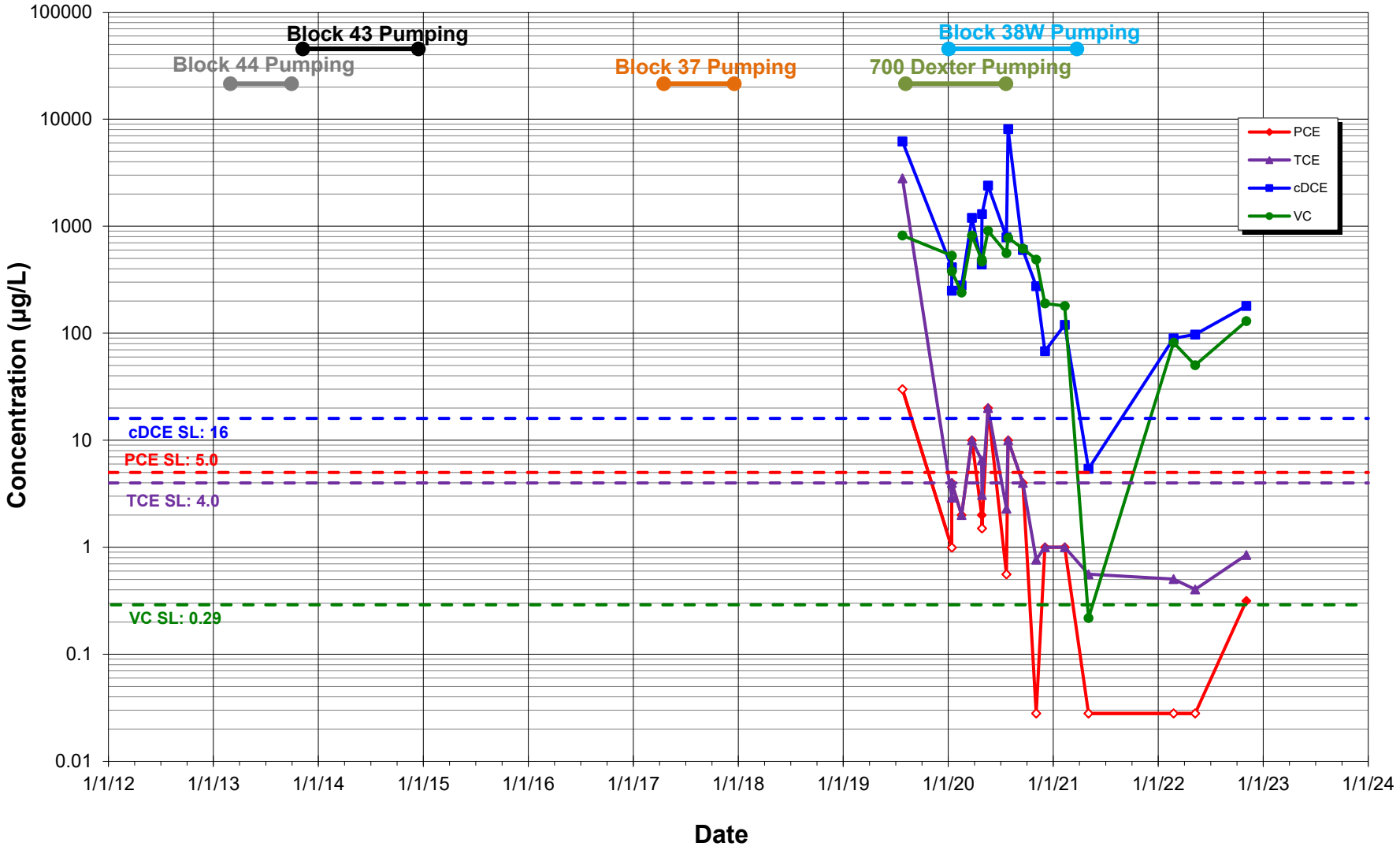

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-344 (13.6 to 3.6 feet NAVD), Seattle DOT Mercer Parcels, NW Quadrant
## American Linen Supply Co Dexter Ave Site



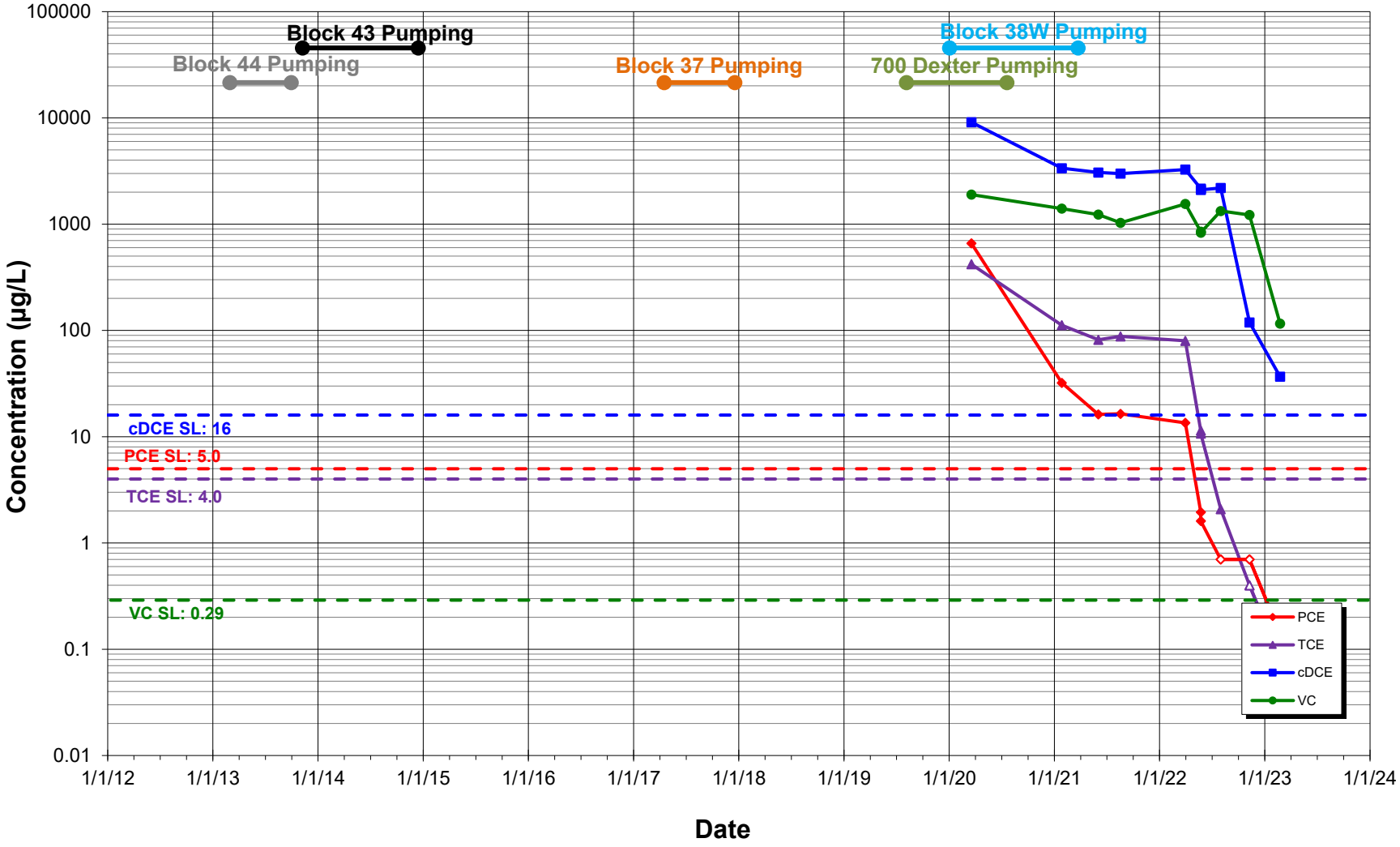

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE =4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## FMW-141 (-12.1 to -22.1 feet NAVD), Alley E of Seattle Roy Aloha Shops
## American Linen Supply Co Dexter Ave Site



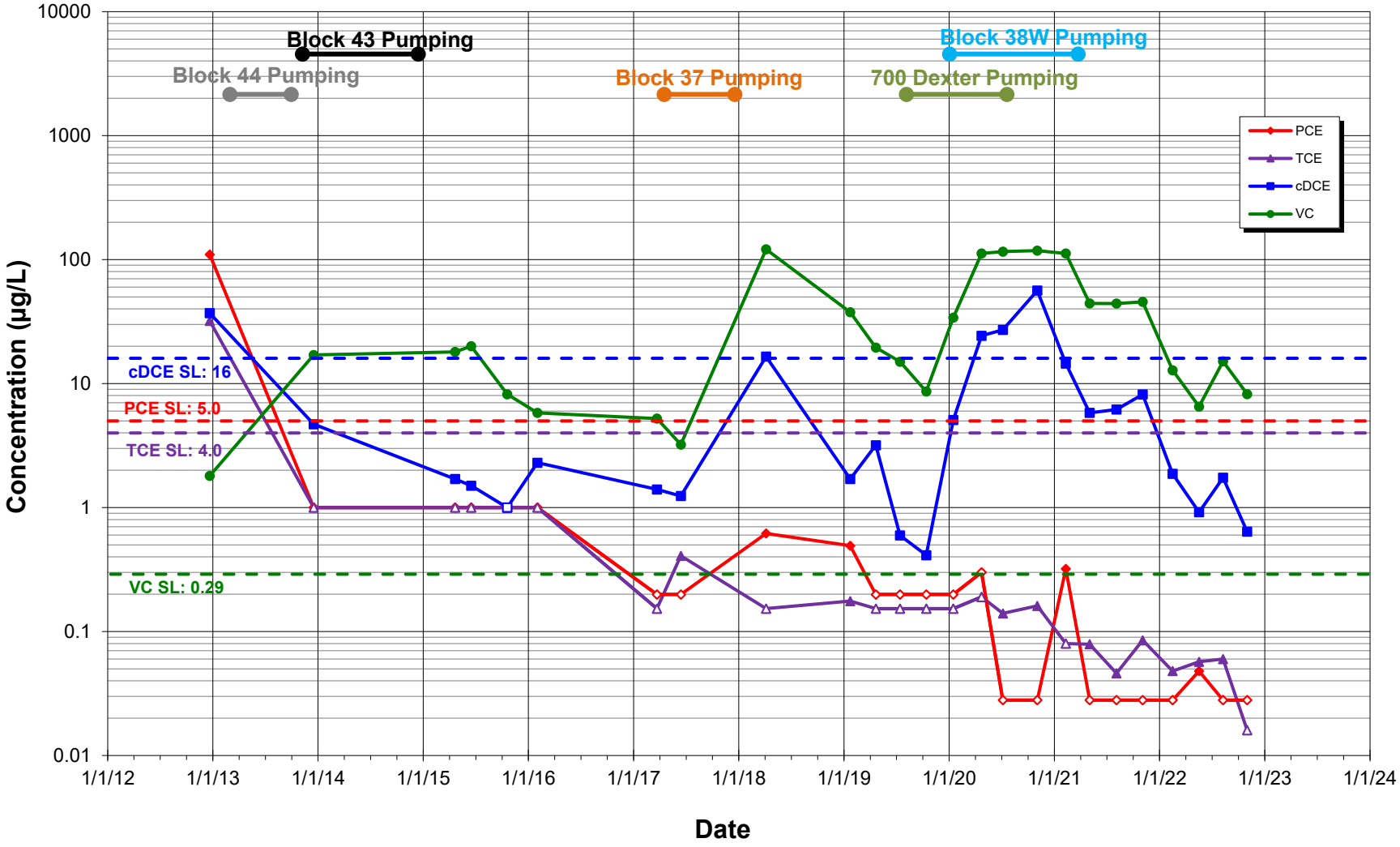

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## HMW-9IB (-1.6 to -11.6 feet NAVD), Seattle DOT Mercer Parcels, SW quadrant
## American Linen Supply Co–Dexter Ave Site



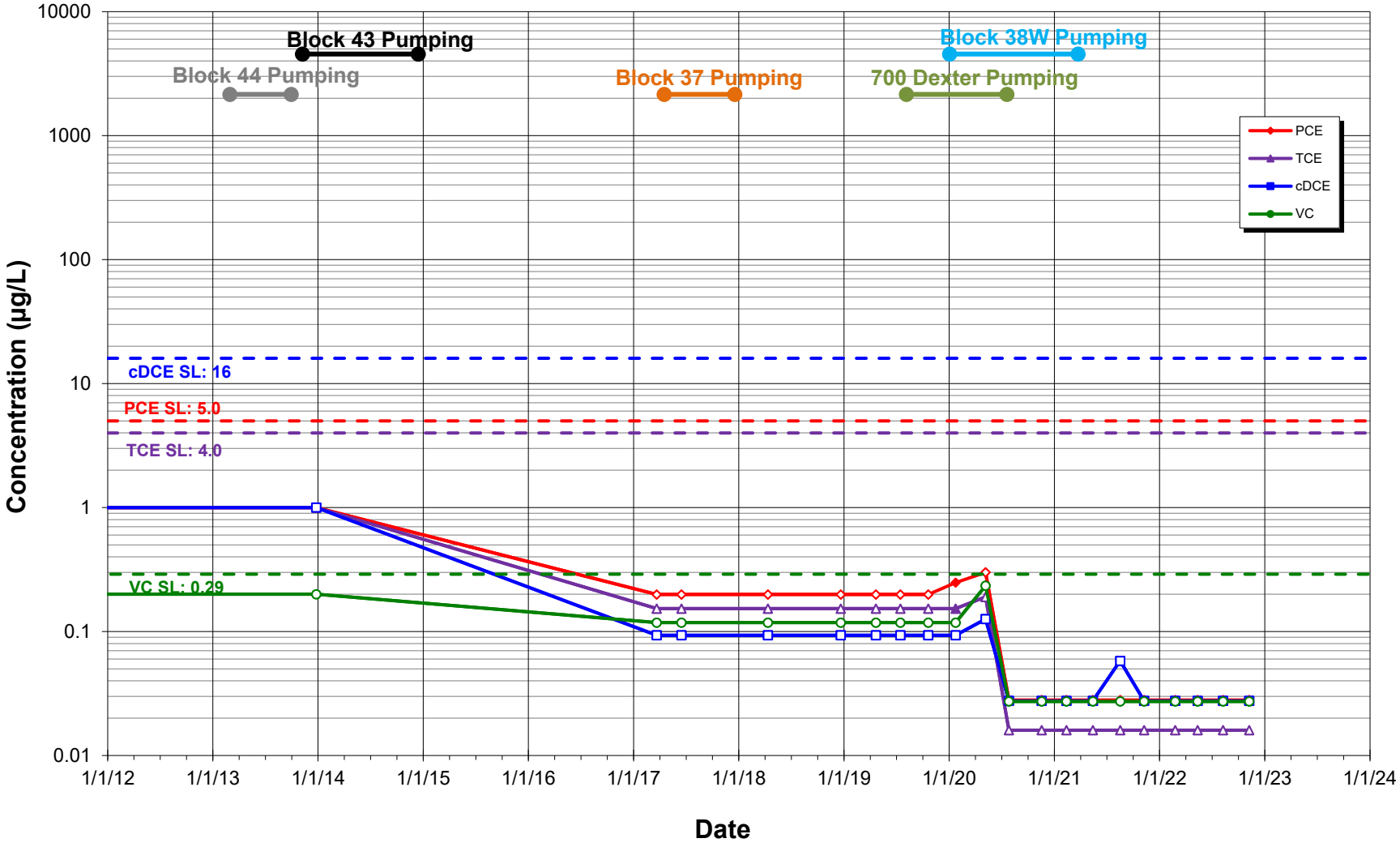

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW111 (-33.5 to -43.5 feet NAVD), Alley E of Seattle Roy Aloha Shops
## American Linen Supply Co Dexter Ave Site



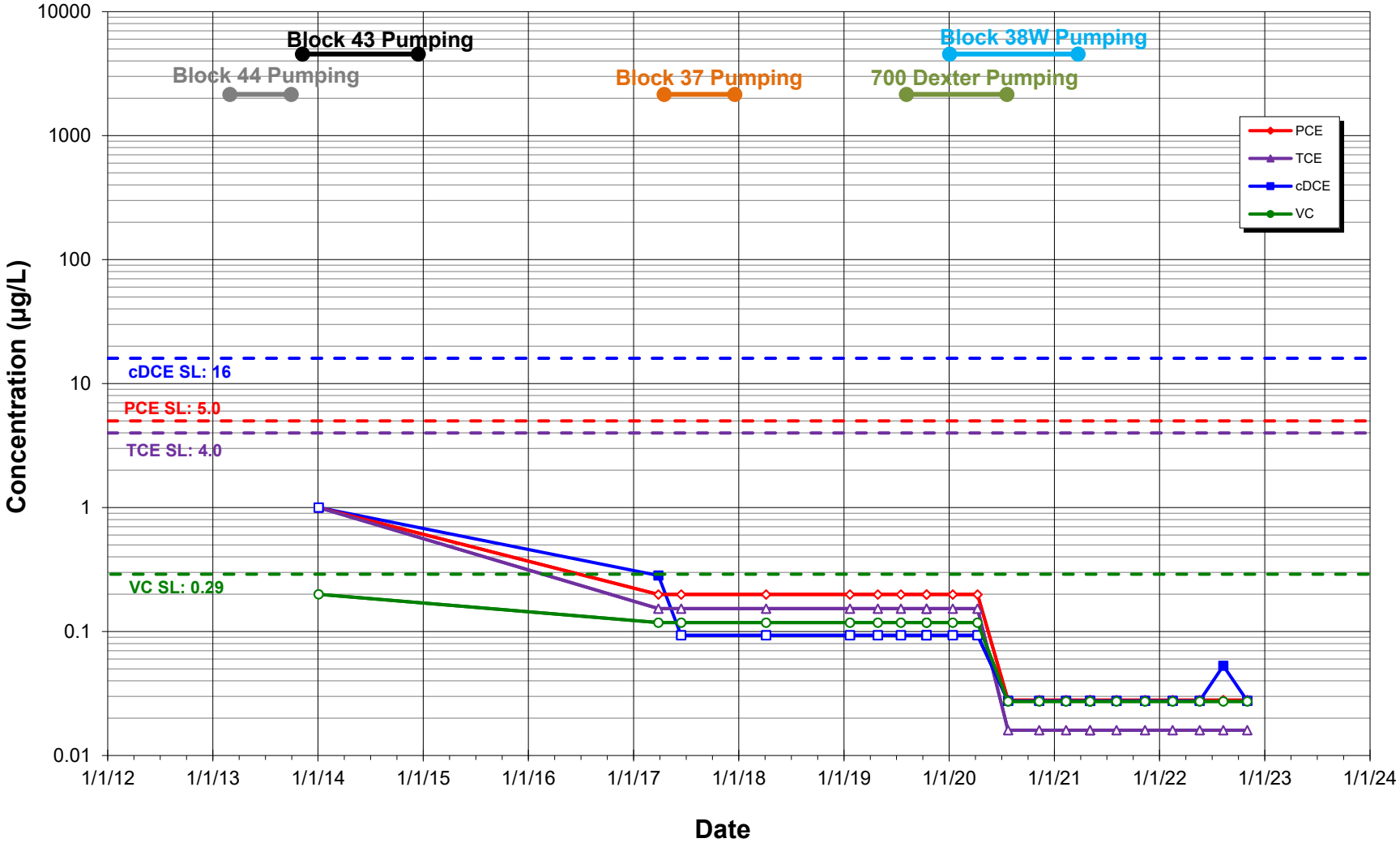

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW112 (-17.2 to -27.2 feet NAVD), Dexter Ave N ROW, W side
## American Linen Supply Co Dexter Ave Site



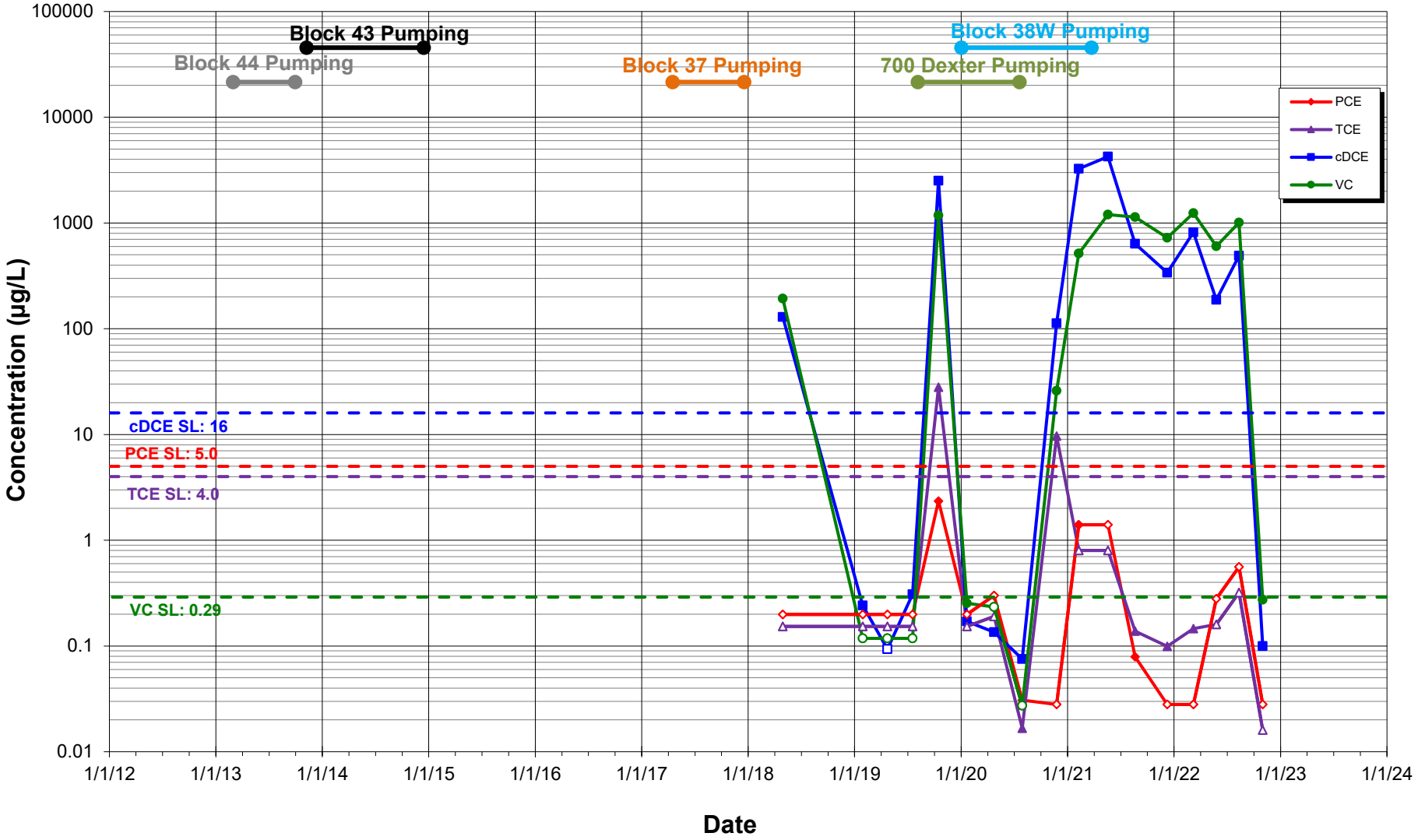

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW126 (-54.1 to -64.1 feet NAVD), Alley E of Seattle Roy Aloha Shops
## American Linen Supply Co Dexter Ave Site



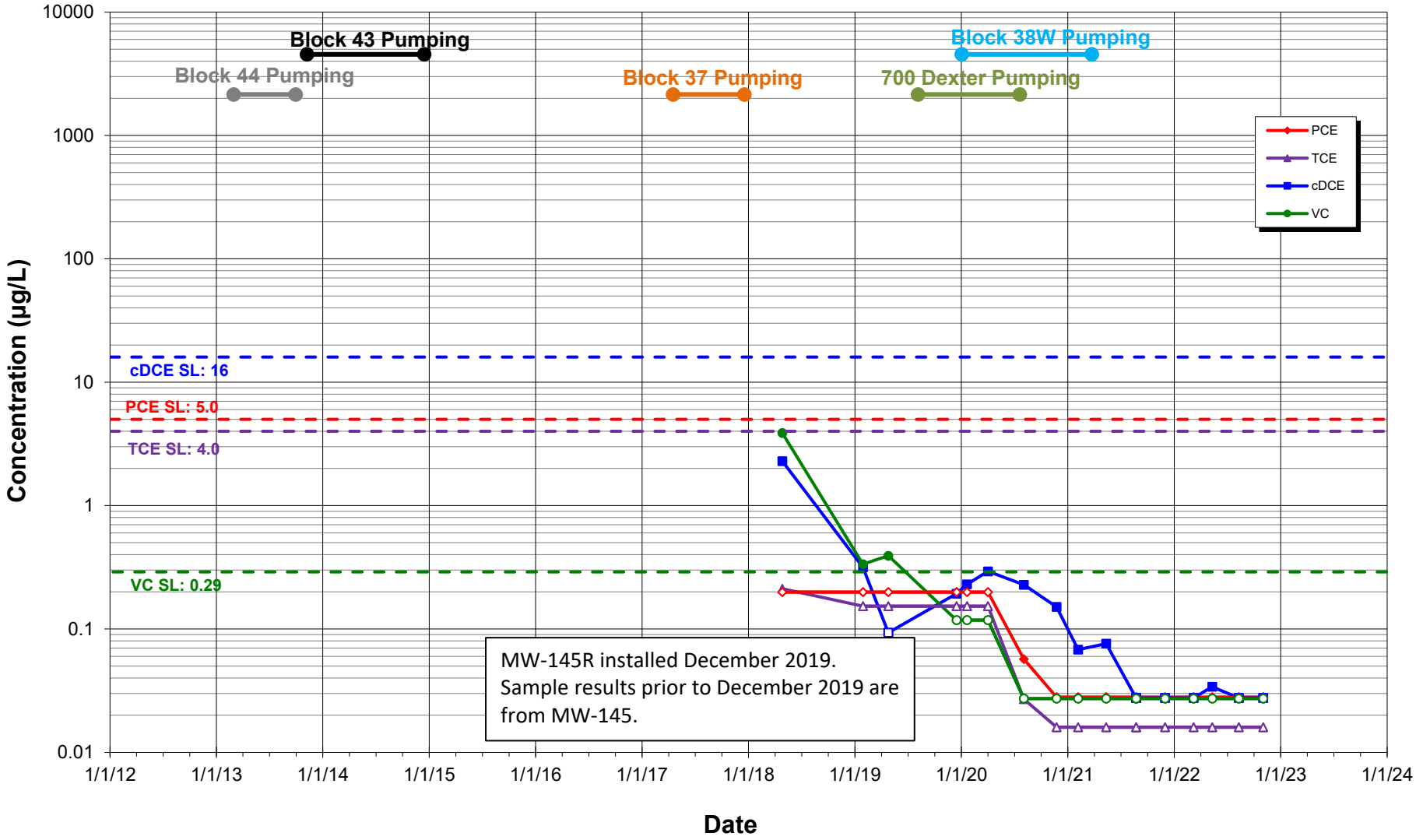

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-143 (-27.7 to -37.6 feet NAVD), 8th Ave N ROW, E side
## American Linen Supply Co Dexter Ave Site



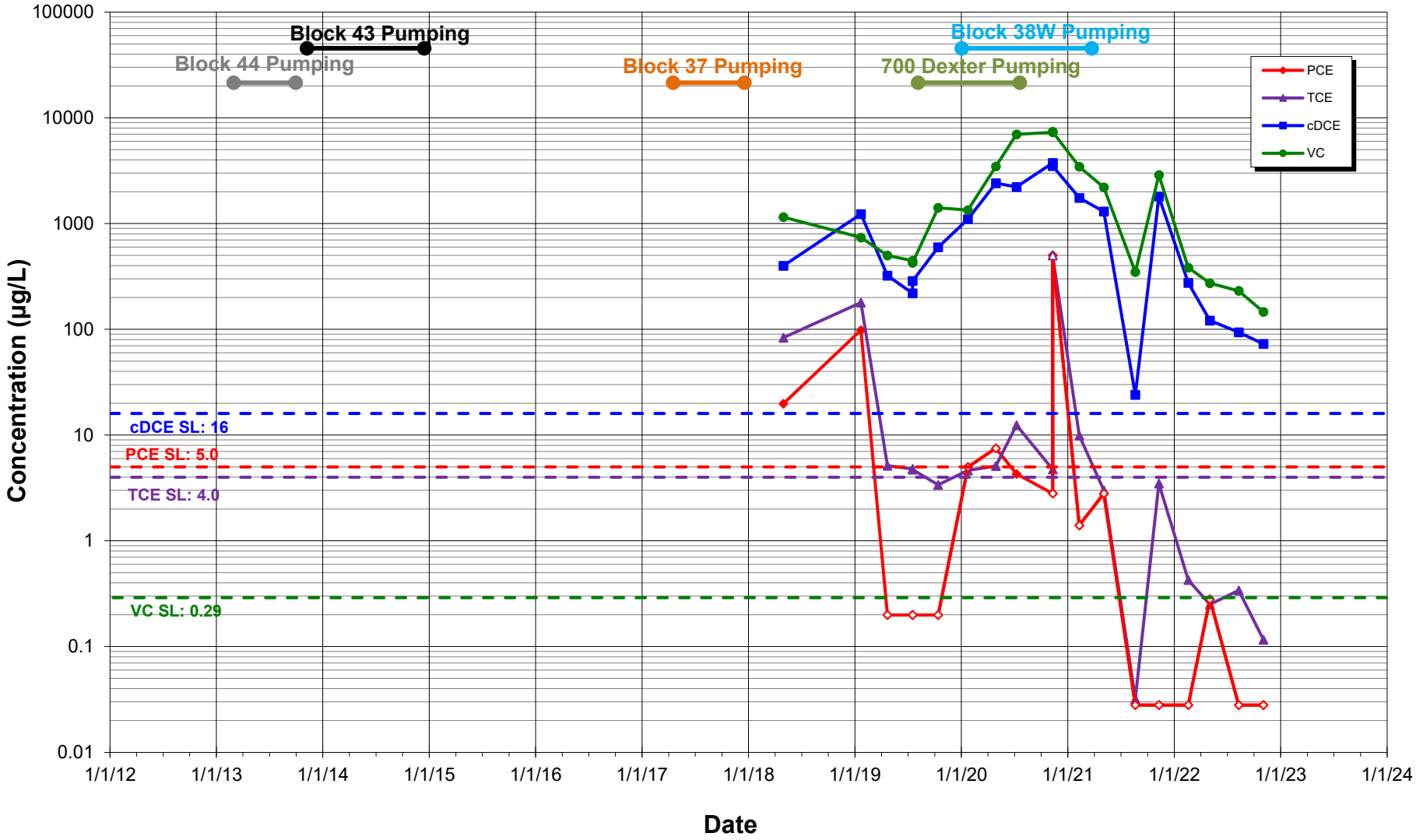

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-145R (-27.2 to -37.2 feet NAVD), 8th Ave N ROW, E side
## American Linen Supply Co Dexter Ave Site



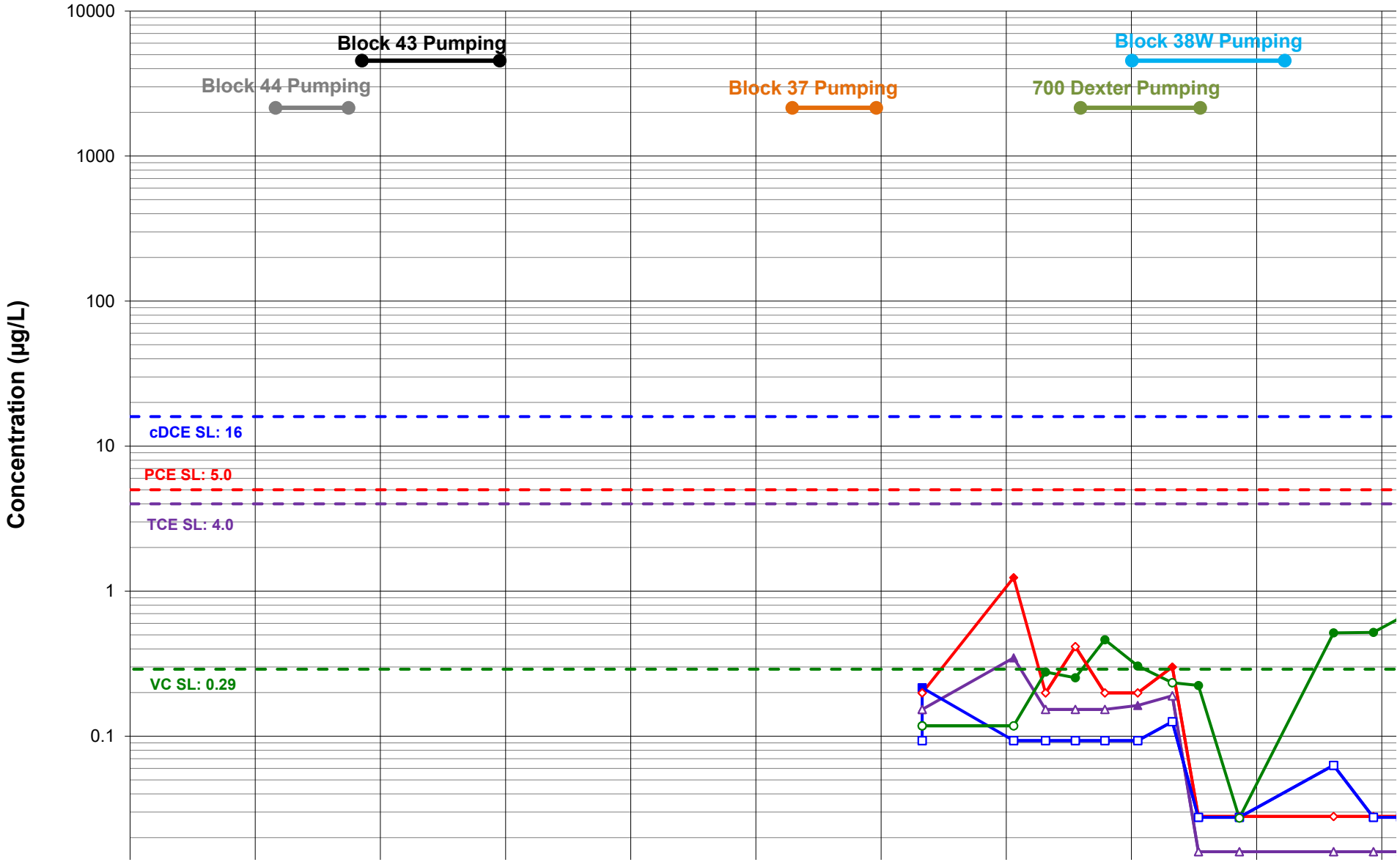

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-147 (-17.6 to -27.6 feet NAVD), Roy St ROW, S side
## American Linen Supply Co Dexter Ave Site

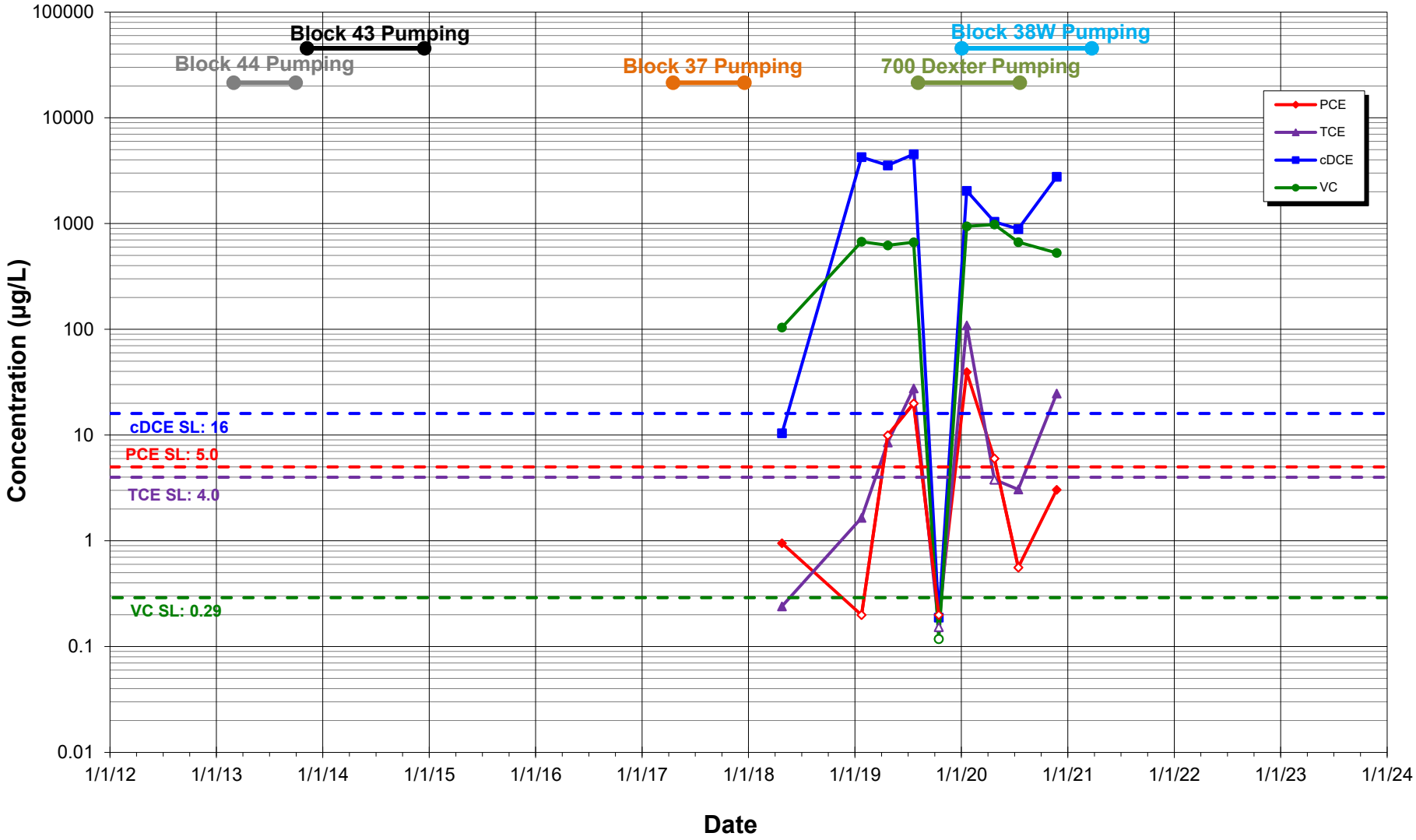



Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-148 (-25.7 to -35.7 feet NAVD), Roy St ROW, S side
## American Linen Supply Co Dexter Ave Site

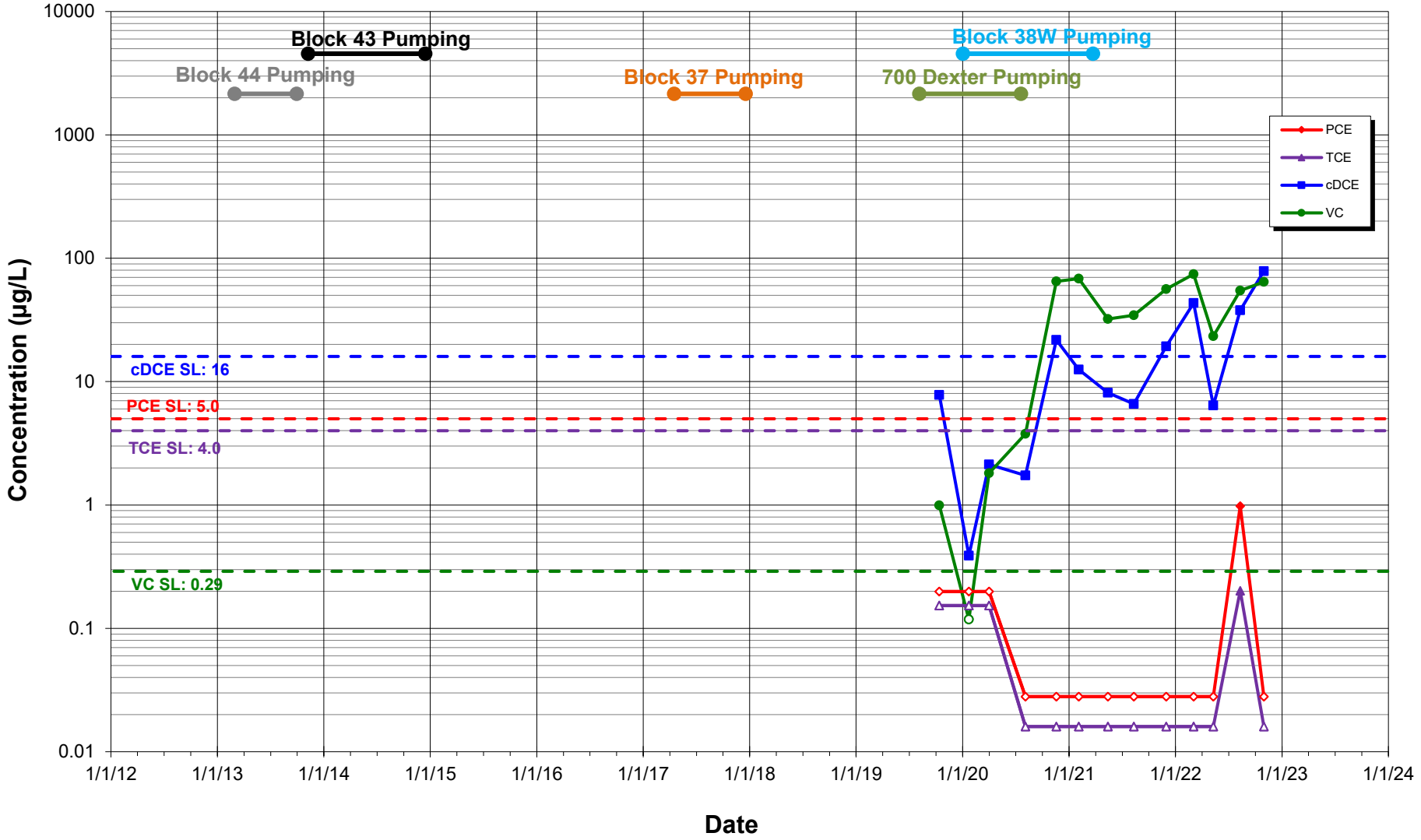


# Concentration vs Time
## MW-157 (-28.3 to -38.2 feet NAVD), 8th Ave N ROW, E side
## American Linen Supply Co Dexter Ave Site



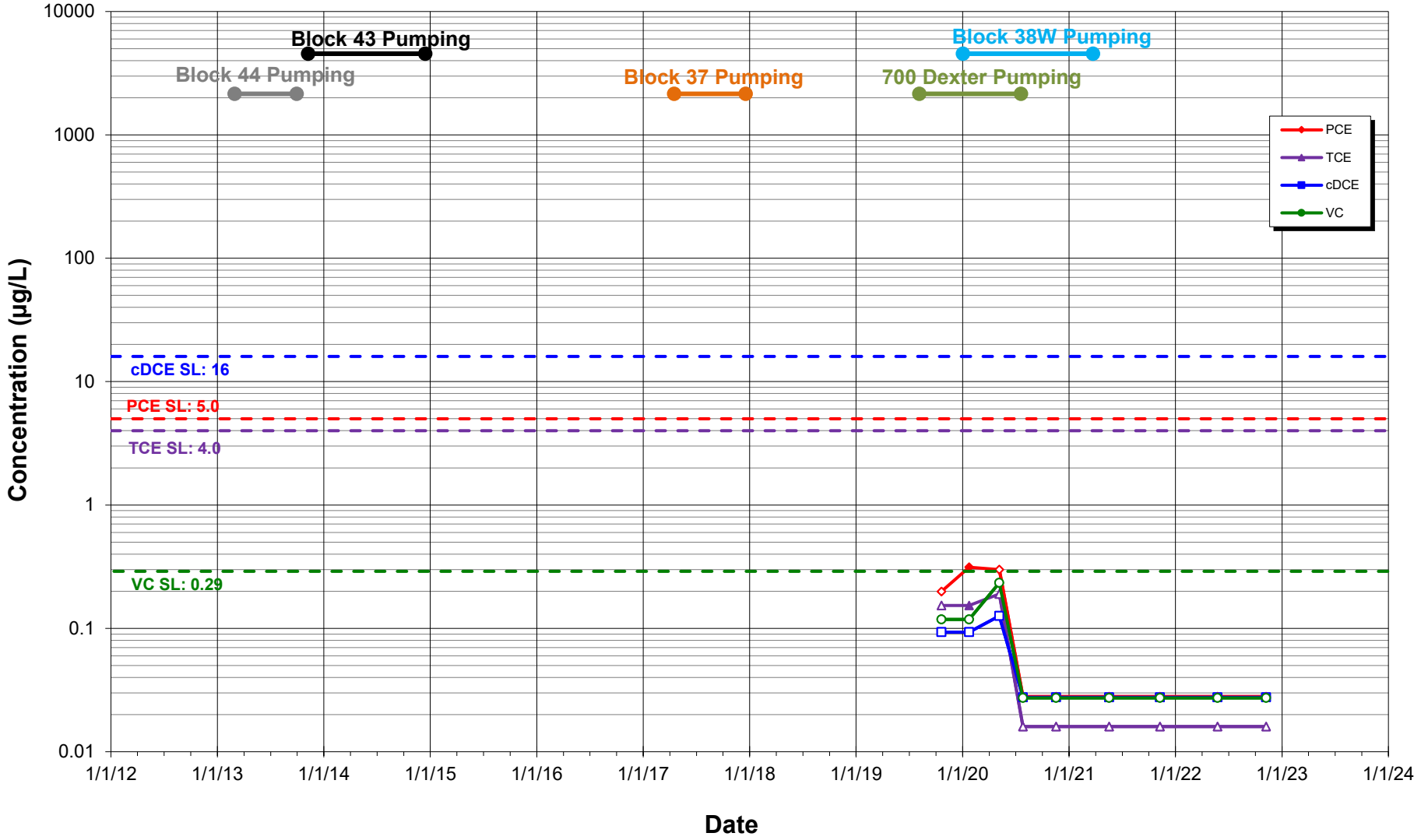

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-190 (-30.2 to -40.2 feet NAVD), Valley St ROW, S side
## American Linen Supply Co Dexter Ave Site



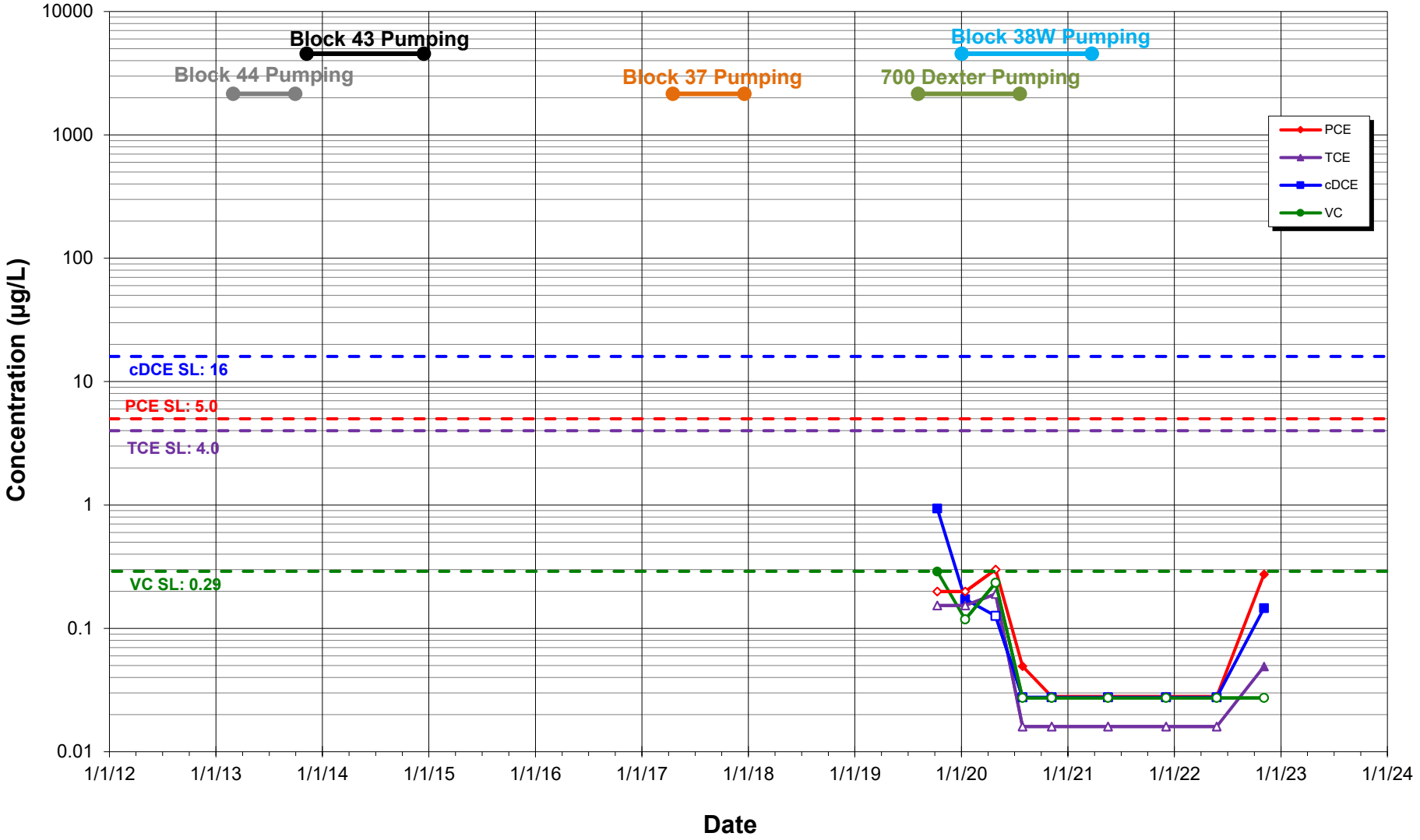

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-303 (-13.8 to -23.8 feet NAVD), Dexter Ave N ROW, E side
## American Linen Supply Co Dexter Ave Site



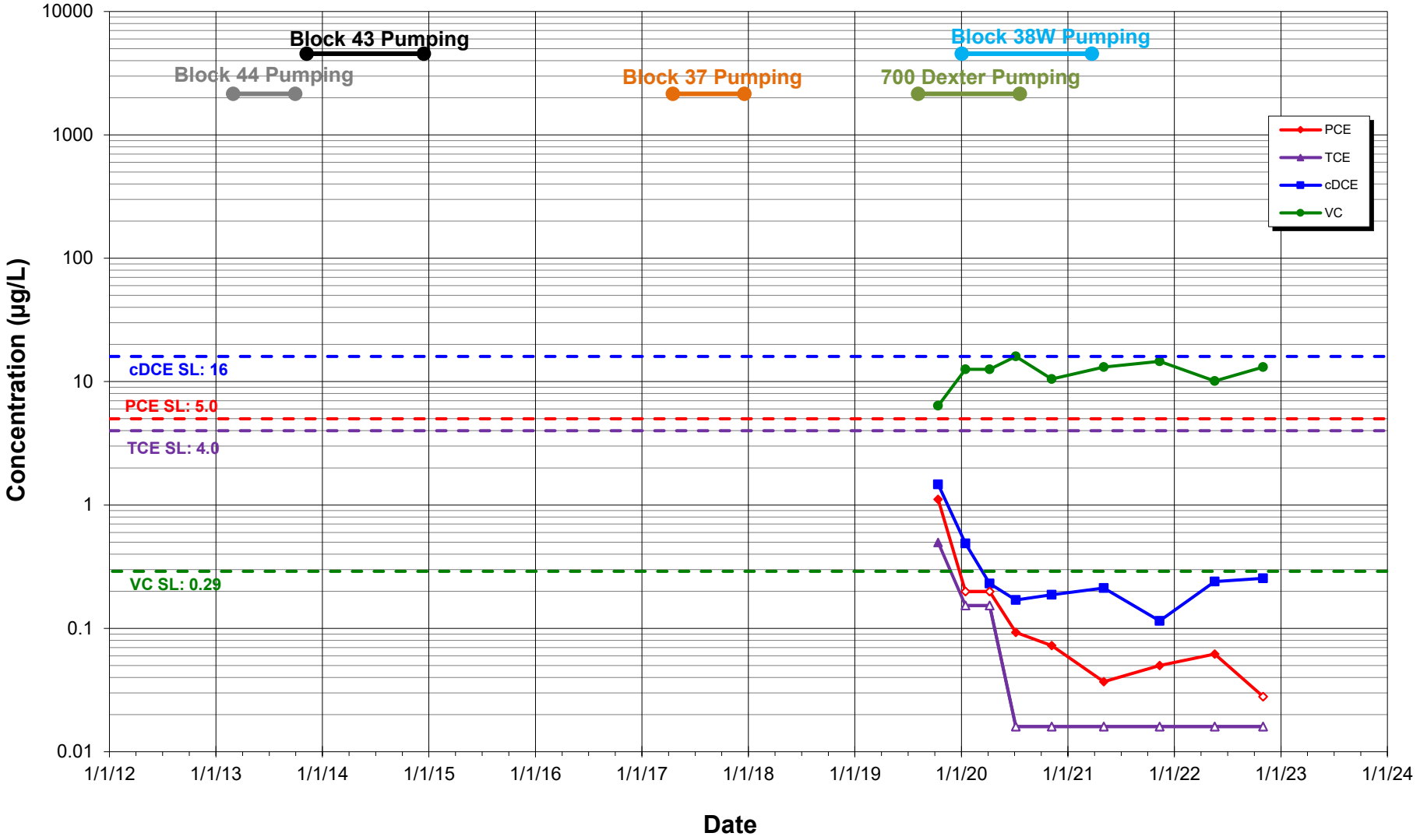

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-307 (-12.4 to -22.4 feet NAVD), Roy St ROW, S side
## American Linen Supply Co Dexter Ave Site



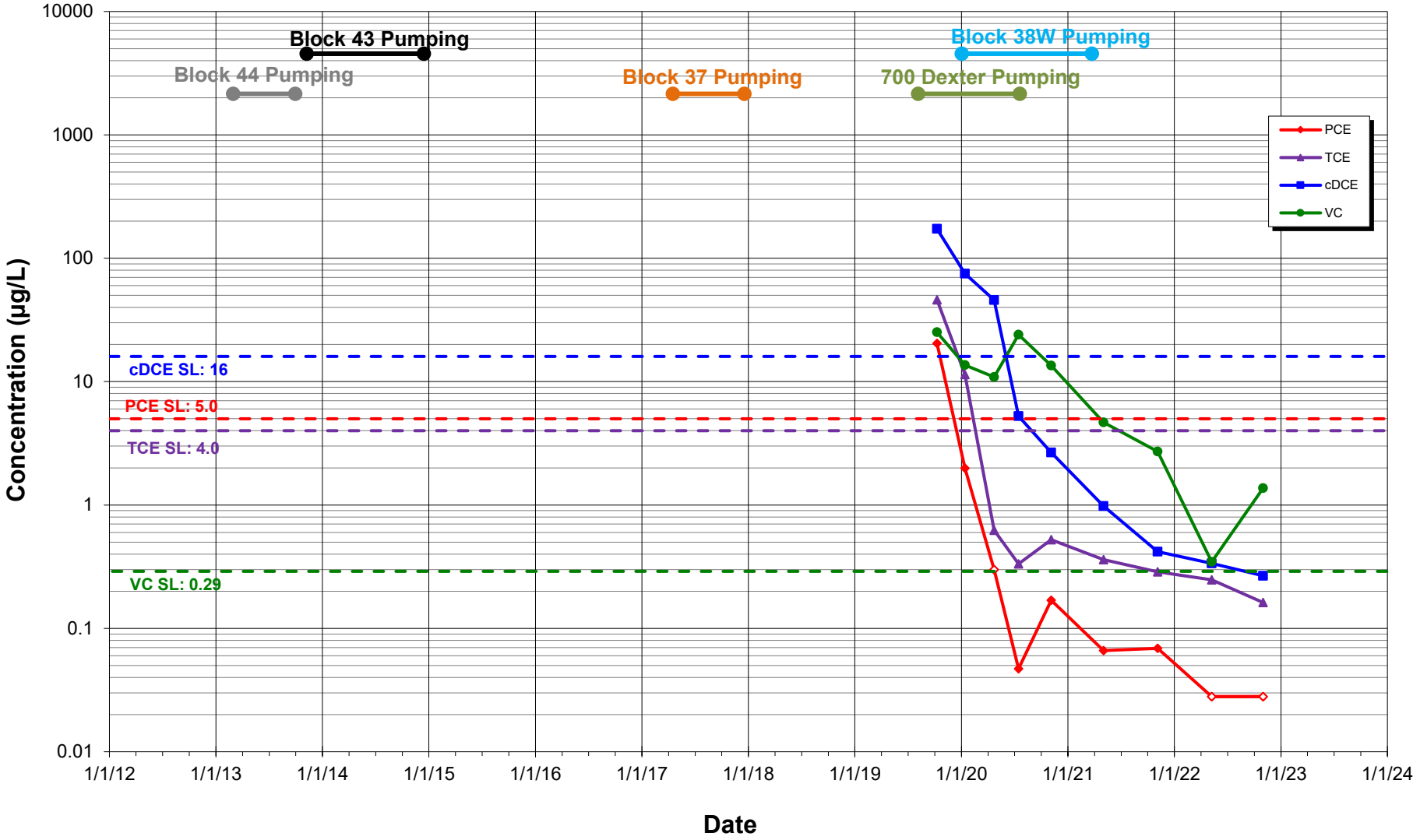

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-309 (-32.0 to -42.0 feet NAVD), Alley E of Seattle Roy Aloha Shops
## American Linen Supply Co Dexter Ave Site



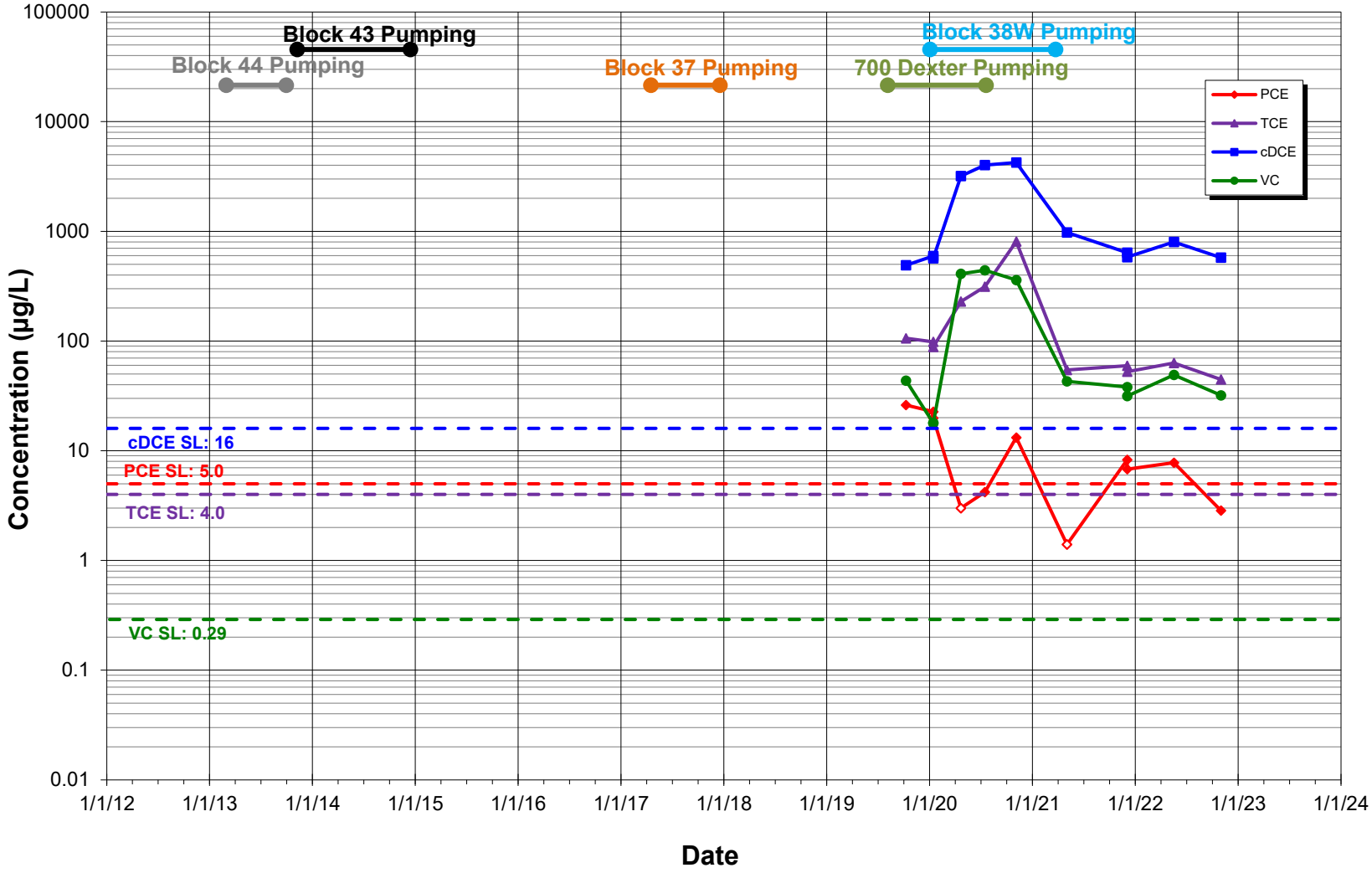

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-311 (-29.1 to -39.1 feet NAVD), Alley E of Seattle Roy Aloha Shops
## American Linen Supply Co Dexter Ave Site



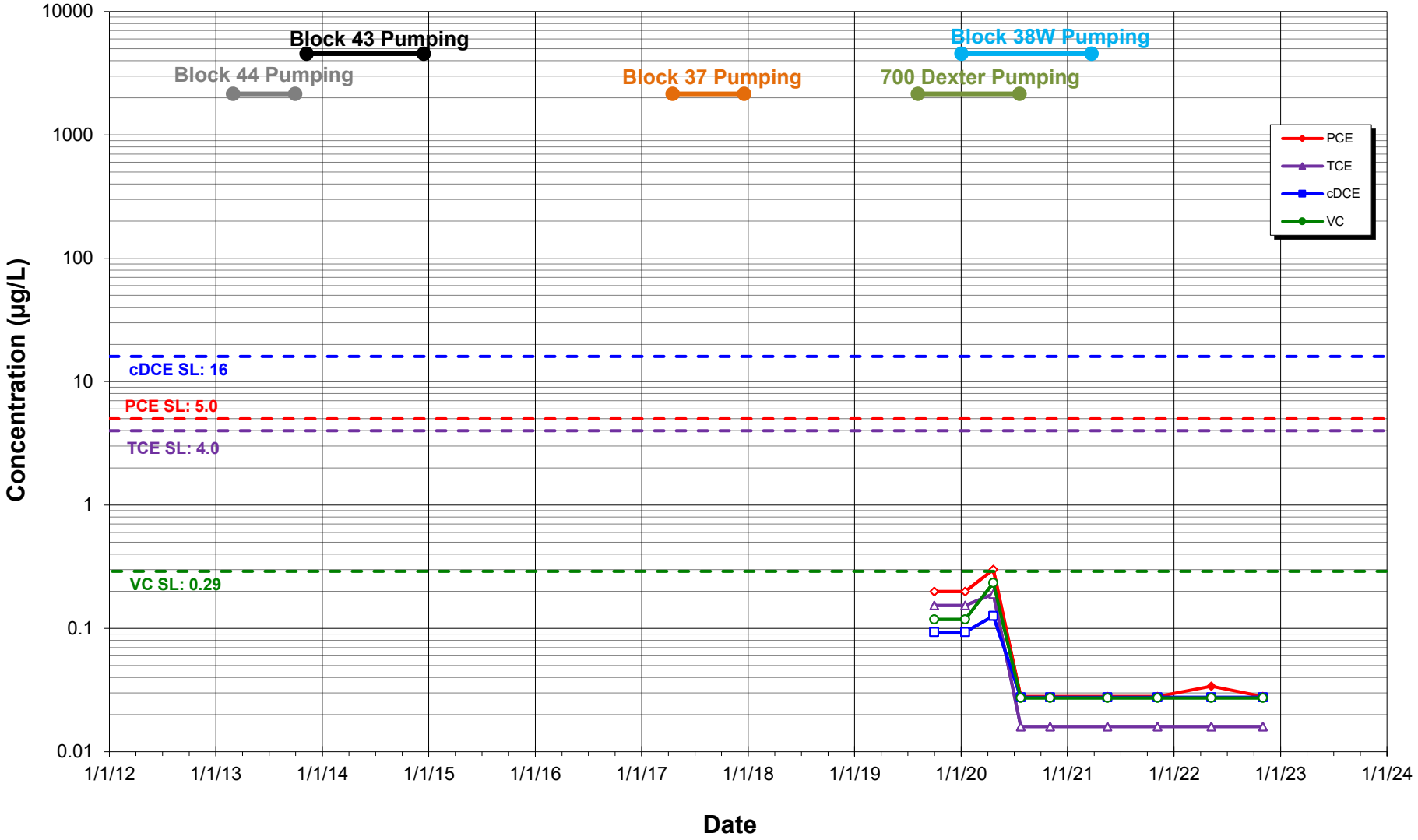

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-314 (-28.0 to -38.0 feet NAVD), Alley E of Seattle Roy Aloha Shops
## American Linen Supply Co Dexter Ave Site



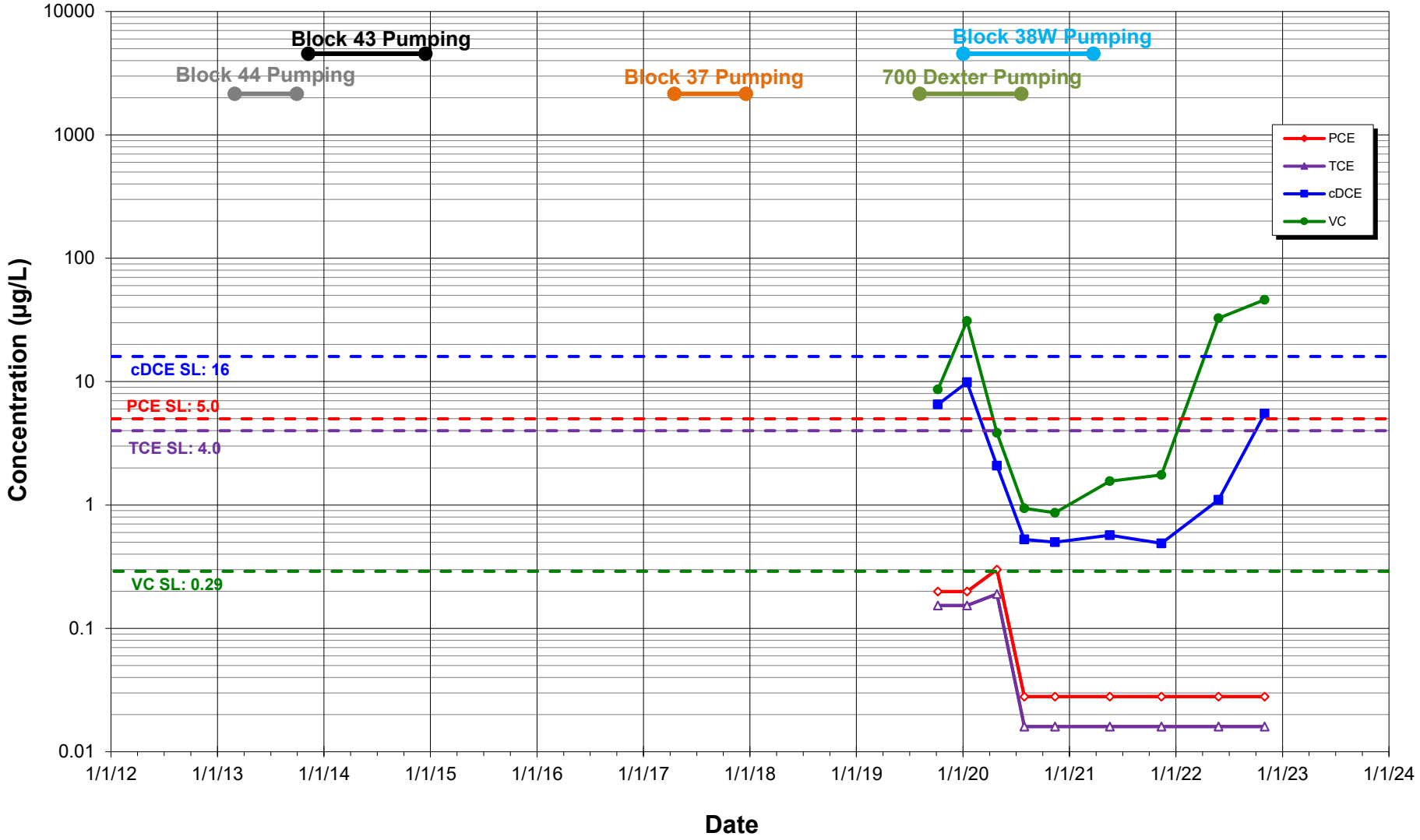

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-316 (-10.0 to -20.0 feet NAVD), Mercer St ROW, N side
## American Linen Supply Co Dexter Ave Site



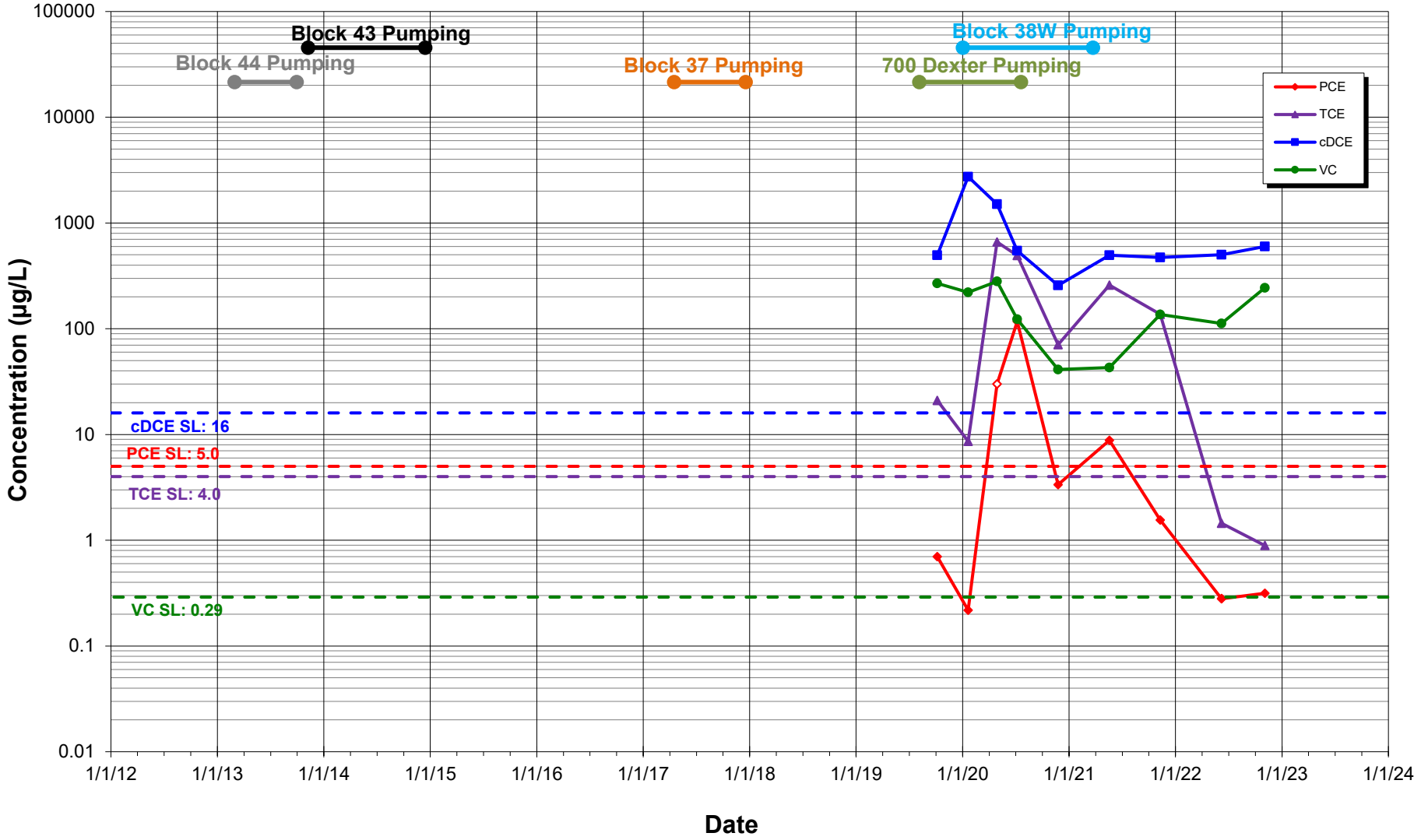

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-318 (-23.1 to -33.1 feet NAVD), 9th Ave N ROW, W side
## American Linen Supply Co Dexter Ave Site



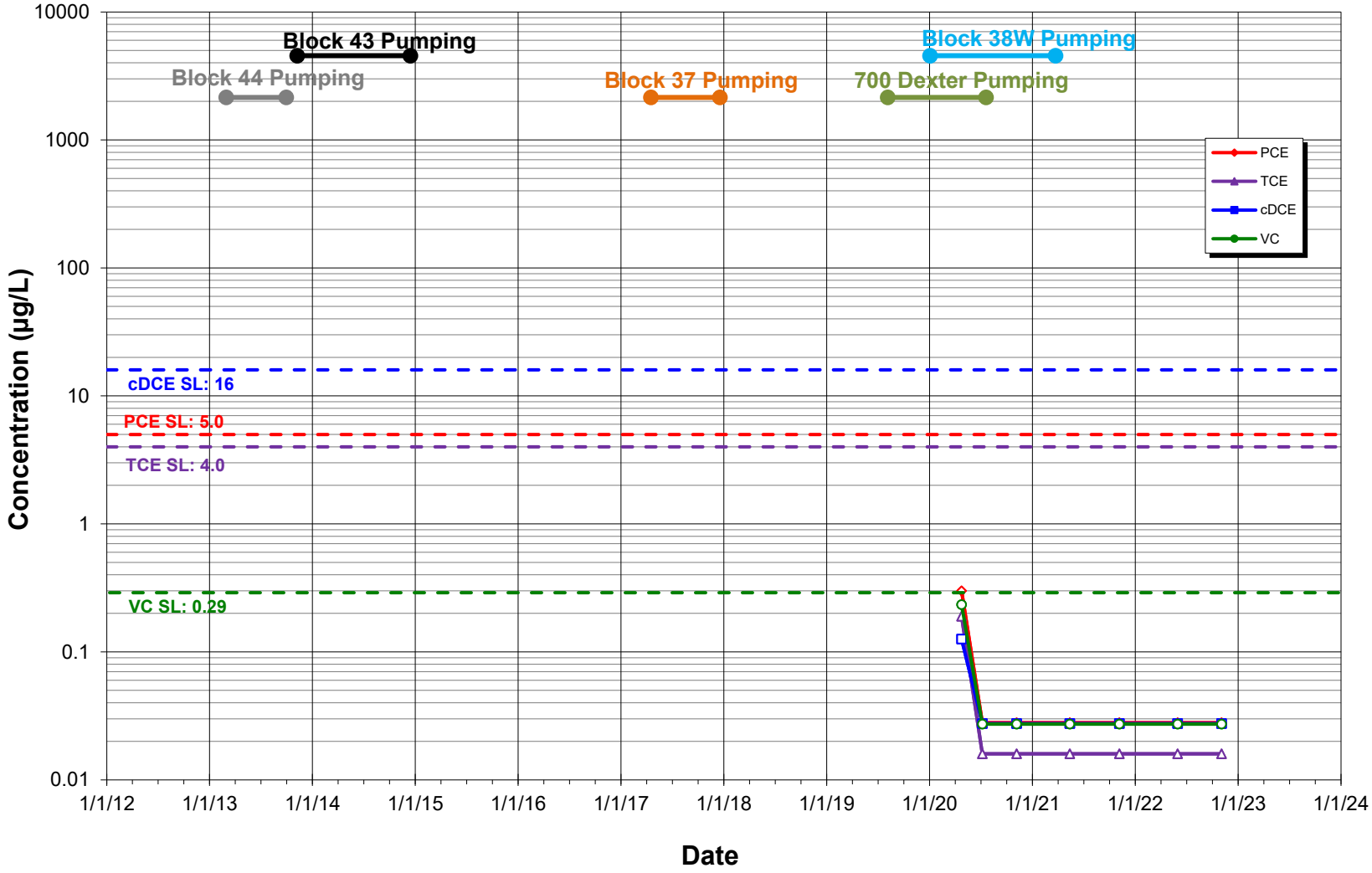

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-322 (-23.1 to -31.3 feet NAVD), 9th Avenue North
## American Linen Supply Co–Dexter Ave Site



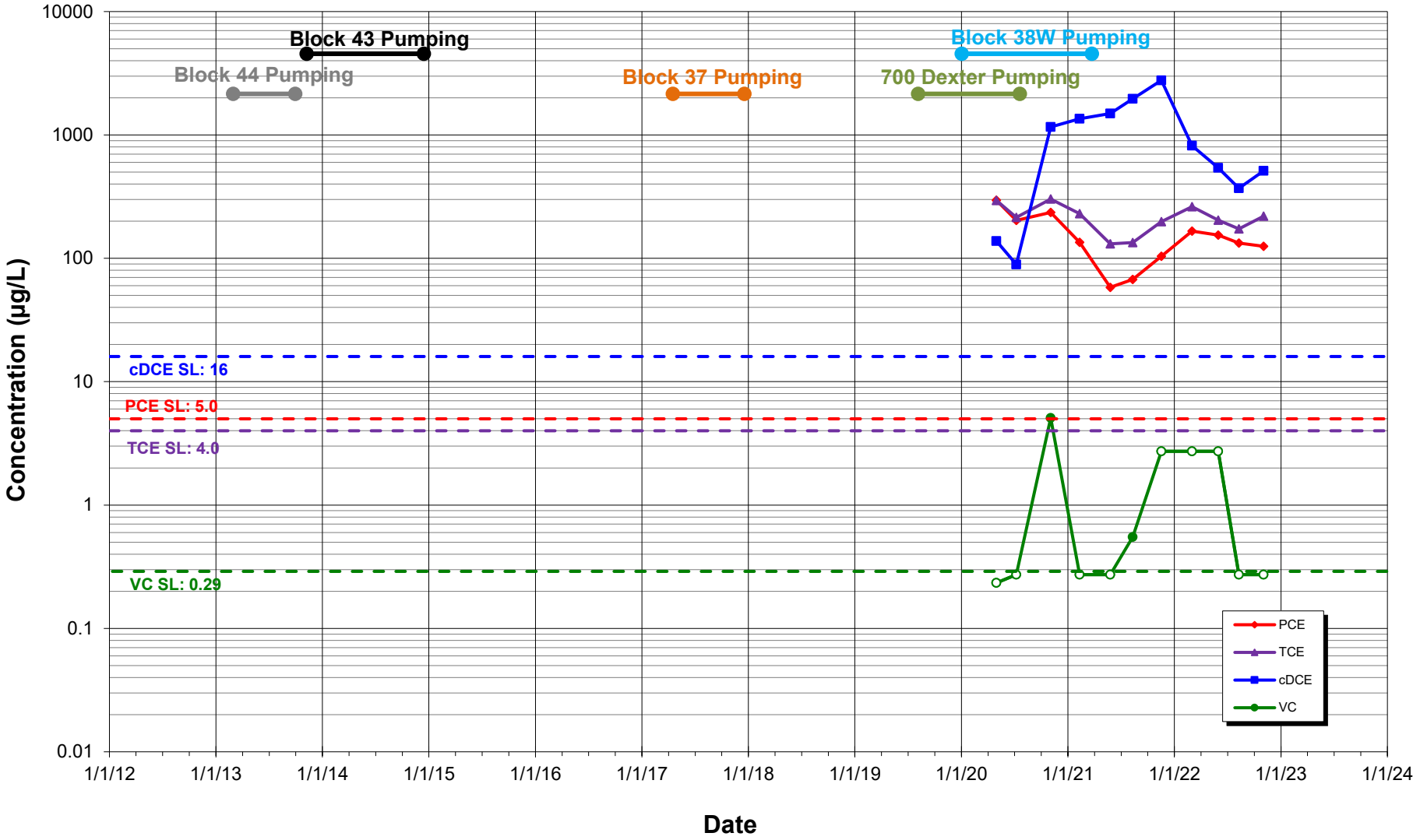

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-334 (-21.7 to -31.7 feet NAVD), 900 Roy Street, S end
## American Linen Supply Co Dexter Ave Site



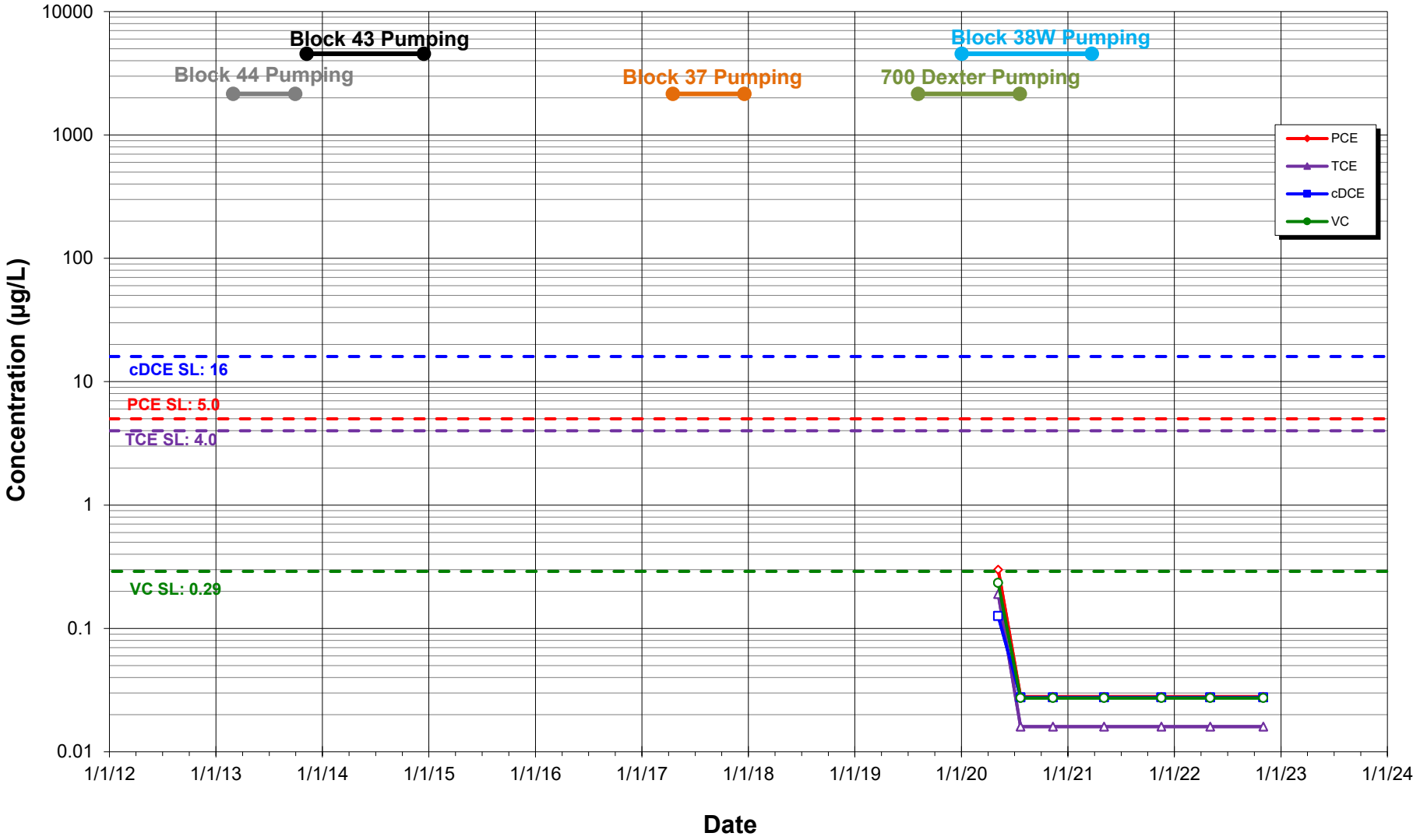

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-335 (-25.6 to -35.6 feet NAVD), Mercer St ROW, N side
## American Linen Supply Co Dexter Ave Site



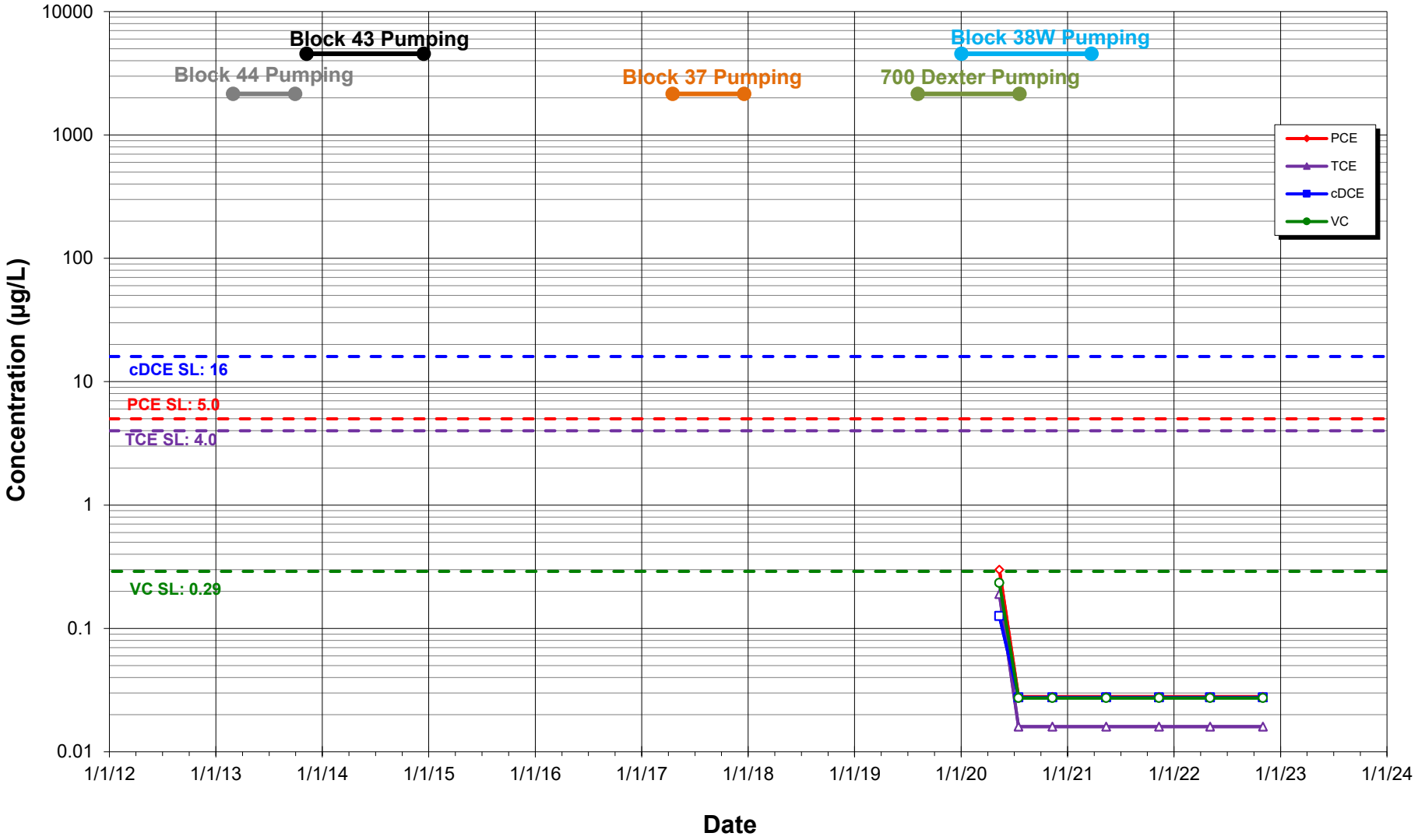

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-338 (-16.6 to -26.6 feet NAVD), Lake Union Park, N end
## American Linen Supply Co Dexter Ave Site



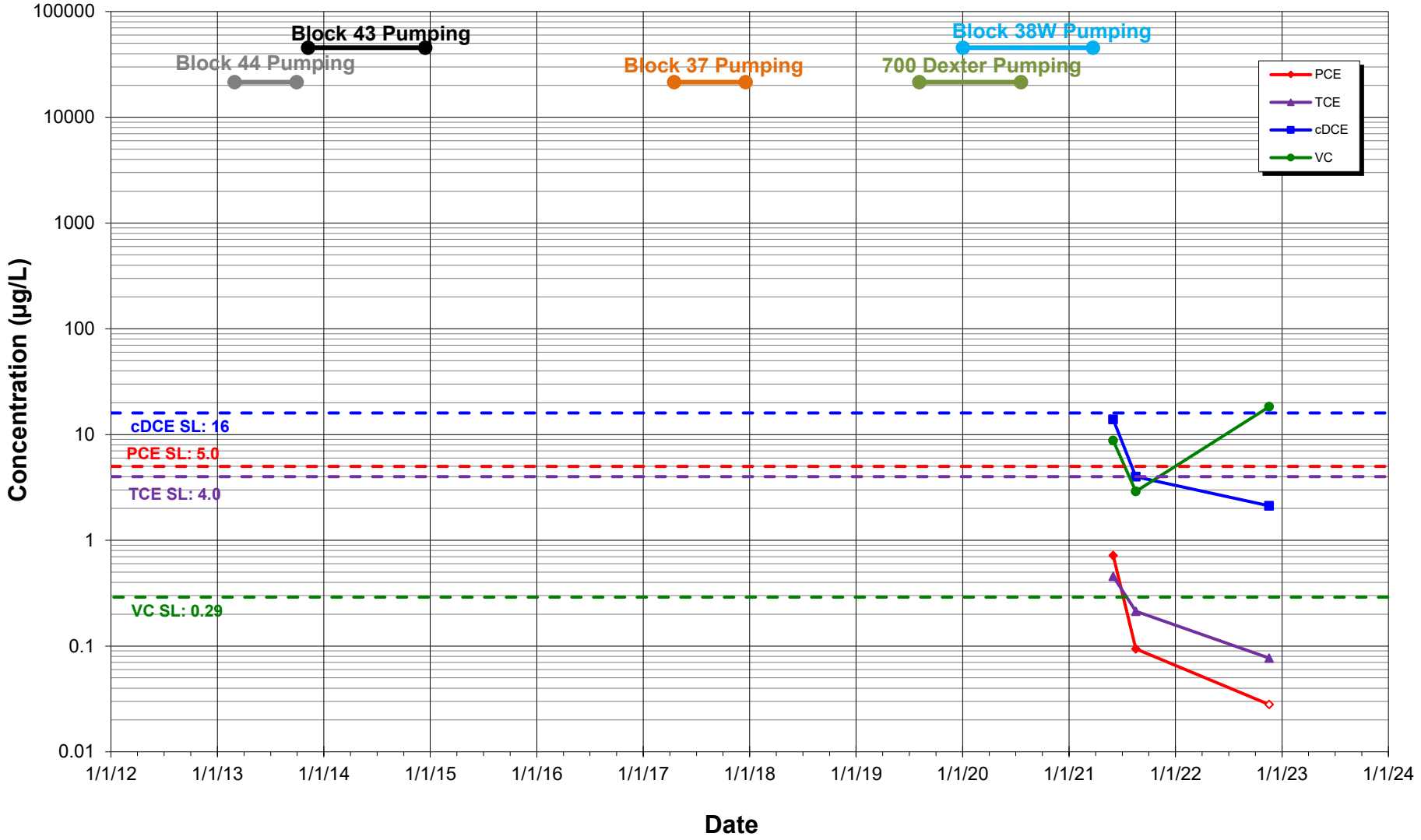

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-340 (-16.1 to -26.1 feet NAVD), Lake Union Park, S end
## American Linen Supply Co–Dexter Ave Site



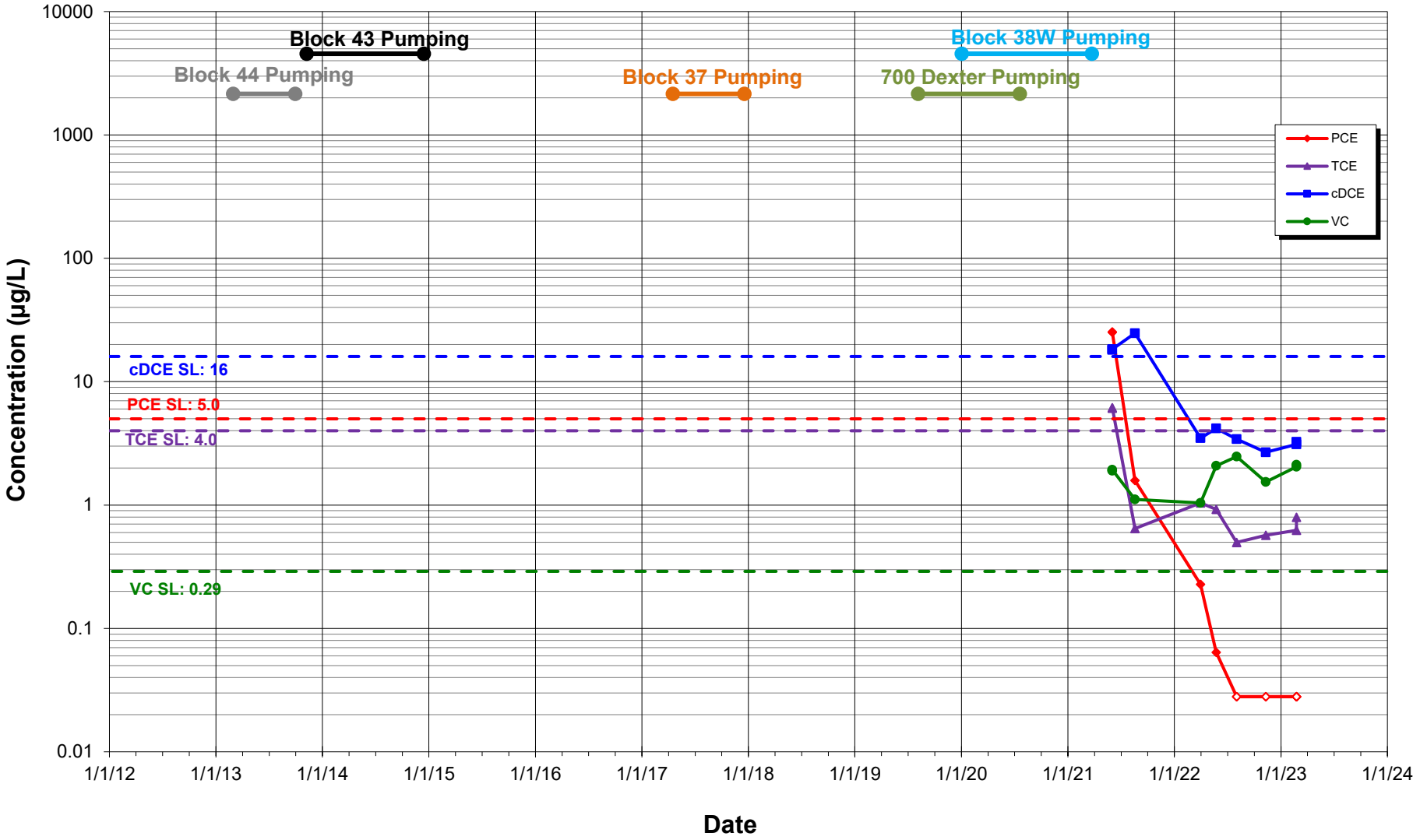

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-345 (-1.6 to -11.6 feet NAVD), Seattle DOT Mercer Parcels, NW Quadrant
## American Linen Supply Co–Dexter Ave Site



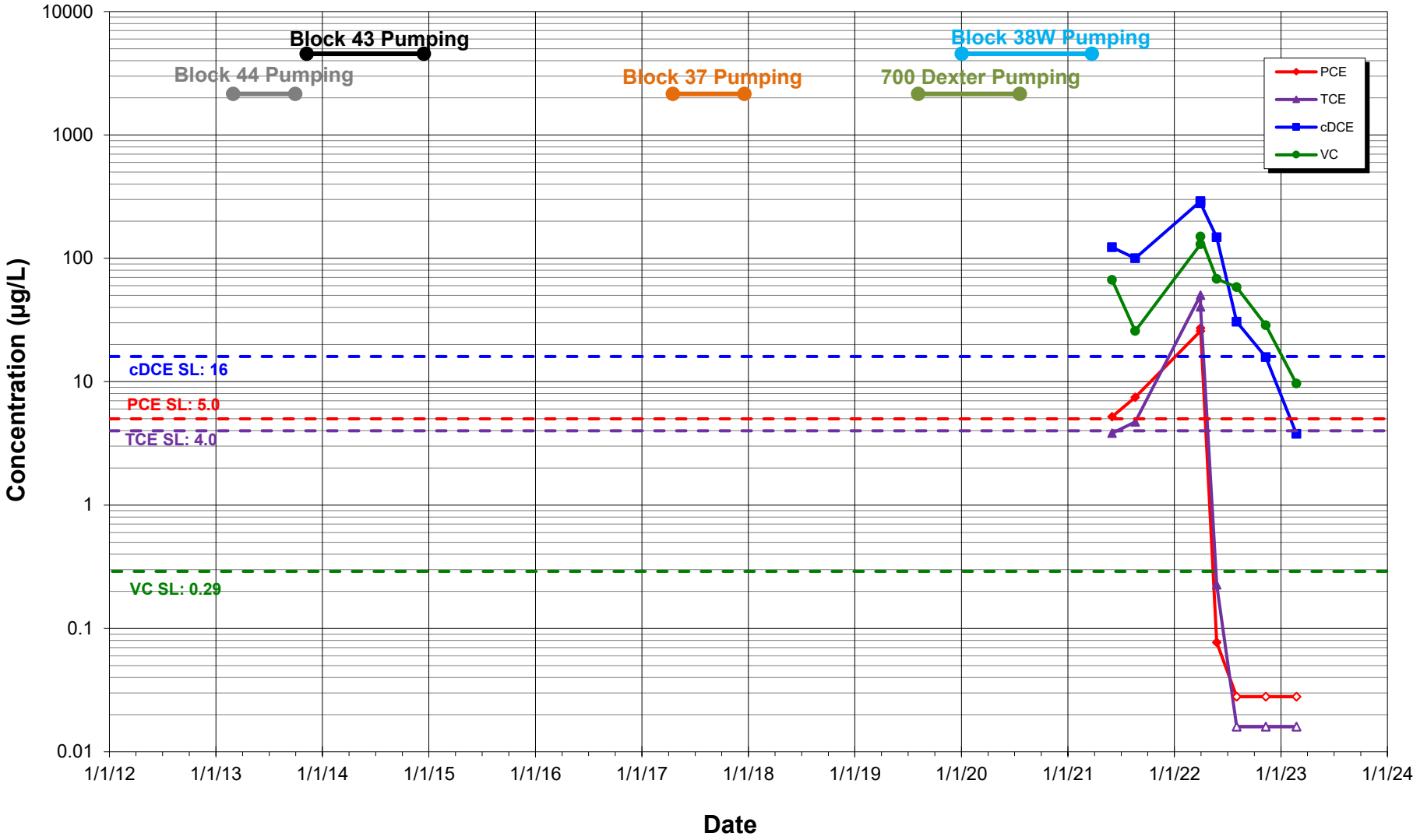

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-346 (-2.2 to -12.2 feet NAVD), Seattle DOT Mercer Parcels, NW quadrant
## American Linen Supply Co Dexter Ave Site



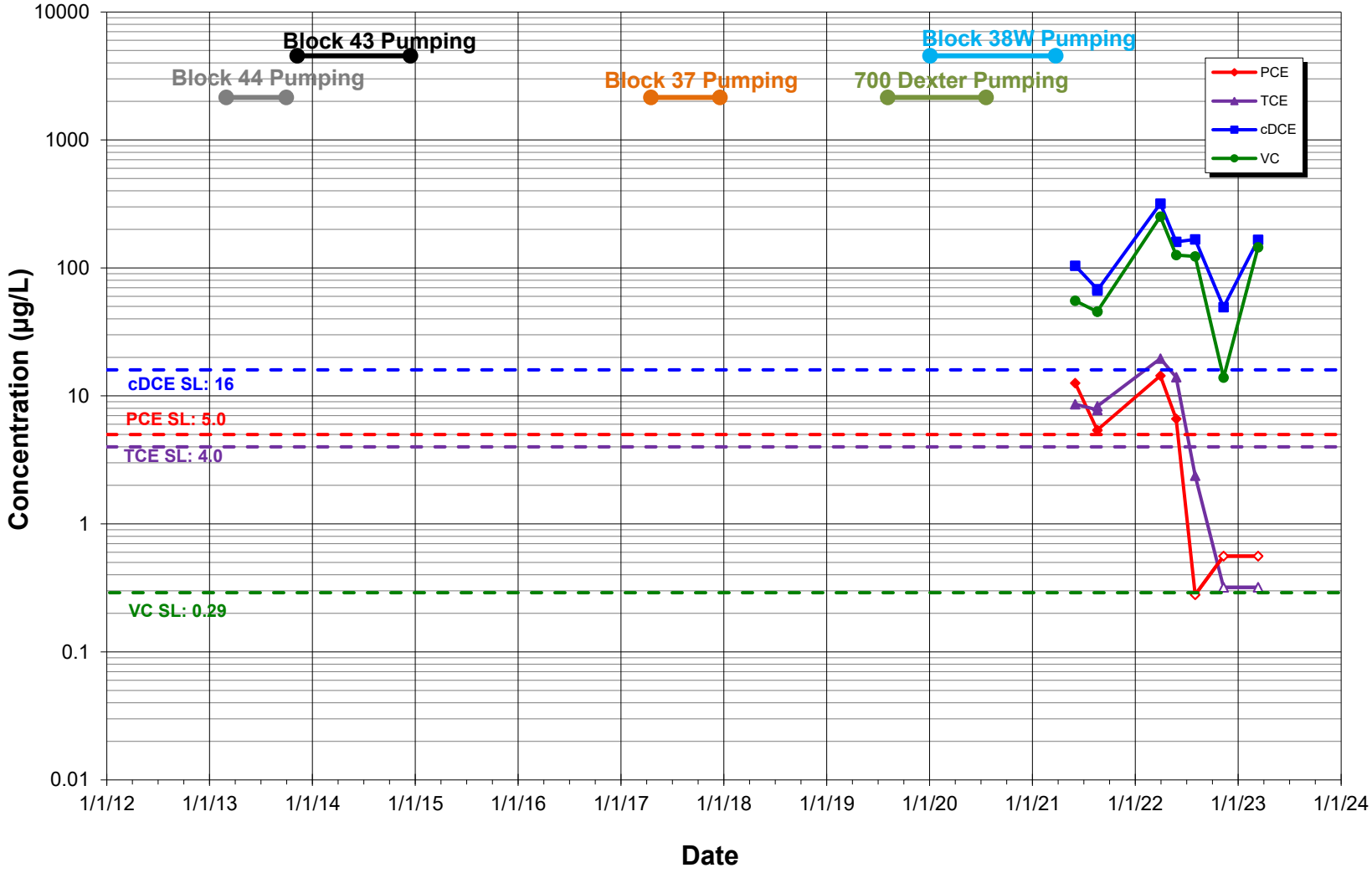

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-347 (-1.3 to -11.3 feet NAVD), Seattle DOT Mercer Parcels, NW quadrant
## American Linen Supply Co Dexter Ave Site



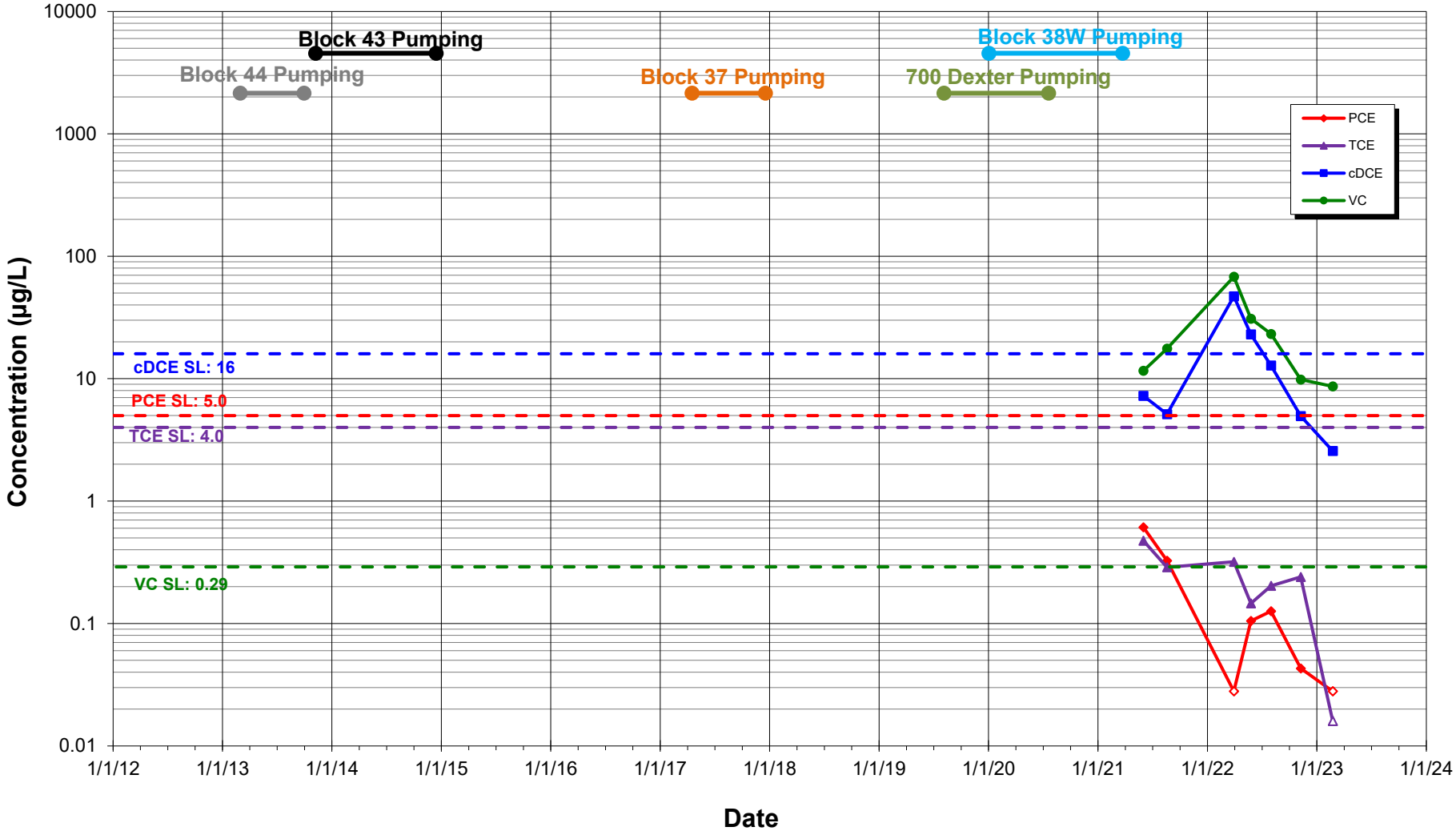

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

## Concentration vs Time
## MW-348 (-4.6 to -14.6 feet NAVD), Seattle DOT Mercer Parcels, SW quadrant
## American Linen Supply Co Dexter Ave Site



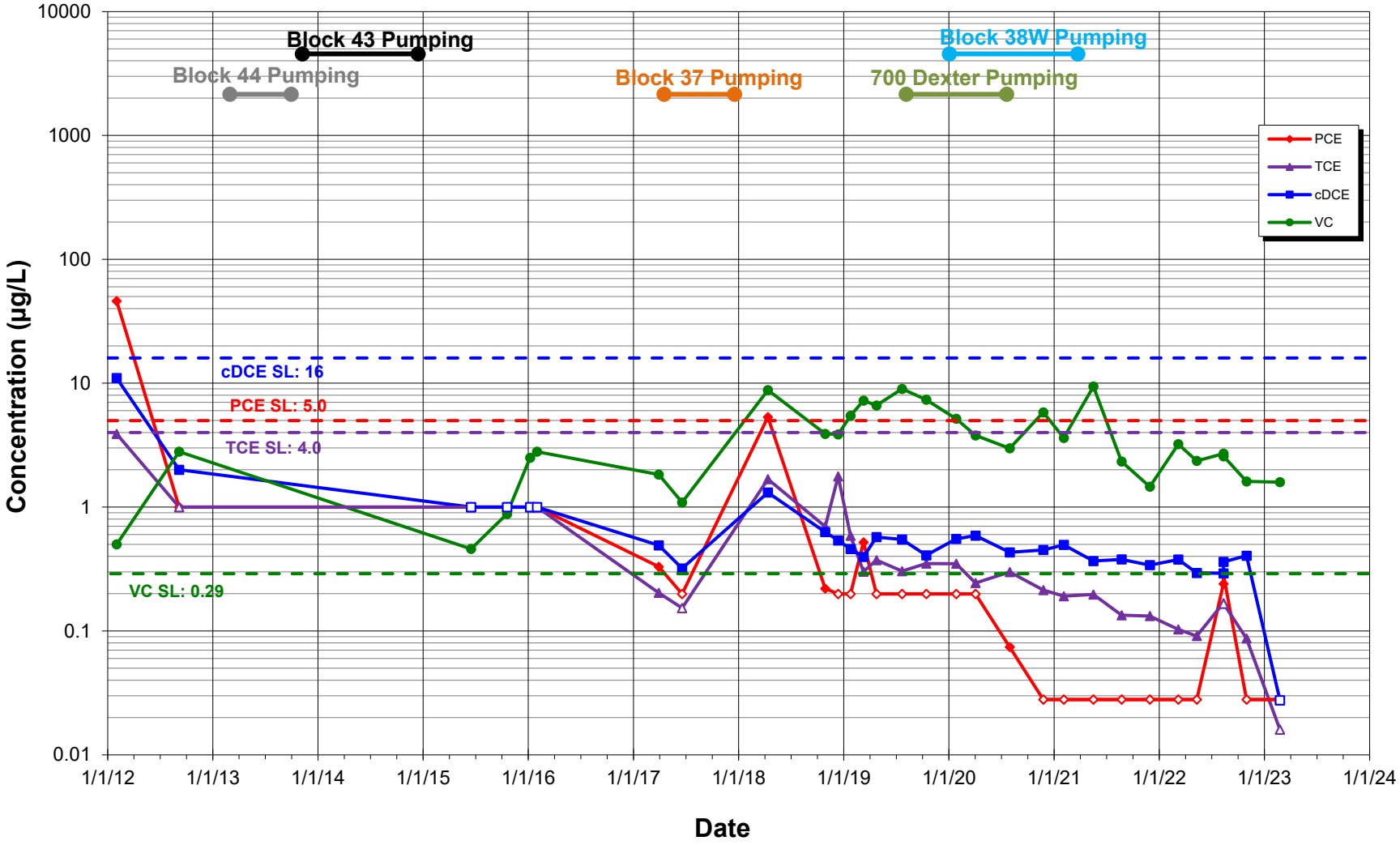

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-349 (-2.8 to -12.8 feet NAVD), Seattle DOT Mercer Parcels, SW quadrant
## American Linen Supply Co Dexter Ave Site



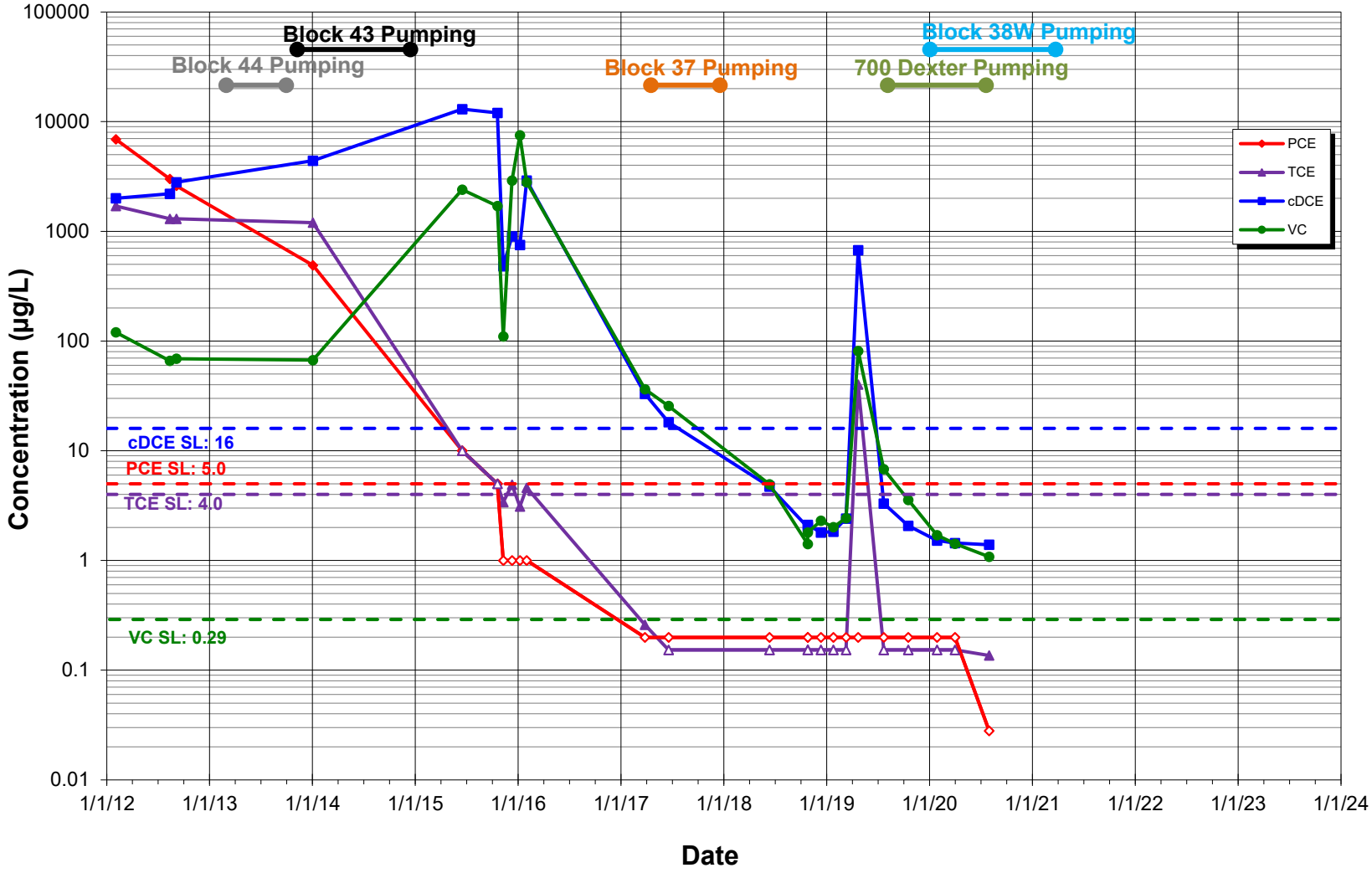

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## W-MW-01 (-25.1 to -35.1 feet NAVD), 8th Ave N ROW, W side
## American Linen Supply Co Dexter Ave Site



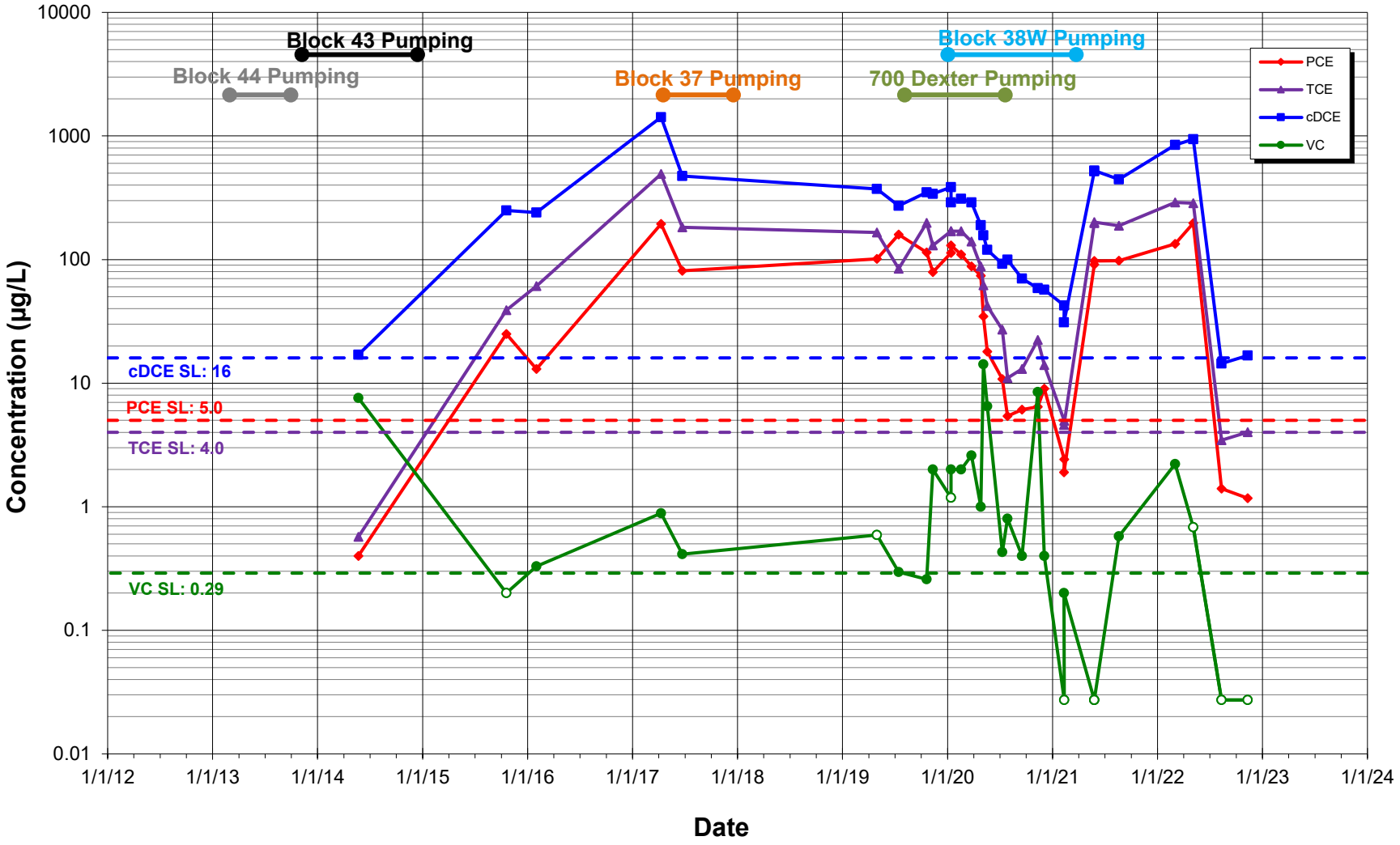

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## W-MW-02 (-26.3 to -36.3 feet NAVD), 8th Ave N ROW, W side
## American Linen Supply Co Dexter Ave Site



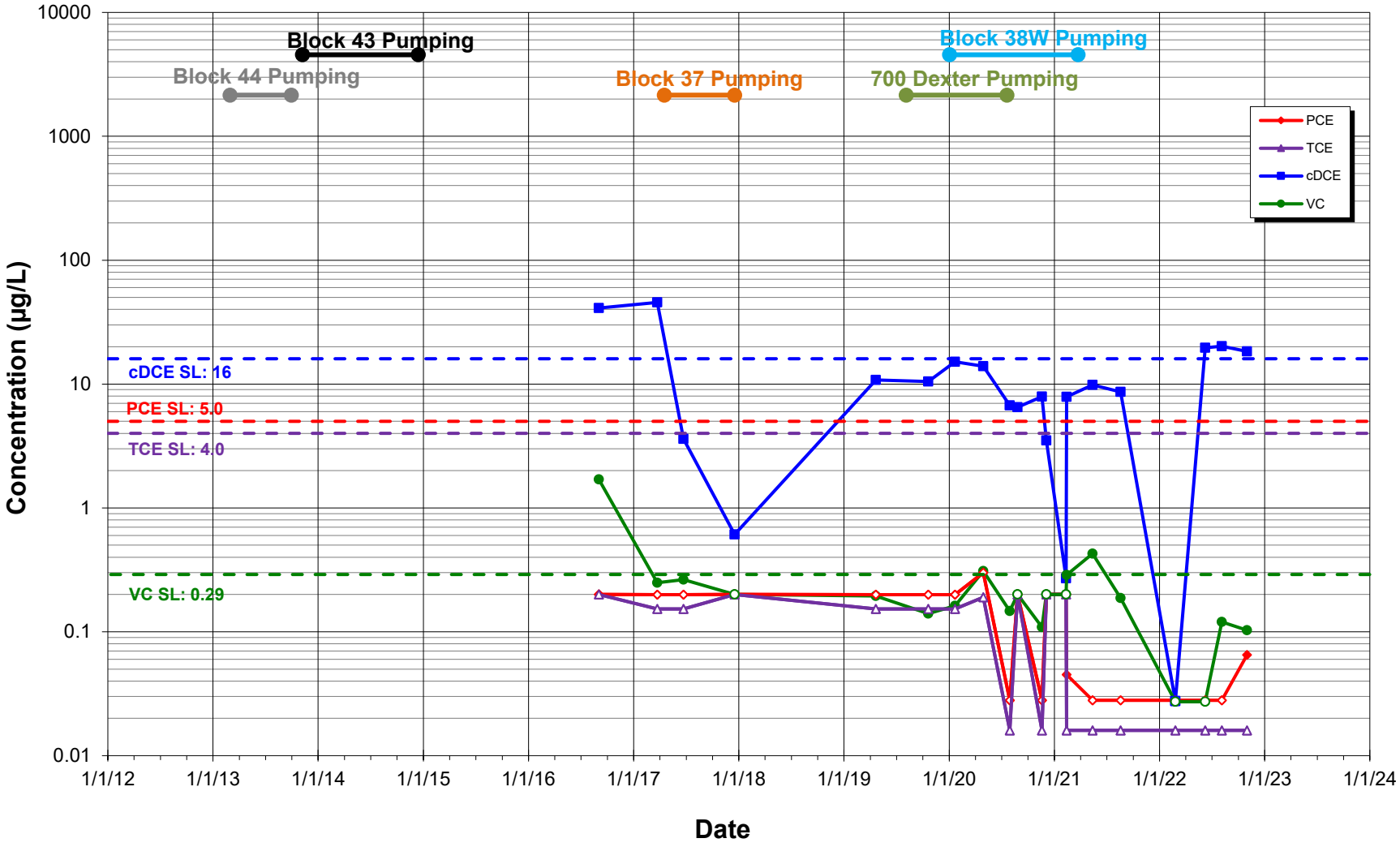

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## FMW-129 (-45.6 to -50.6 feet NAVD), SDOT Mercer Parcels, NE Quadrant
## American Linen Supply Co Dexter Ave Site



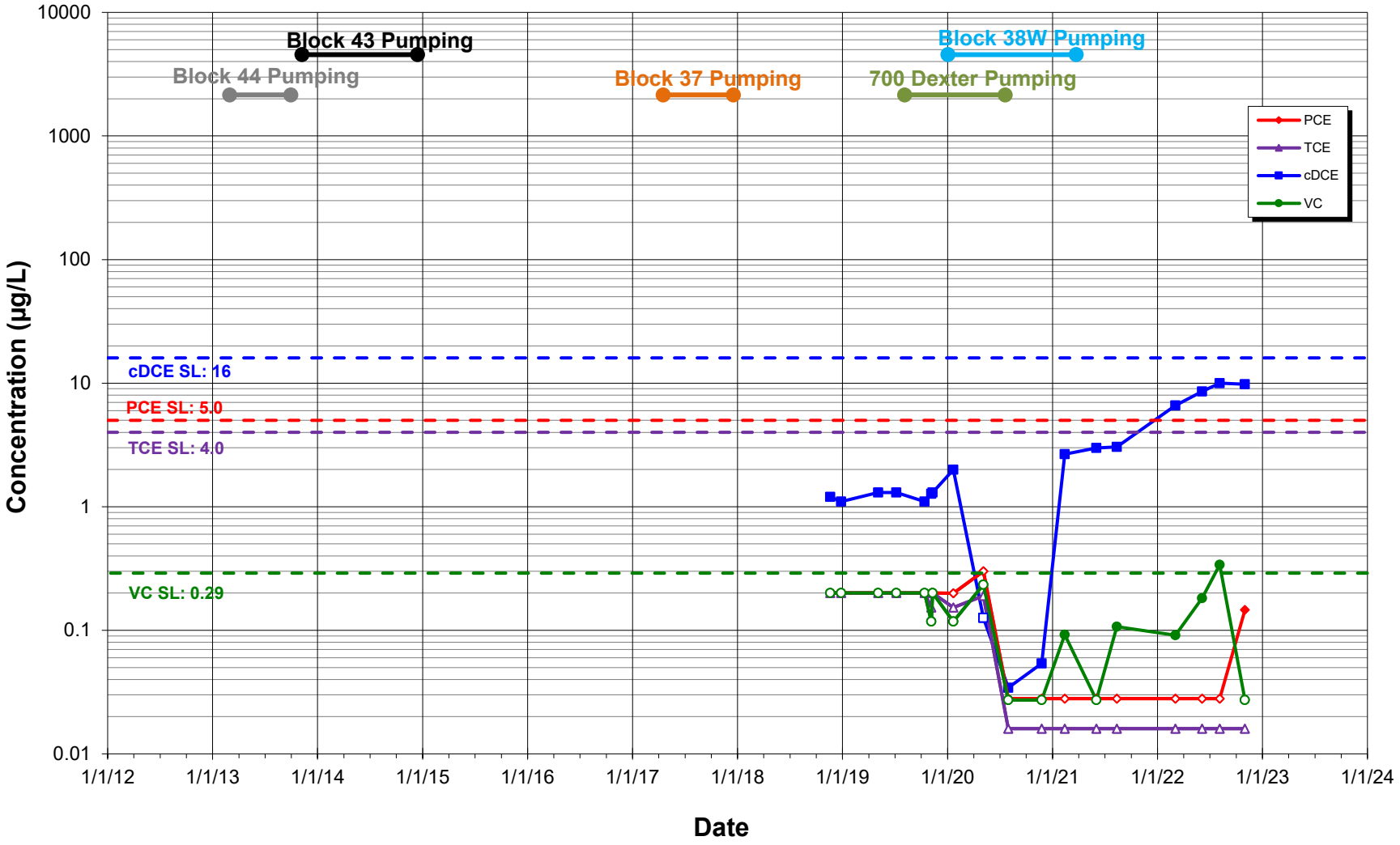

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## FMW-131 (-34.7 to -44.7 feet NAVD), Block 37, SE Quadrant
## American Linen Supply Co Dexter Ave Site



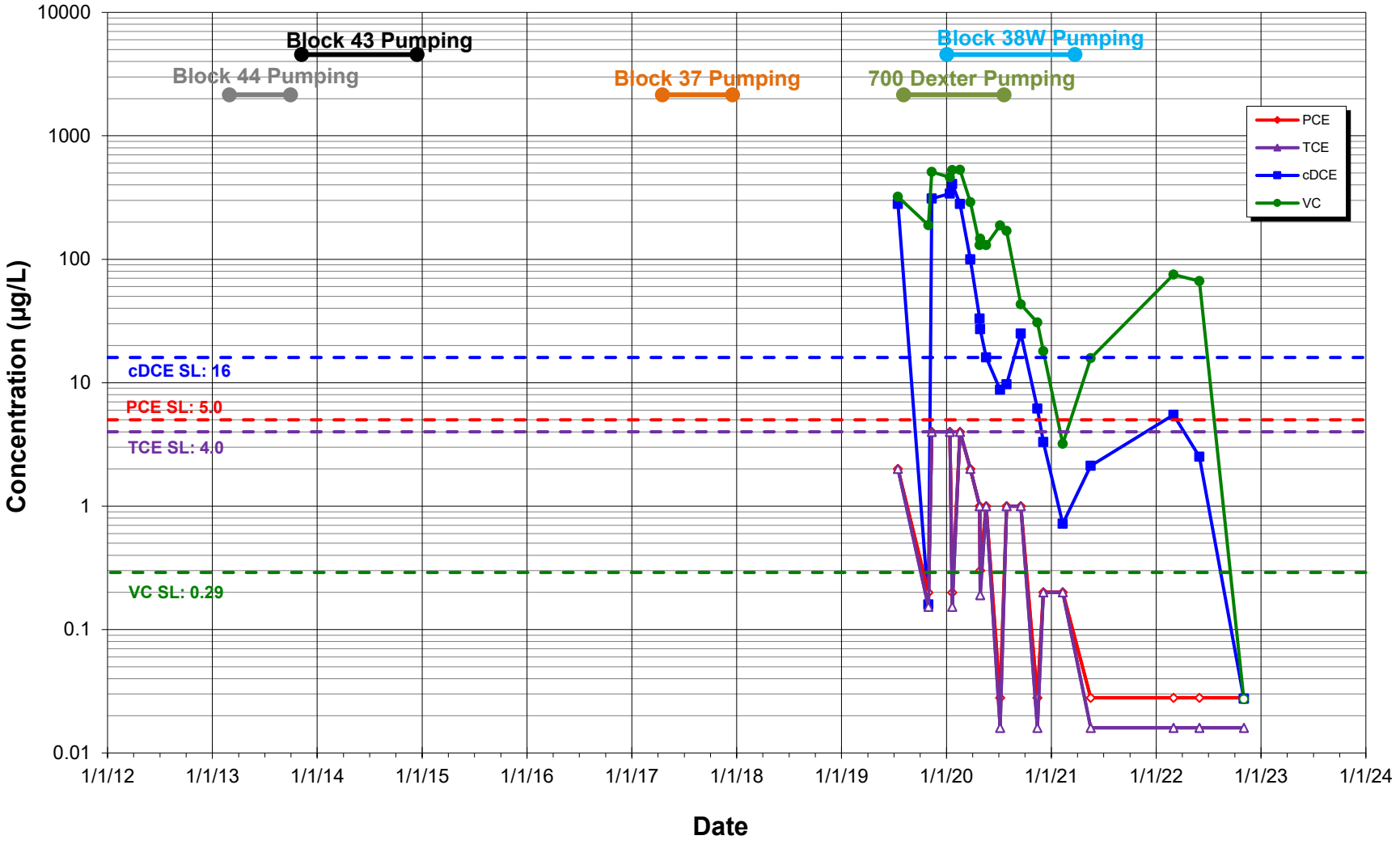

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## FMW-137 (-39.9 to -54.9 feet NAVD), Alley E of Block 38W
## American Linen Supply Co Dexter Ave Site



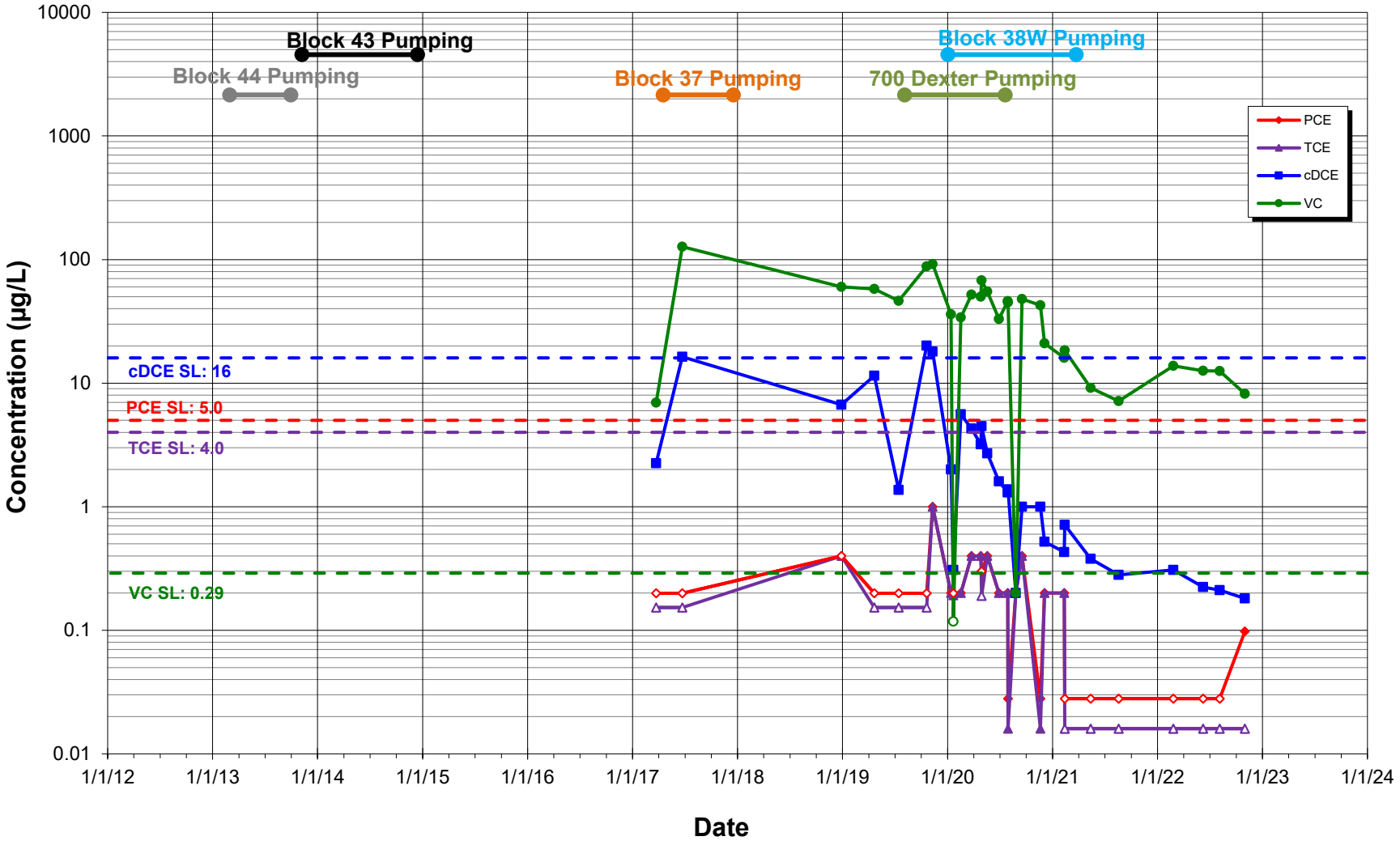

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## FMW-140 (-38.0 to -48.0 feet NAVD), 900 Roy St, S end
## American Linen Supply Co Dexter Ave Site



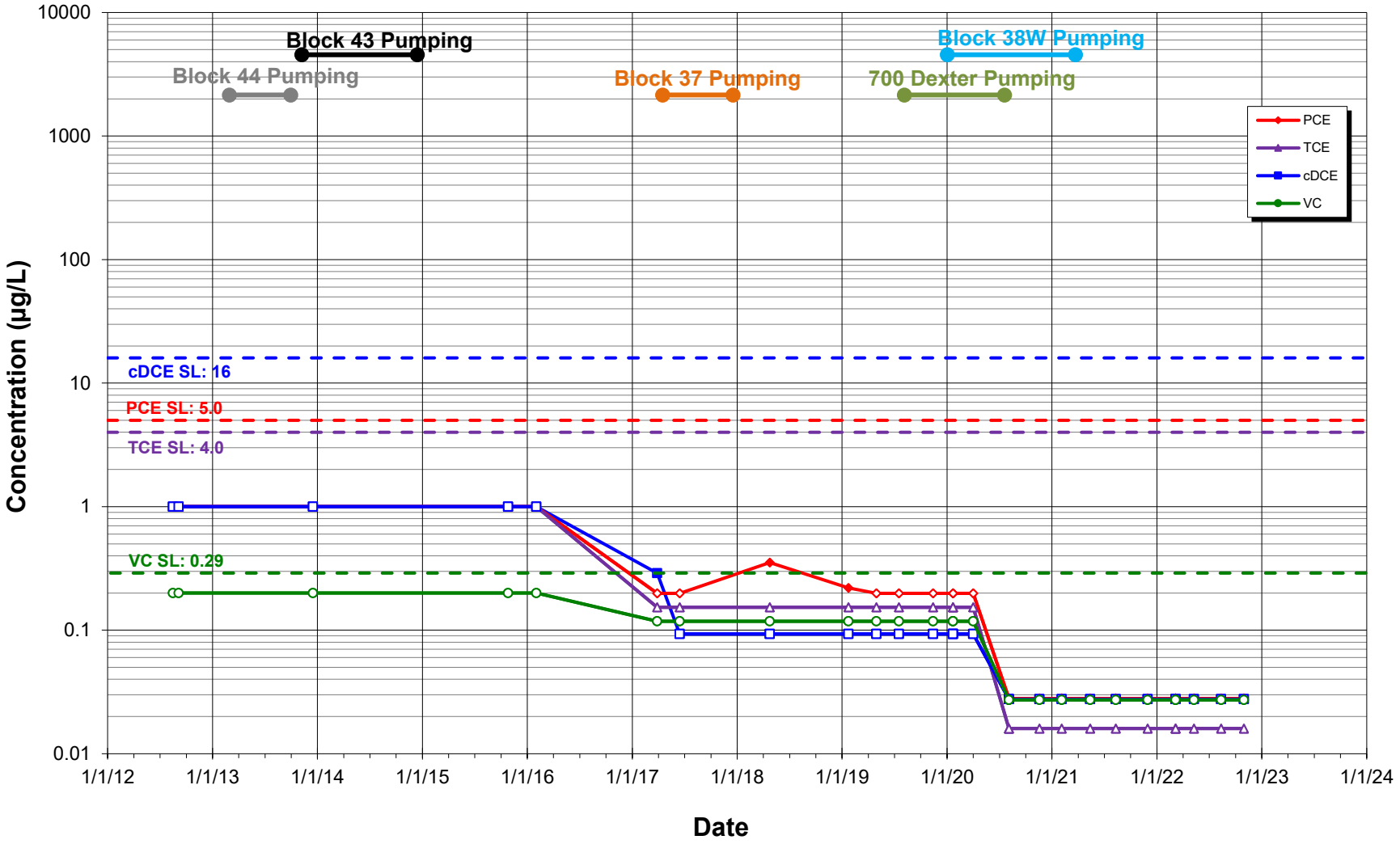

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## GEI-2 (-21.1 to -31.1 feet NAVD), Block 37, SW quadrant
## American Linen Supply Co Dexter Ave Site



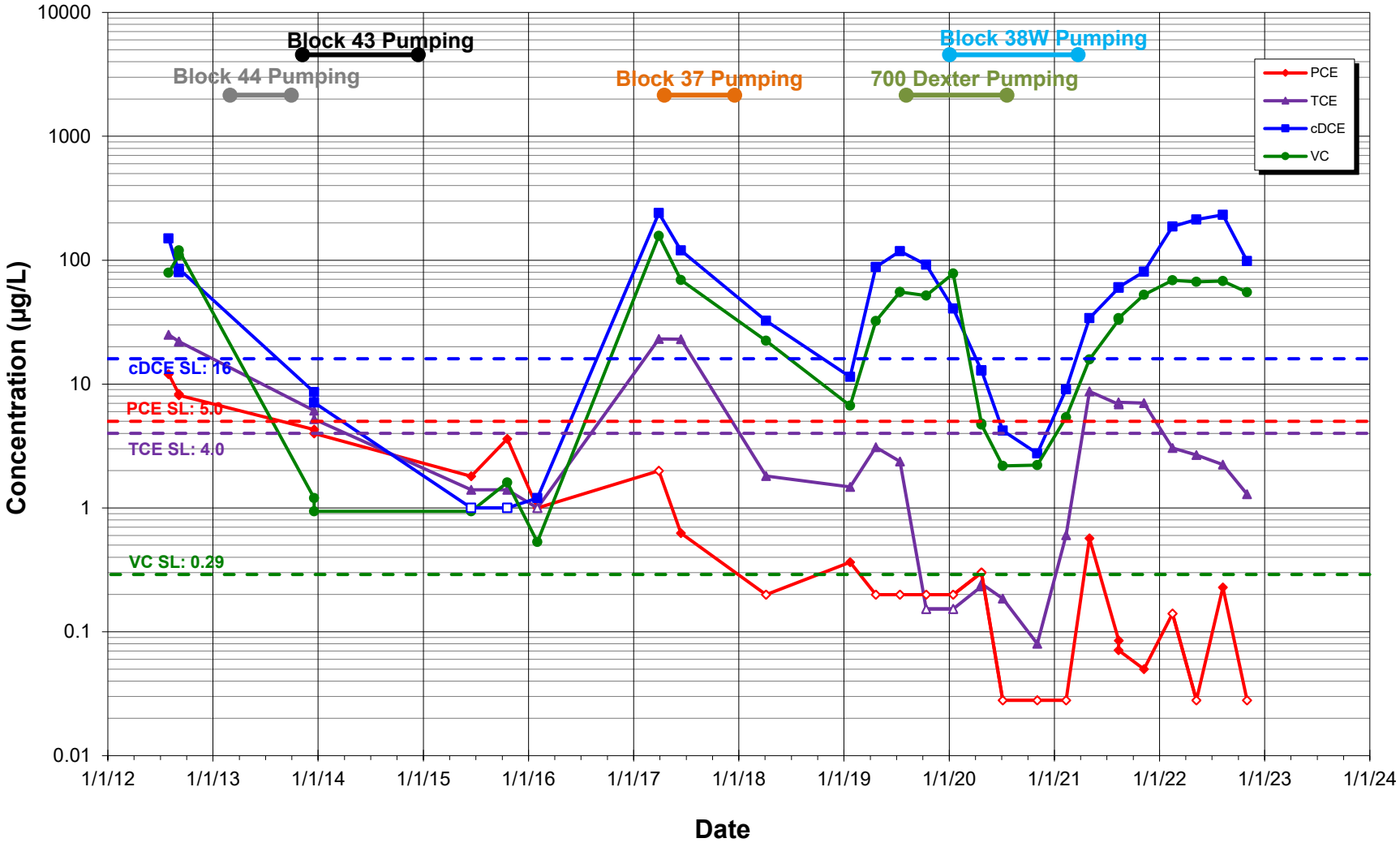

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW102 (-65.8 to -75.8 feet NAVD), Valley St ROW, S side
## American Linen Supply Co Dexter Ave Site



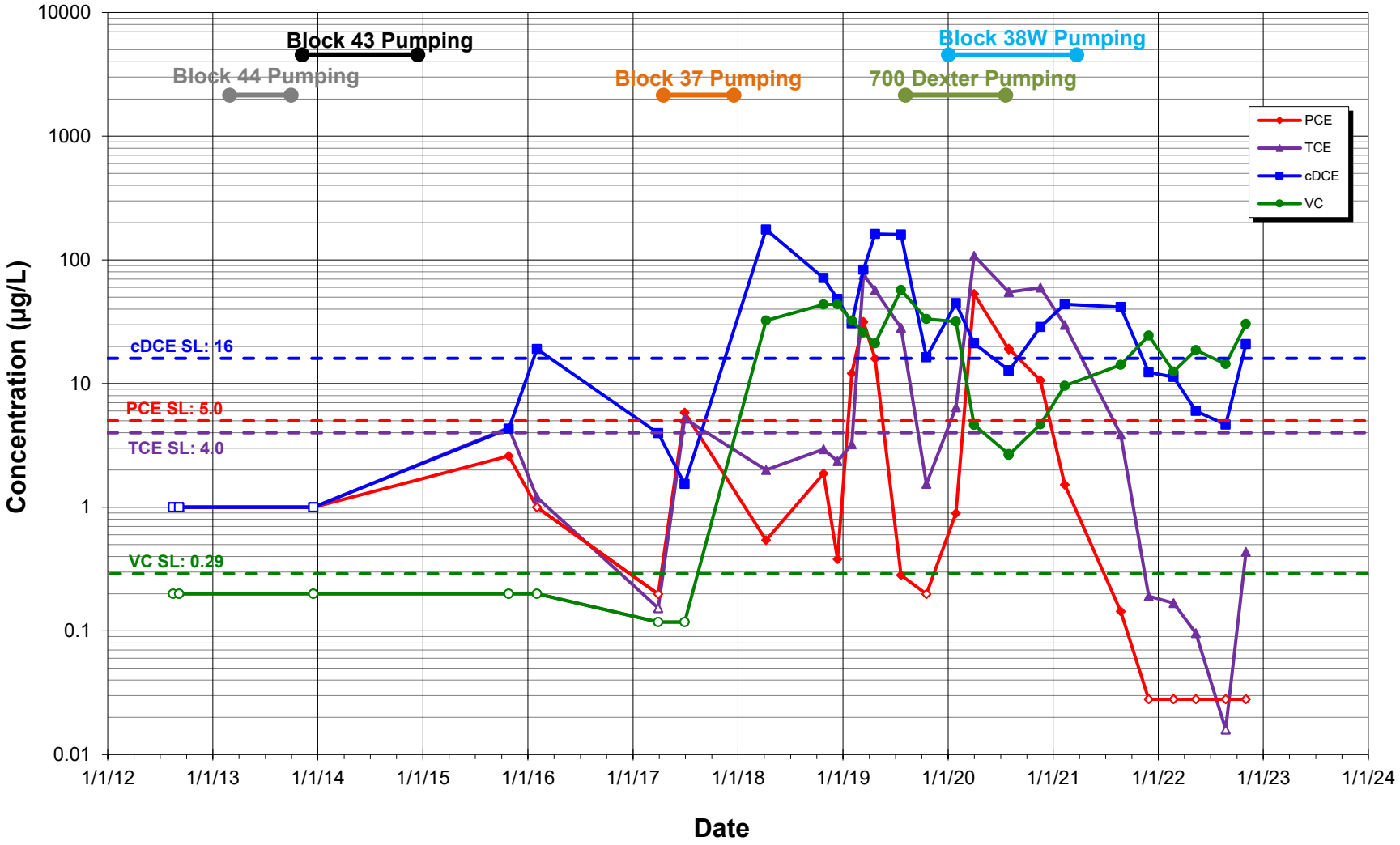

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW103 (-67.6 to -77.6 feet NAVD), Alley E of Seattle Roy Aloha Shops
## American Linen Supply Co Dexter Ave Site



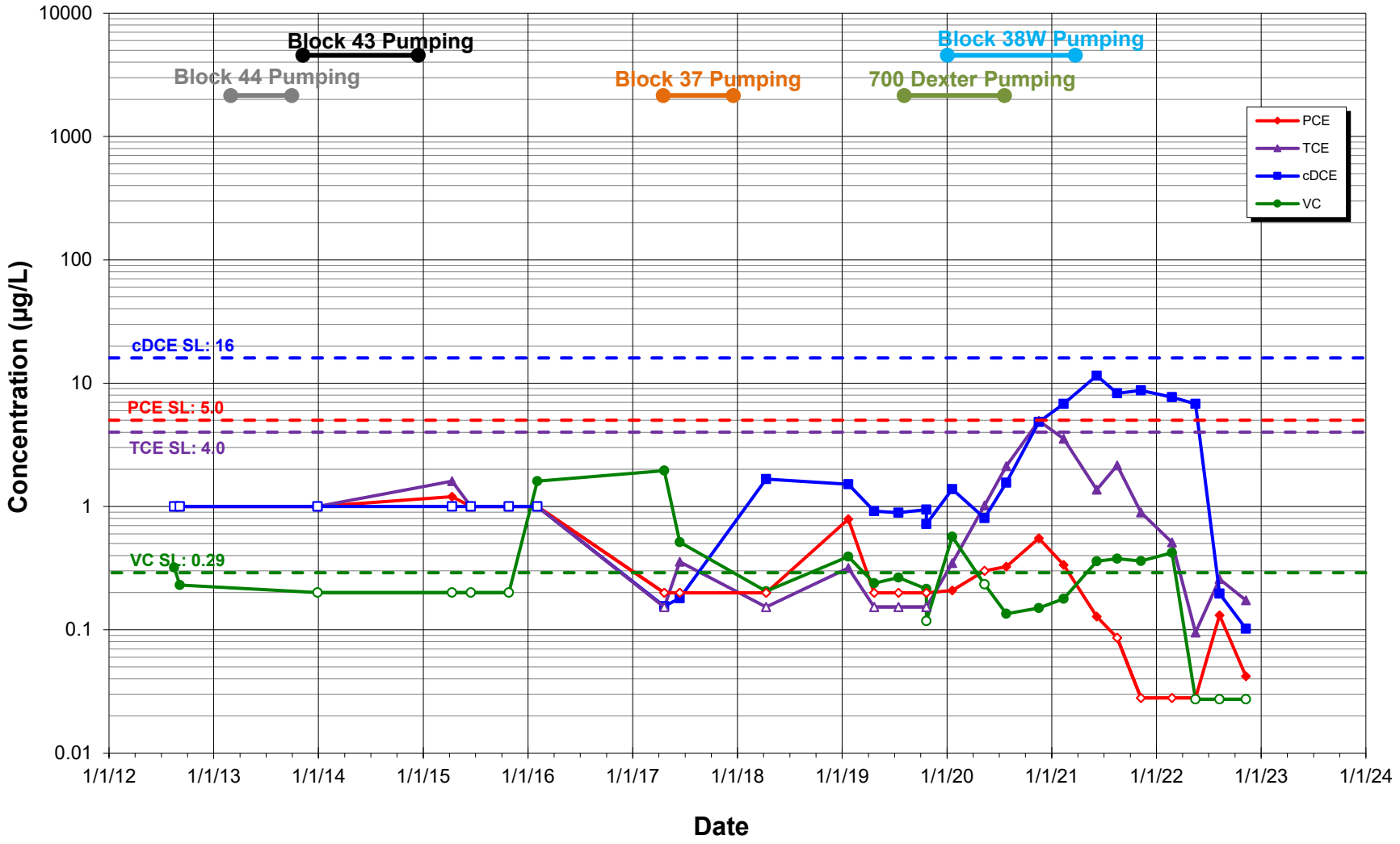

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW104 (-76.3 to -86.3 feet NAVD), 8th Ave N ROW, W side
## American Linen Supply Co Dexter Ave Site



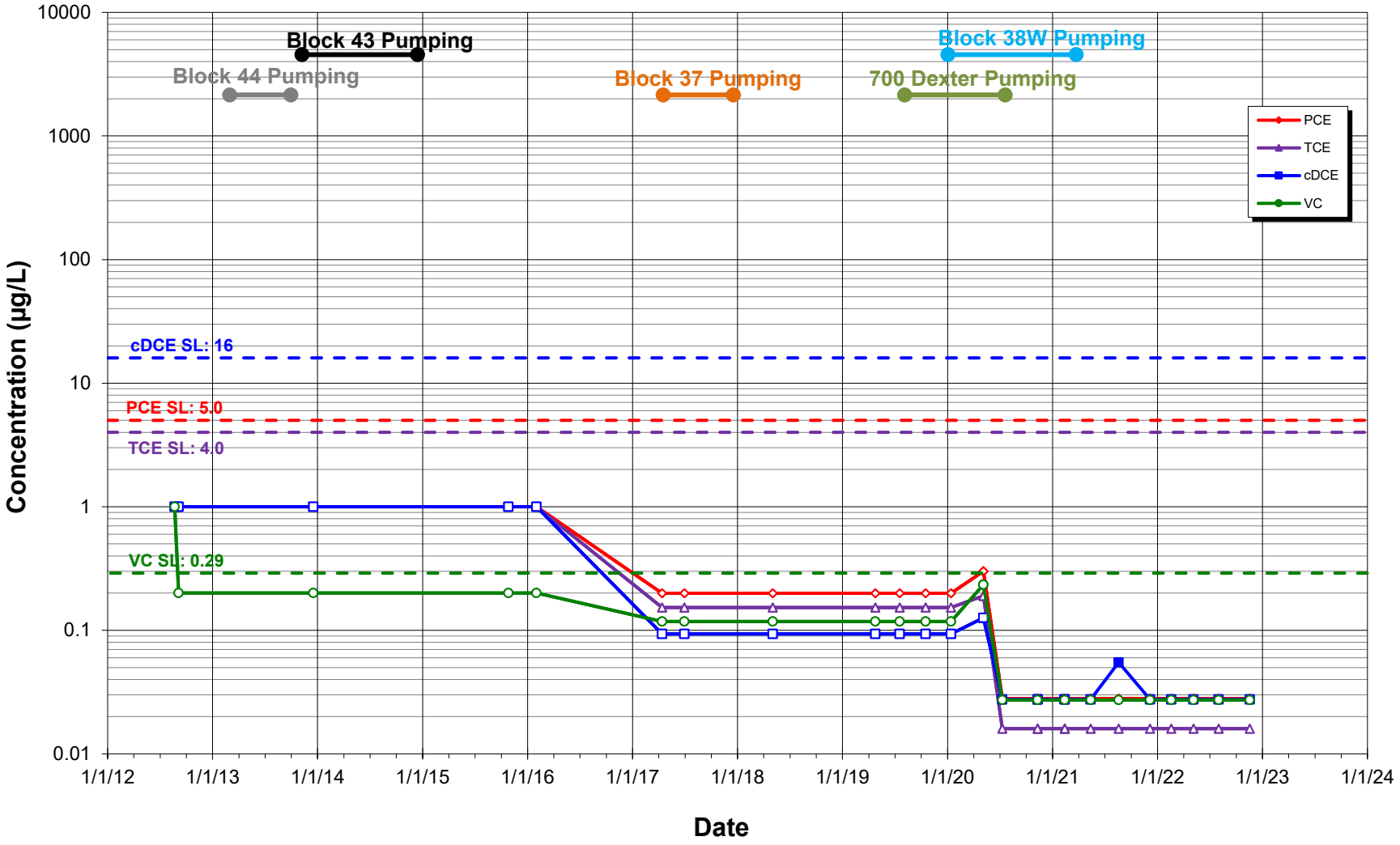

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW105 (-85.8 to -95.8 feet NAVD), Roy St ROW, S side
## American Linen Supply Co Dexter Ave Site



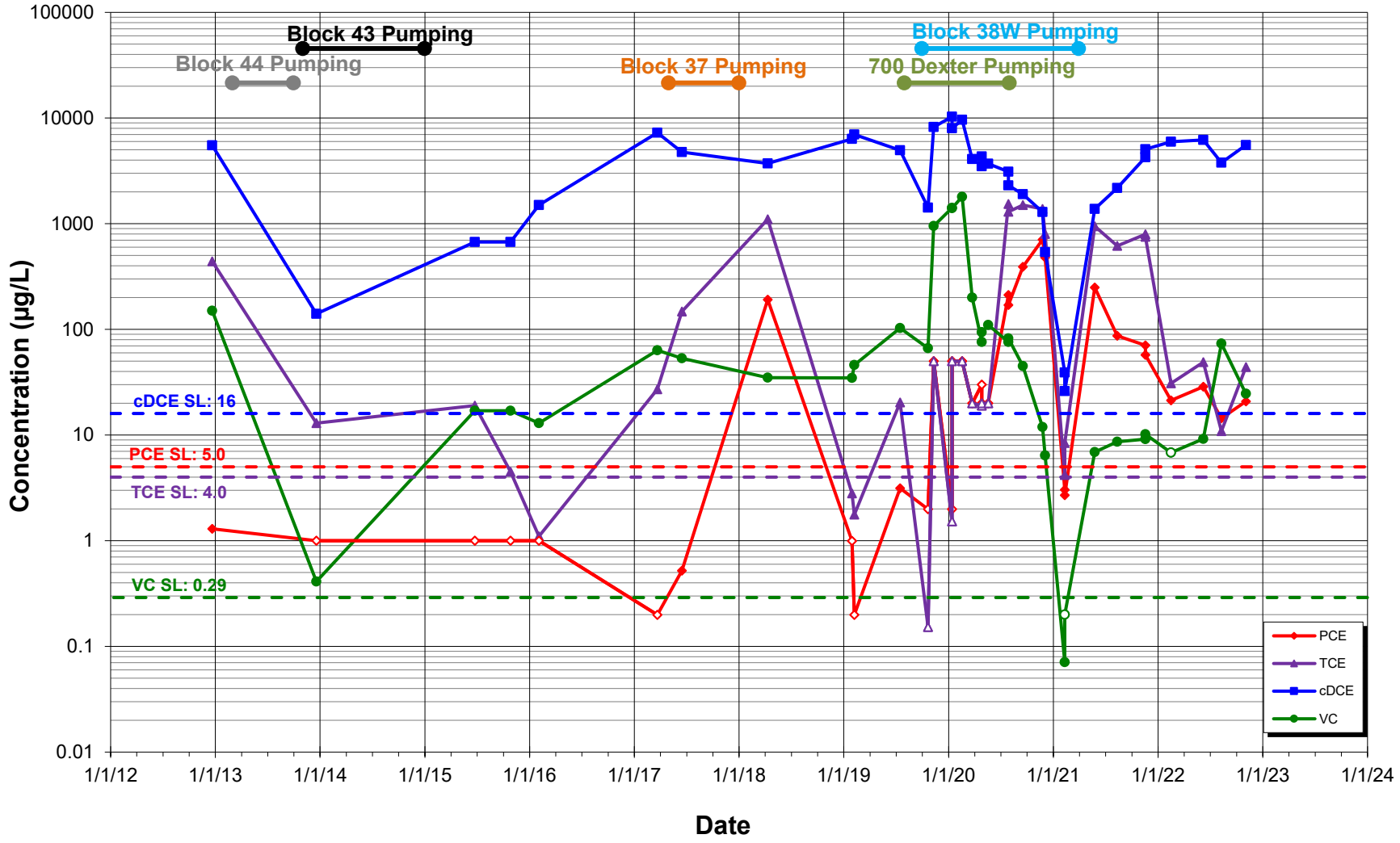

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW106 (-78.0 to -88.0 feet NAVD), SDOT Mercer Parcels, NW quadrant
## American Linen Supply Co Dexter Ave Site



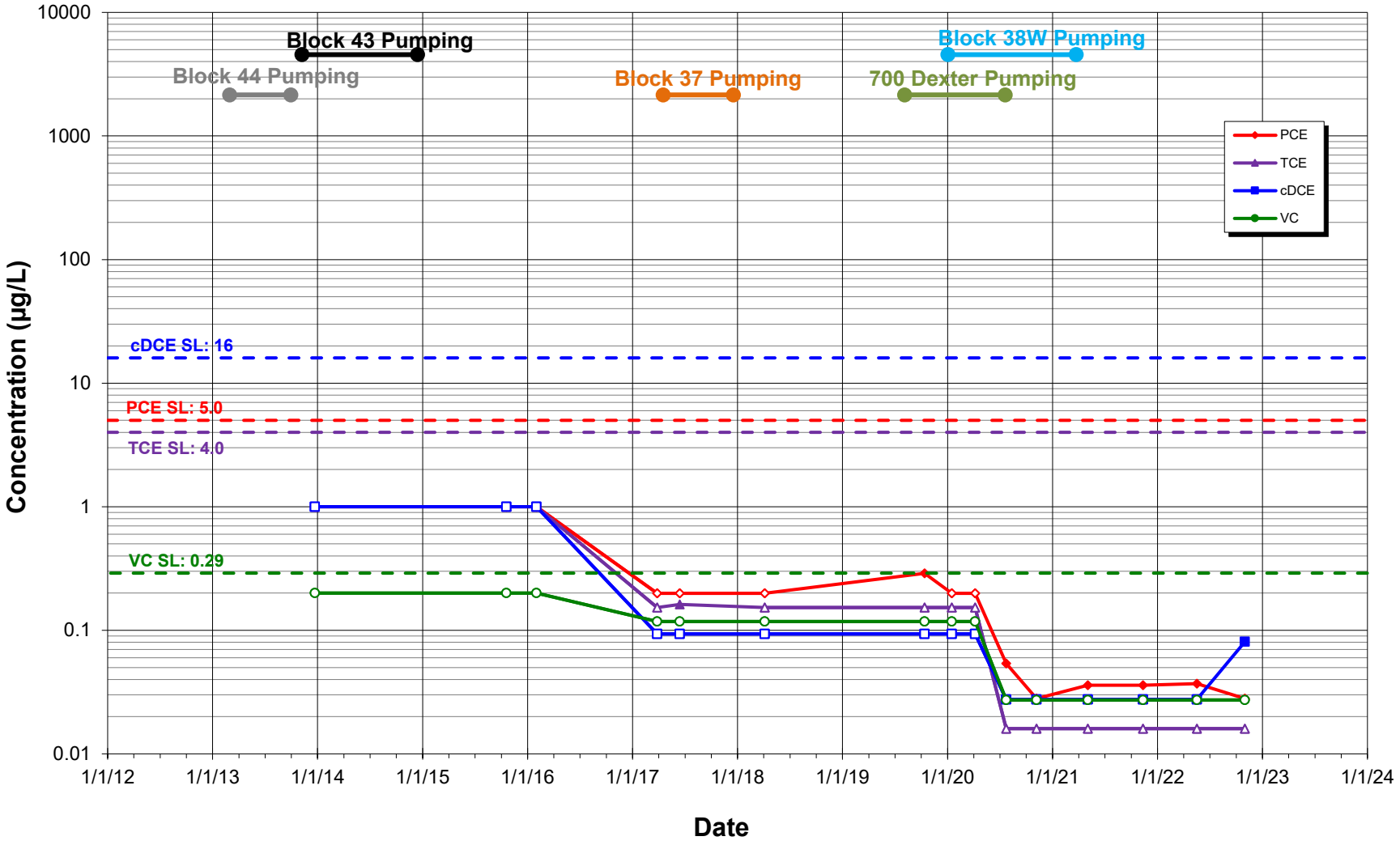

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW113 (-37.1 to -47.1 feet NAVD), 9th Ave N ROW, W side
## American Linen Supply Co Dexter Ave Site



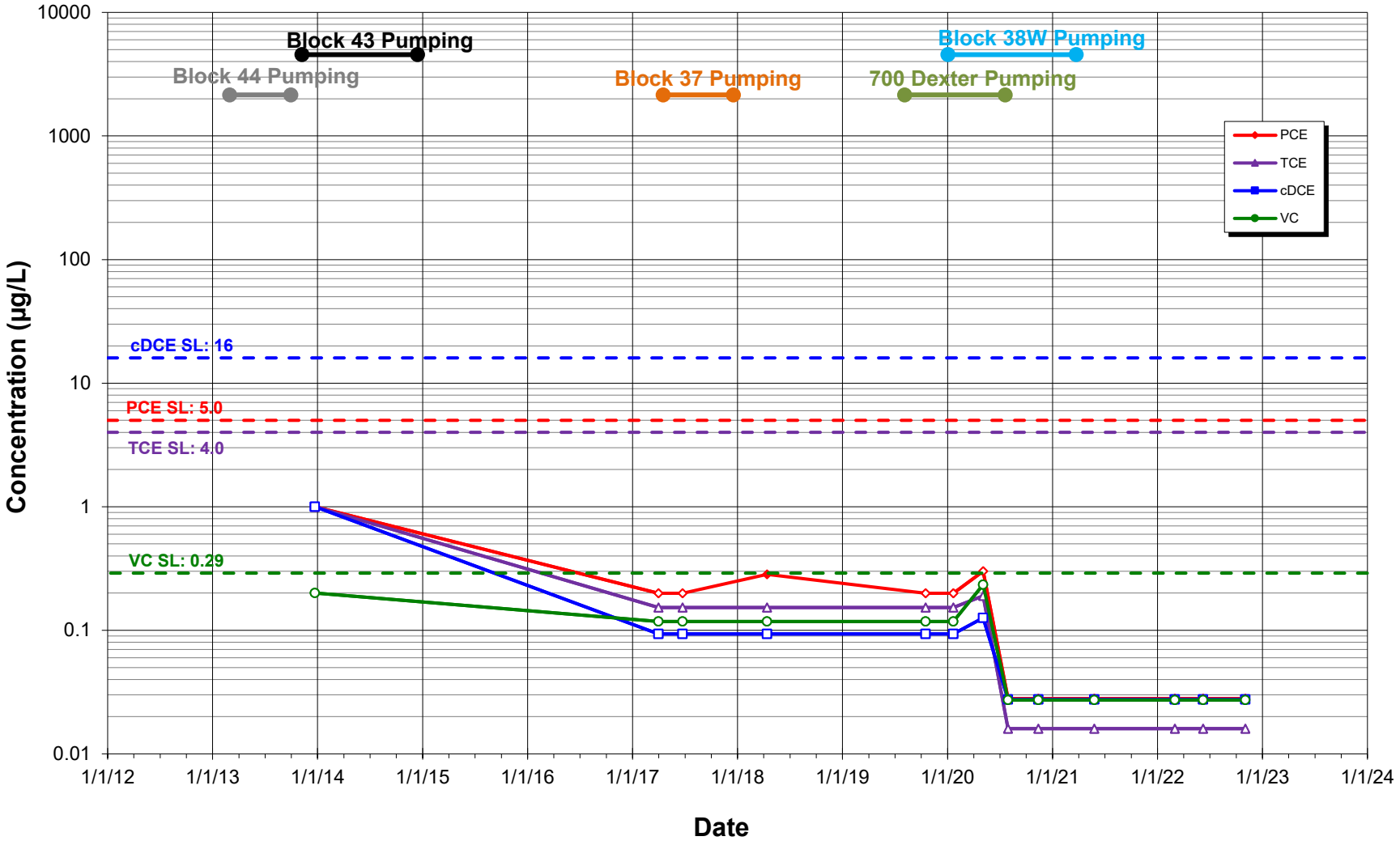

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW122 (-75.0 to -89.0 feet NAVD), Alley E of Seattle Roy Aloha Shops
## American Linen Supply Co Dexter Ave Site



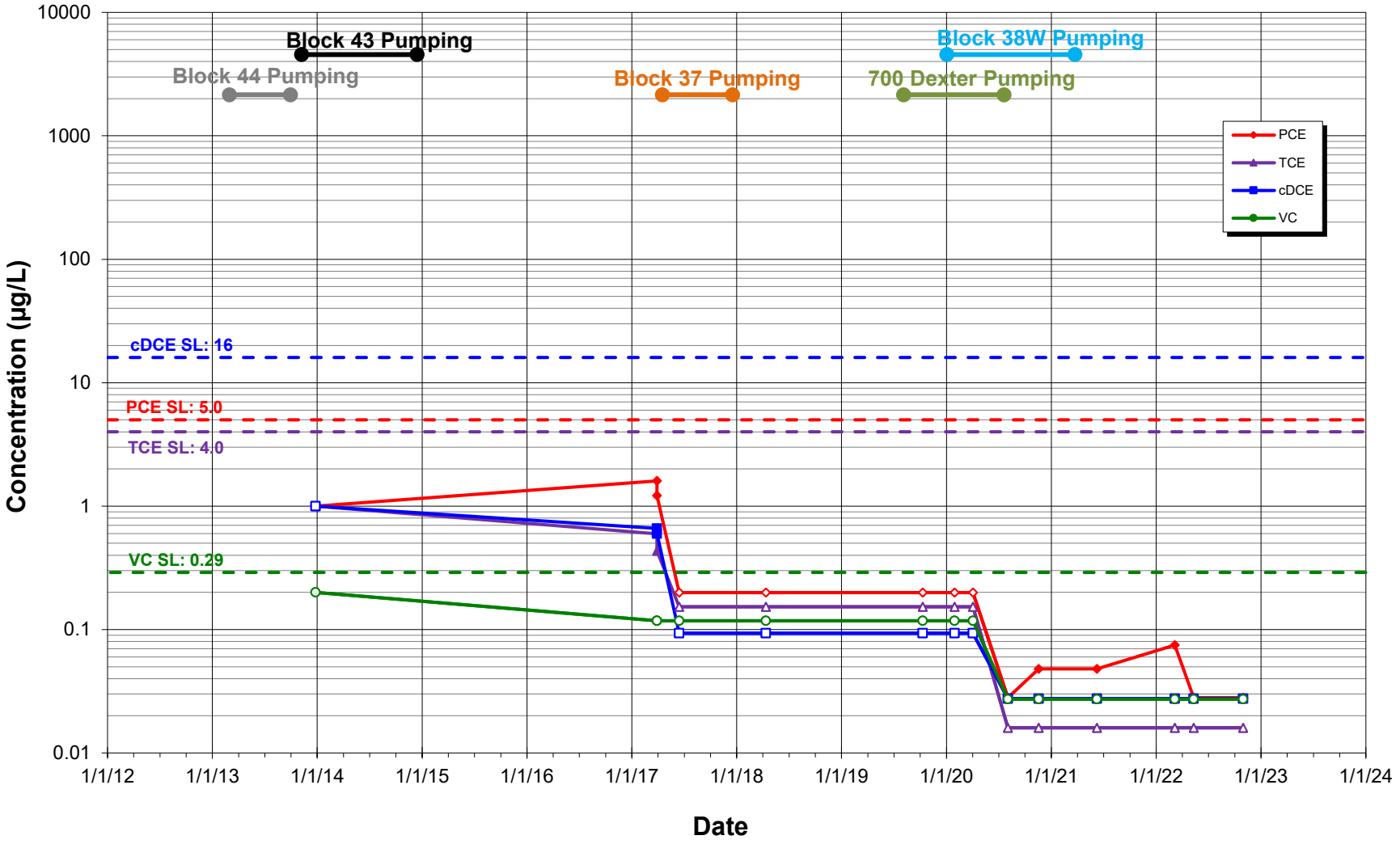

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW123 (-42.5 to -52.5 feet NAVD), Westlake Ave N ROW, W side
## American Linen Supply Co Dexter Ave Site



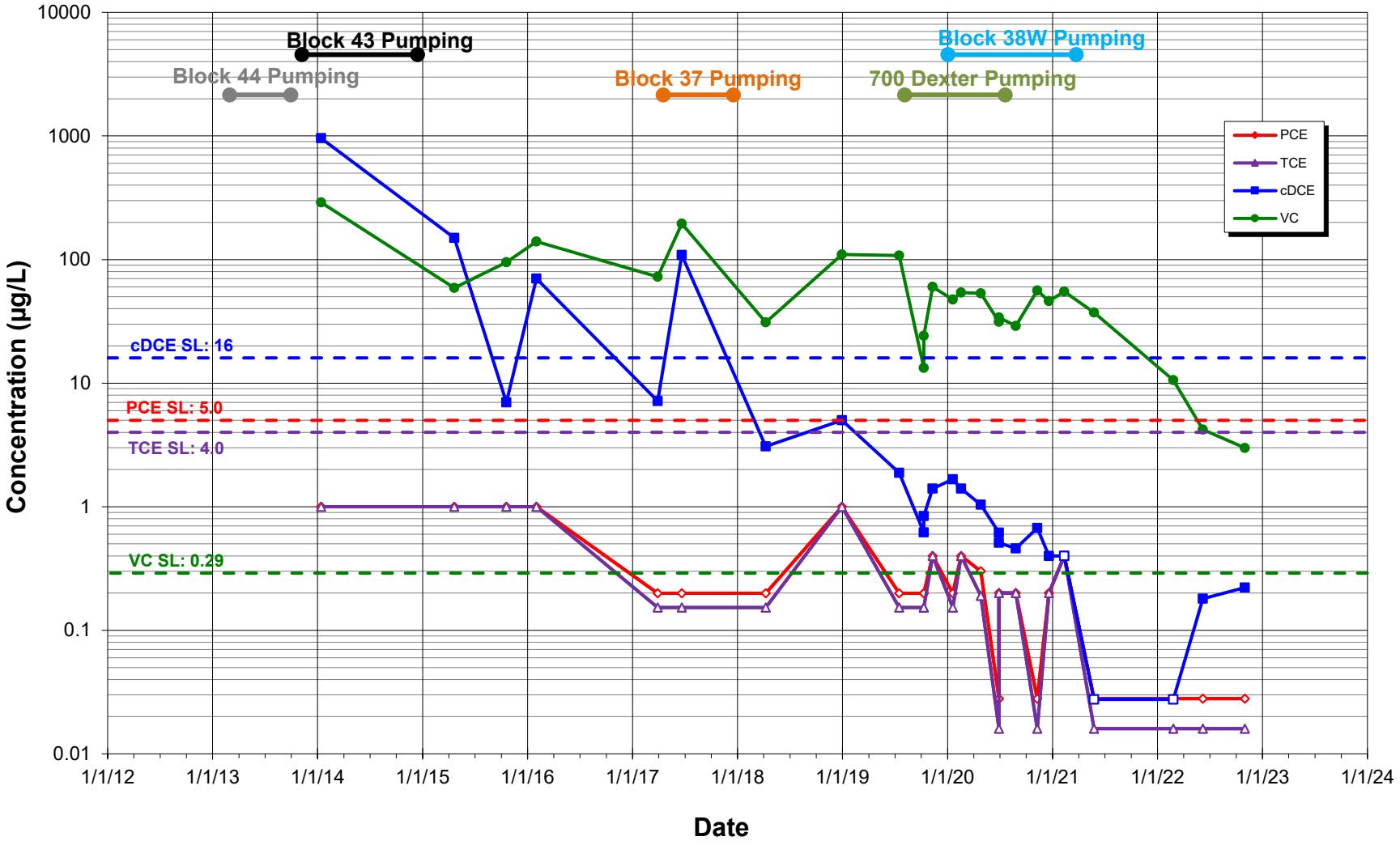

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW124 (-53.8 to -63.8 feet NAVD), Valley St ROW, S side
## American Linen Supply Co Dexter Ave Site



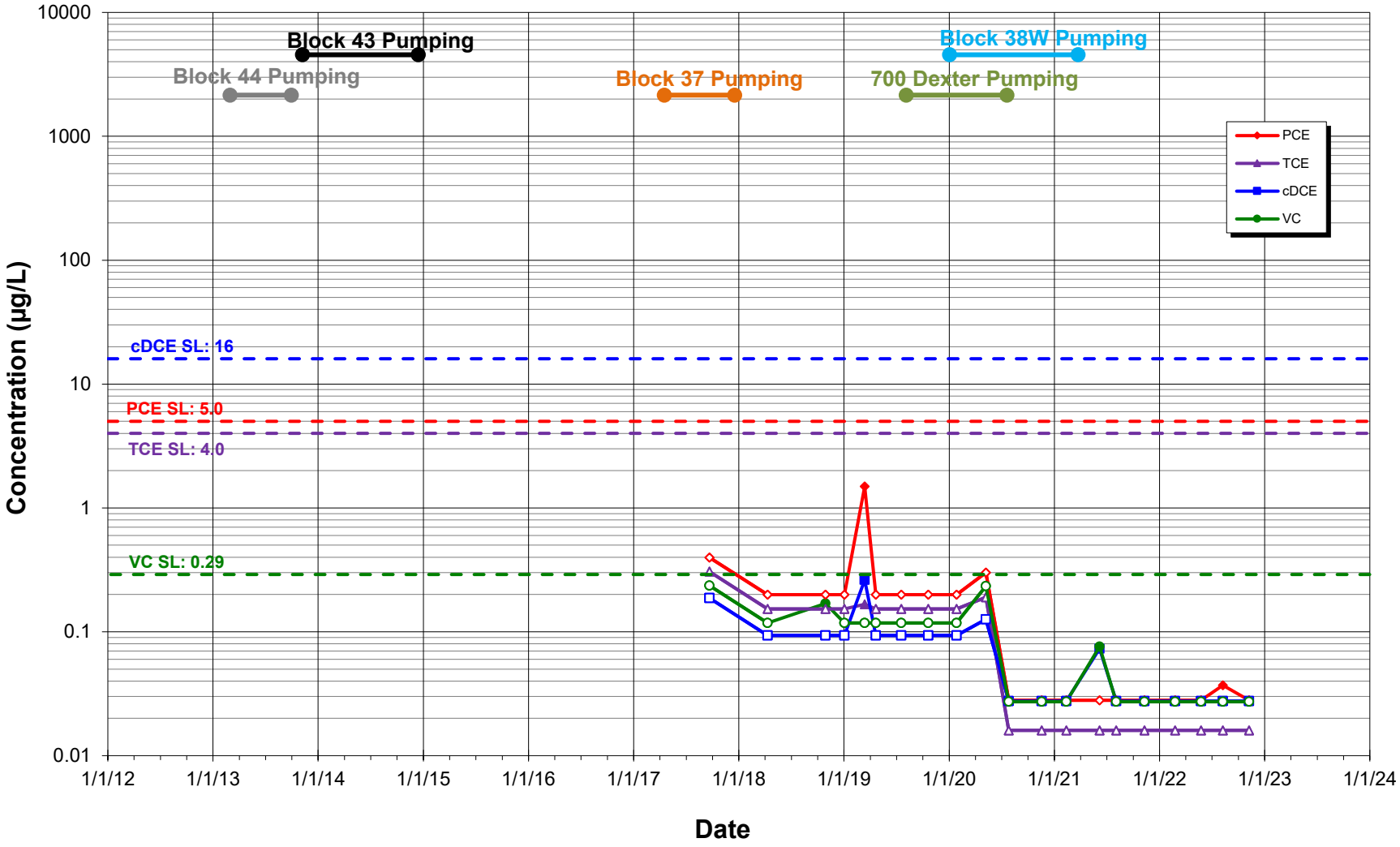

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW128 (-30.8 to -40.8 feet NAVD), Westlake Ave N ROW, E side
## American Linen Supply Co Dexter Ave Site



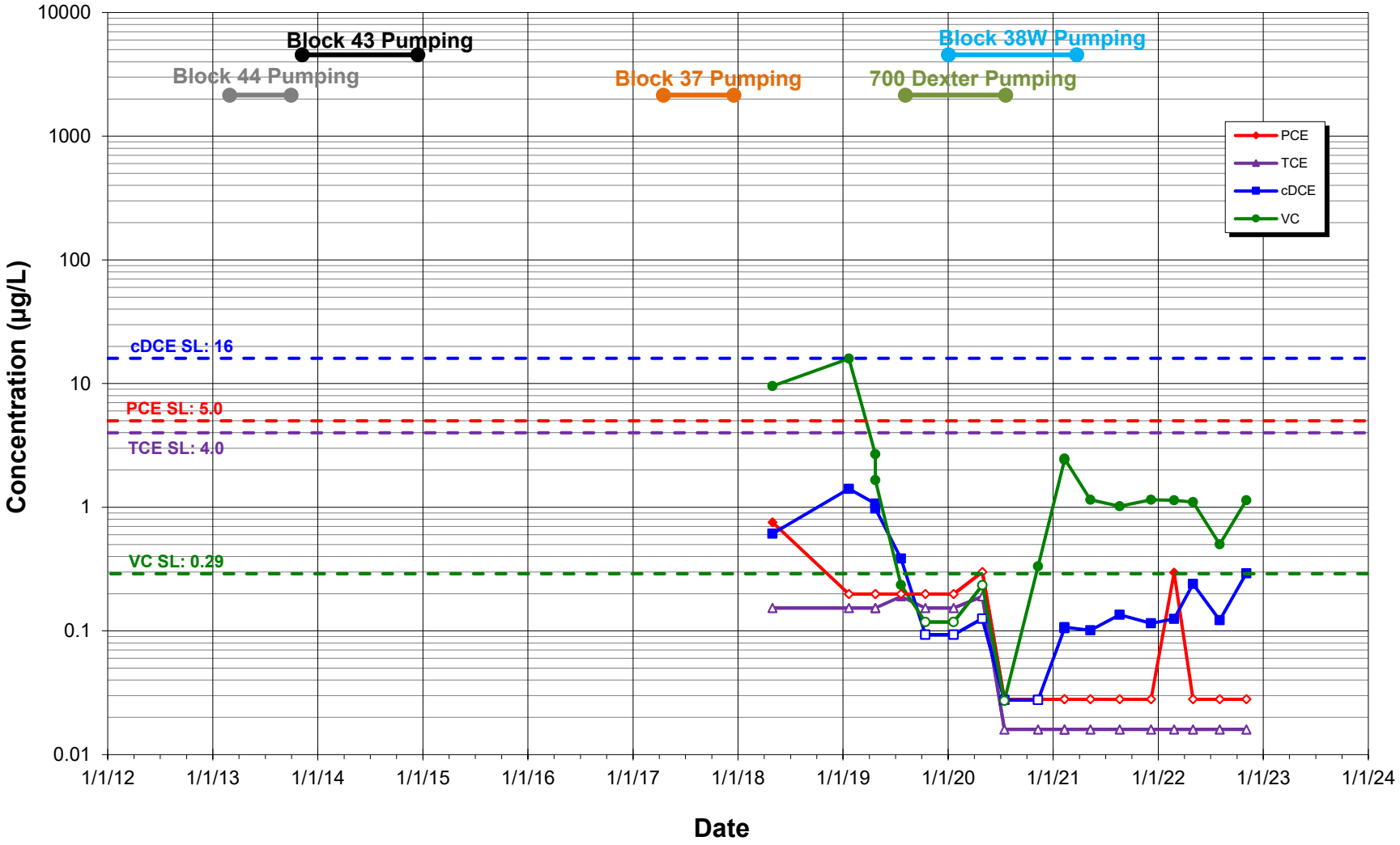

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-138 (-47.5 to -57.5 feet NAVD), Dexter Ave N ROW, E side
## American Linen Supply Co Dexter Ave Site



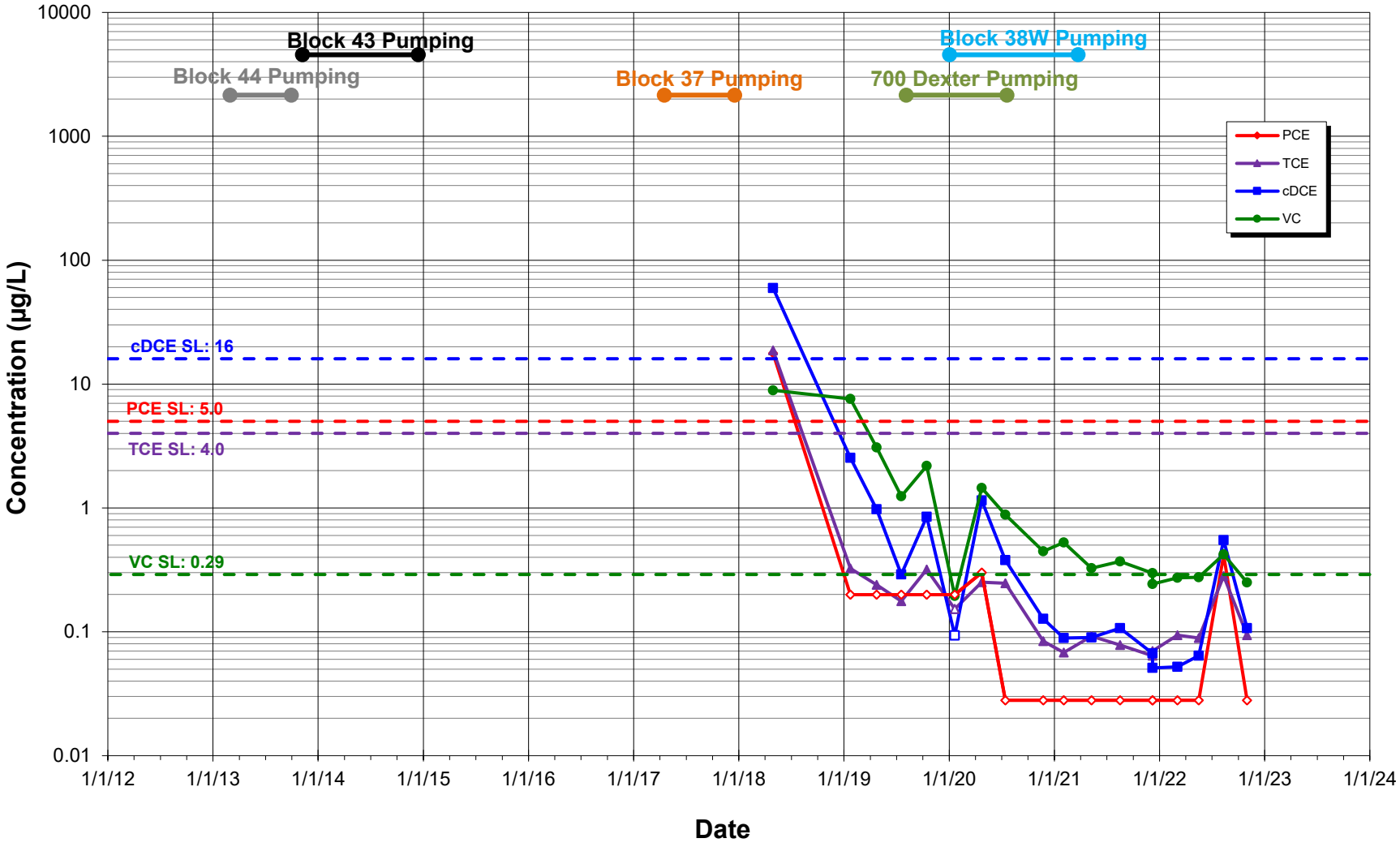

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-153 (-65.3 to -75.3 feet NAVD), Roy St ROW, S side
## American Linen Supply Co Dexter Ave Site



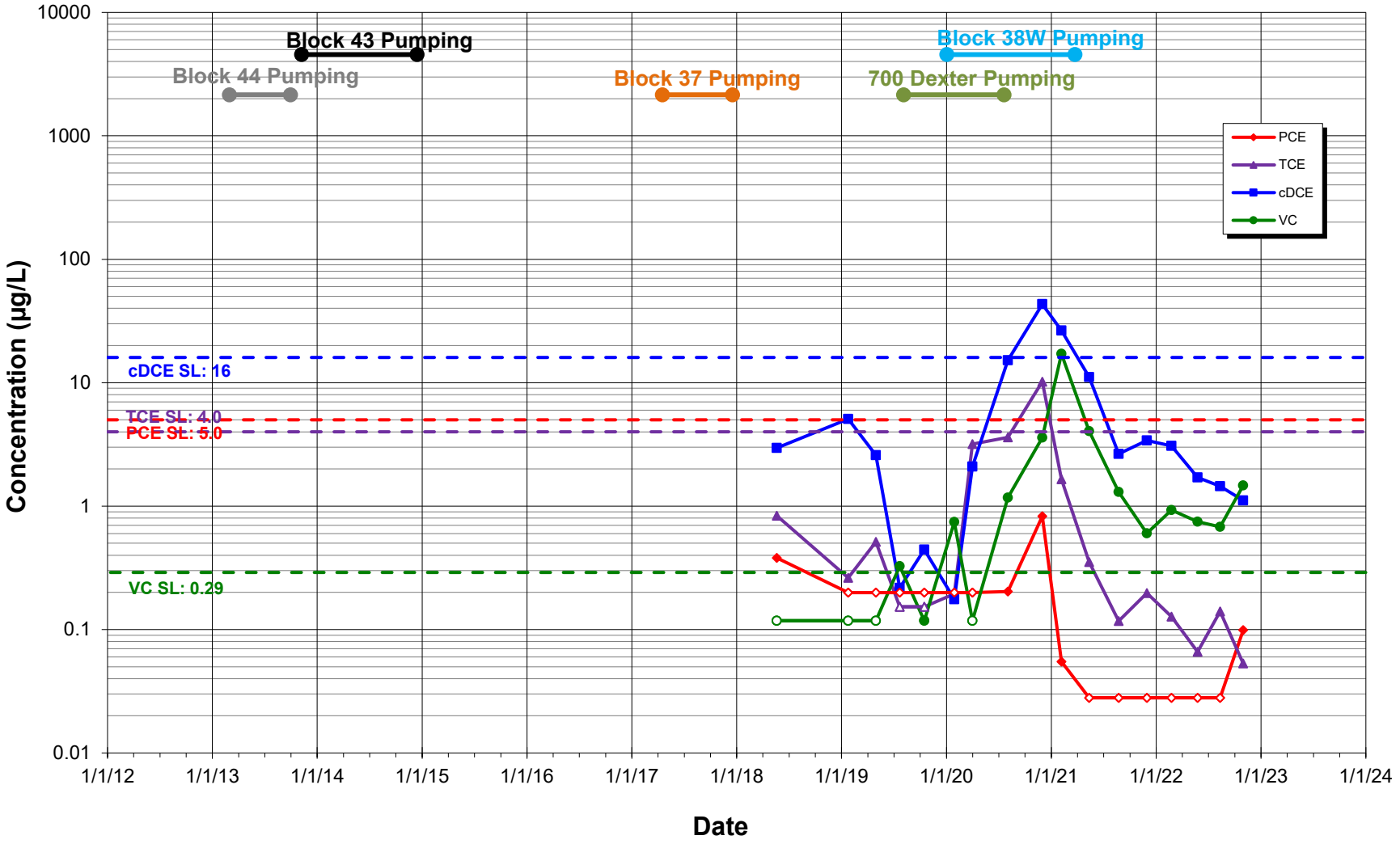

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-158A (-47.2 to -58.5 feet NAVD), 8th Ave N, ROW E side
## American Linen Supply Co Dexter Ave Site



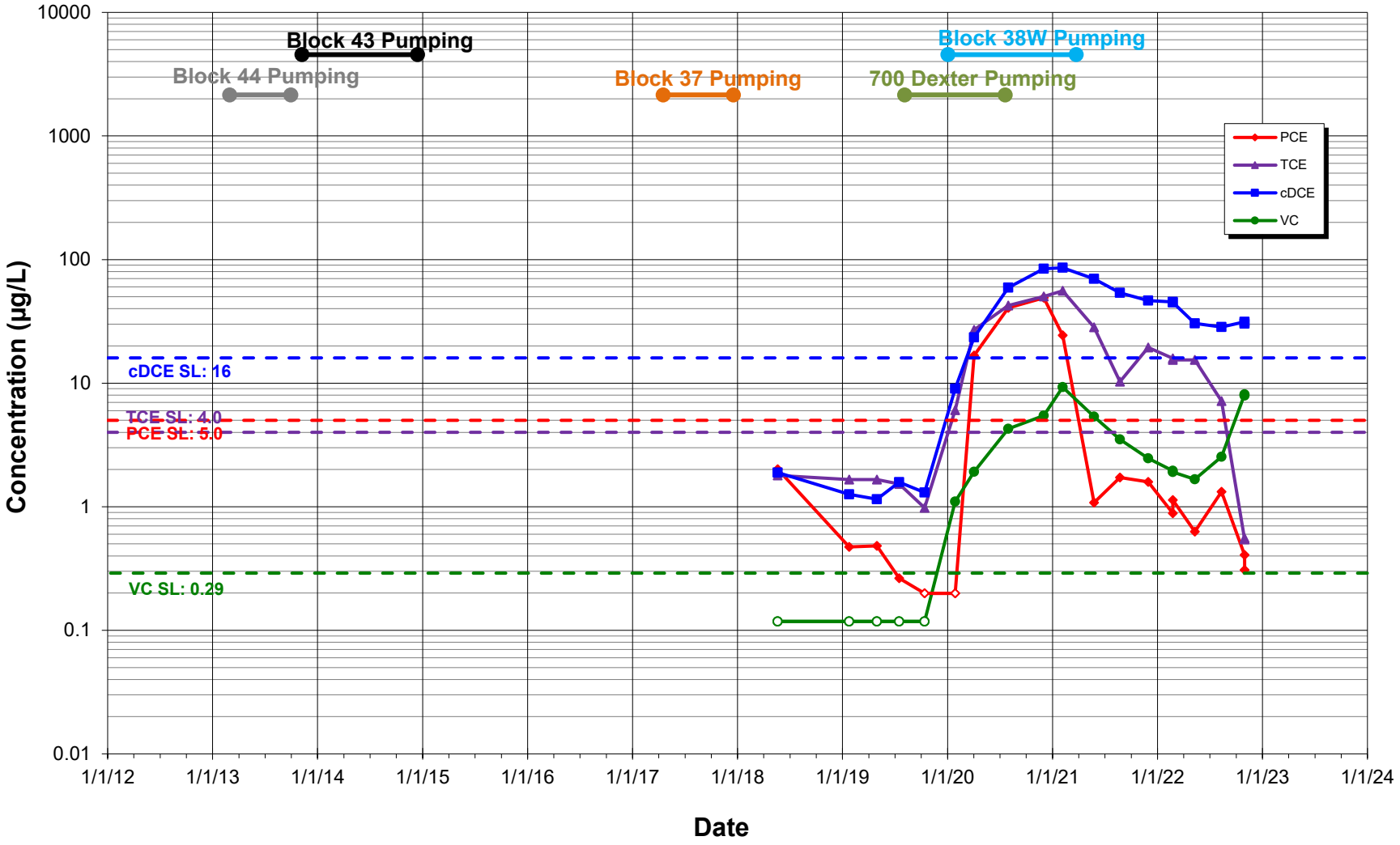

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-160 (-76.5 to -86.5 feet NAVD), 8th Ave N ROW, W side
## American Linen Supply Co Dexter Ave Site



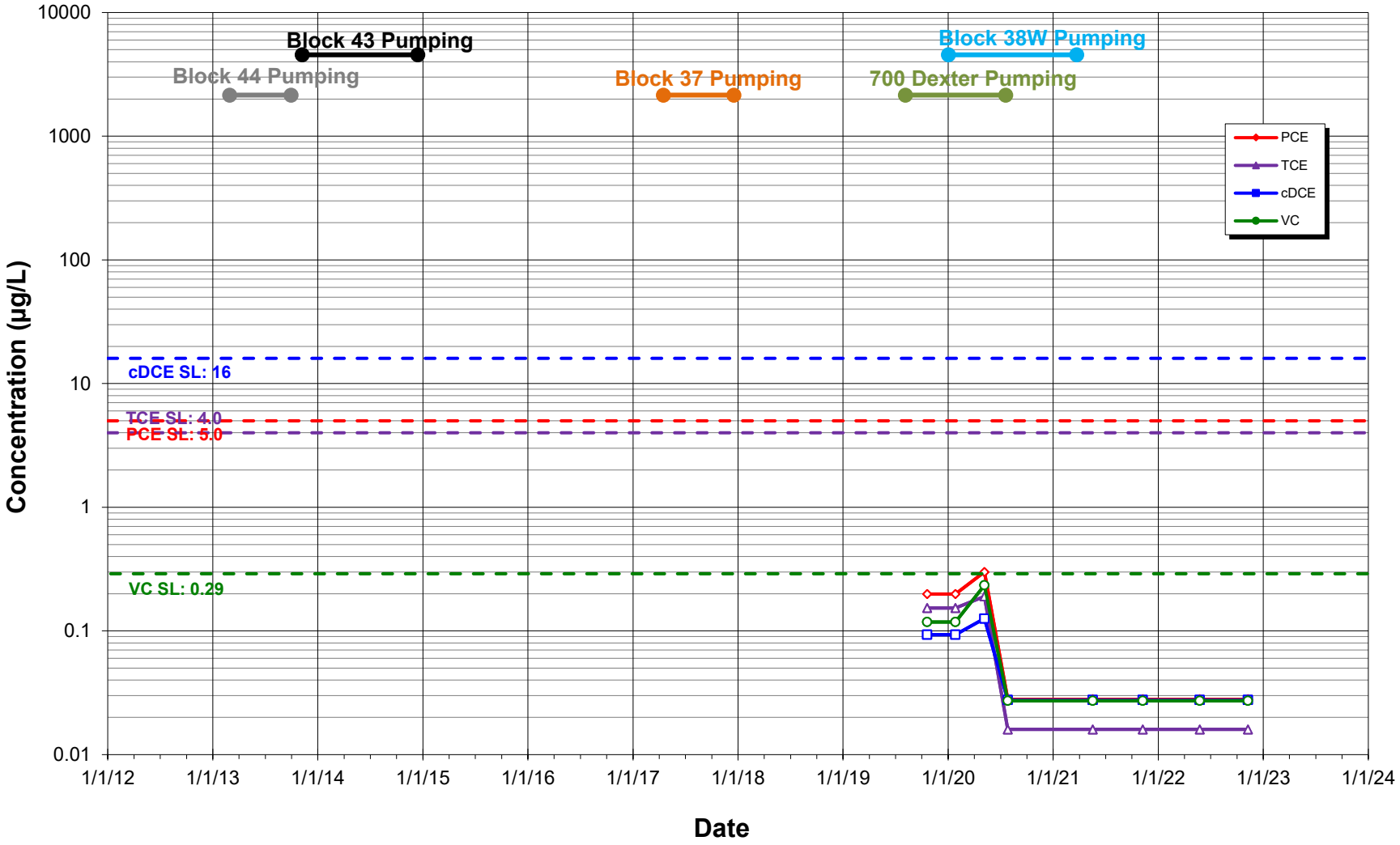

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-161 (-78.9 to -89.9 feet NAVD), 8th Ave N ROW, W side
## American Linen Supply Co Dexter Ave Site



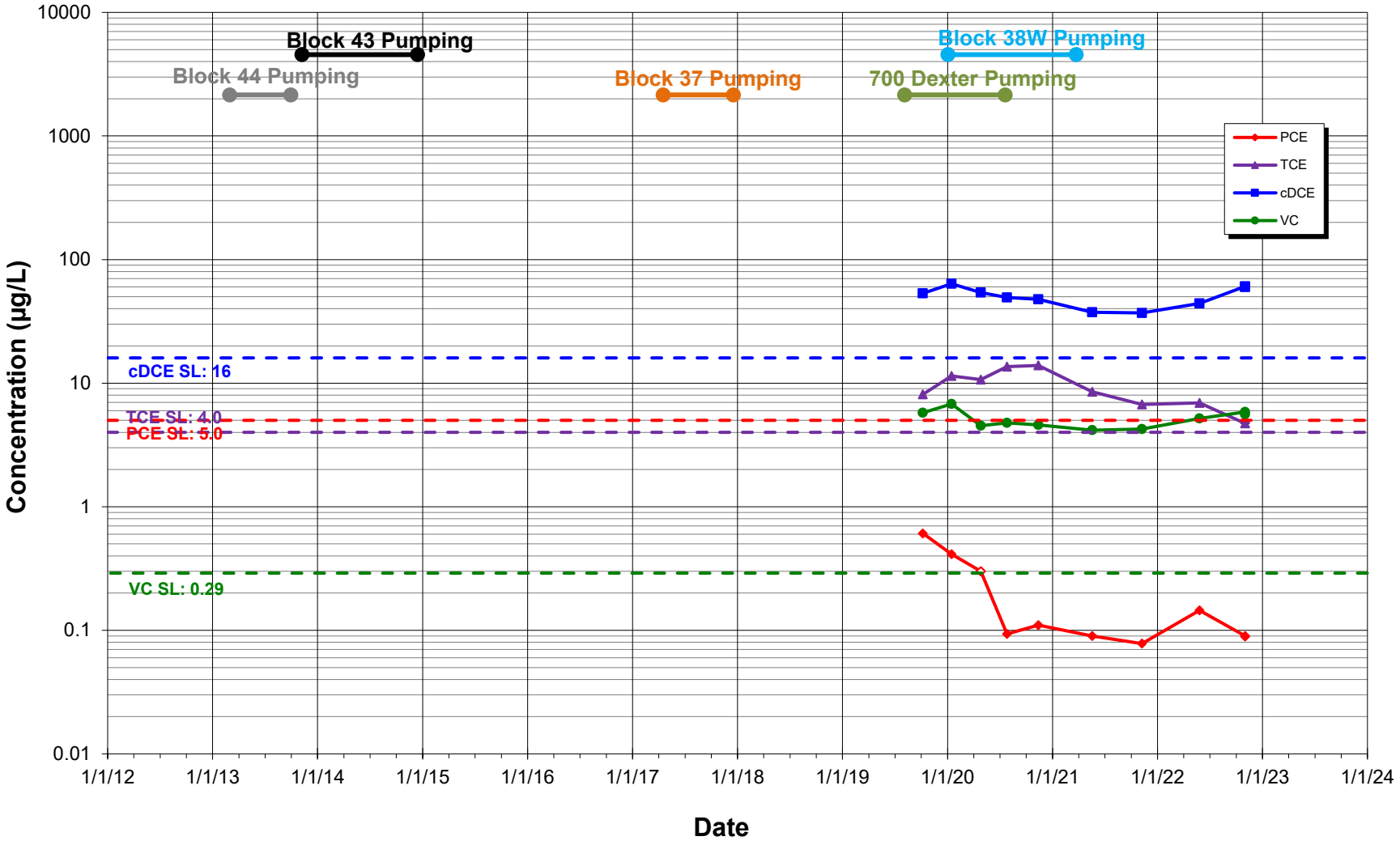

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-304 (-47.6 to -57.6 feet NAVD), Dexter Avenue N ROW, E side
## American Linen Supply Co Dexter Ave Site



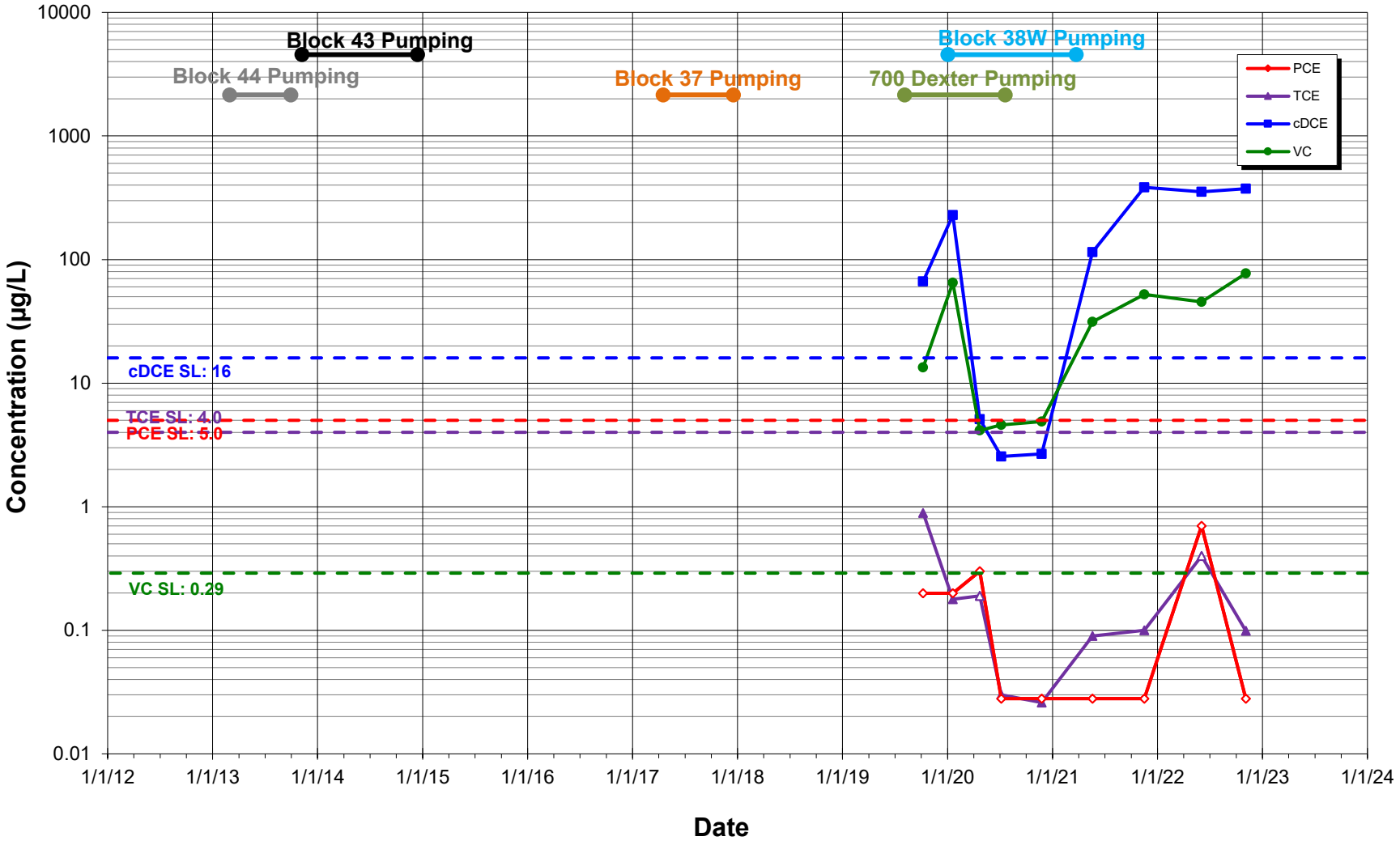

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-319 (-42.8 to -52.8 feet NAVD), 9th Ave N ROW, W side
## American Linen Supply Co Dexter Ave Site



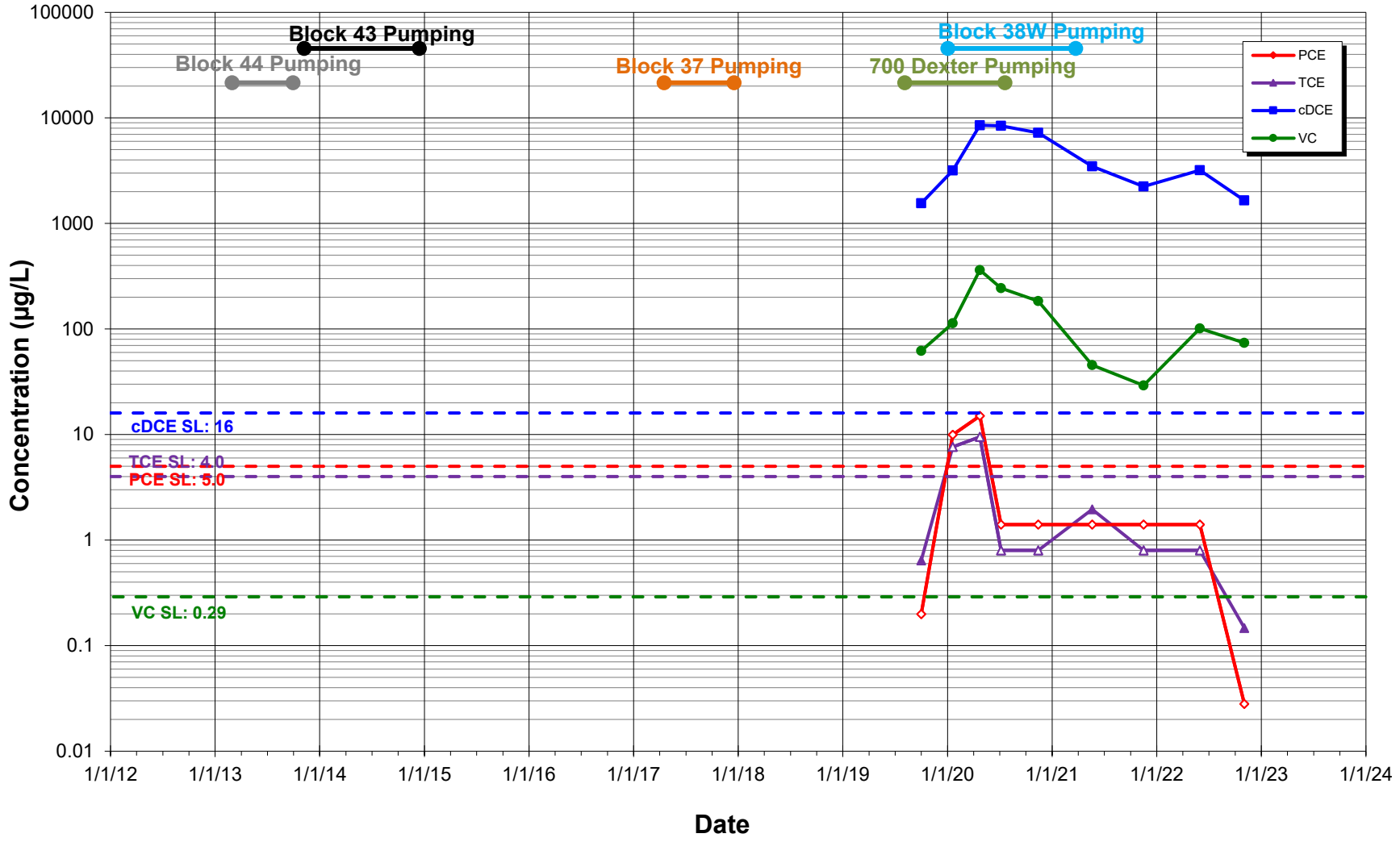

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-323 (-65.4 to -75.4 feet NAVD), 9th Ave N ROW, W side
## American Linen Supply Co Dexter Ave Site



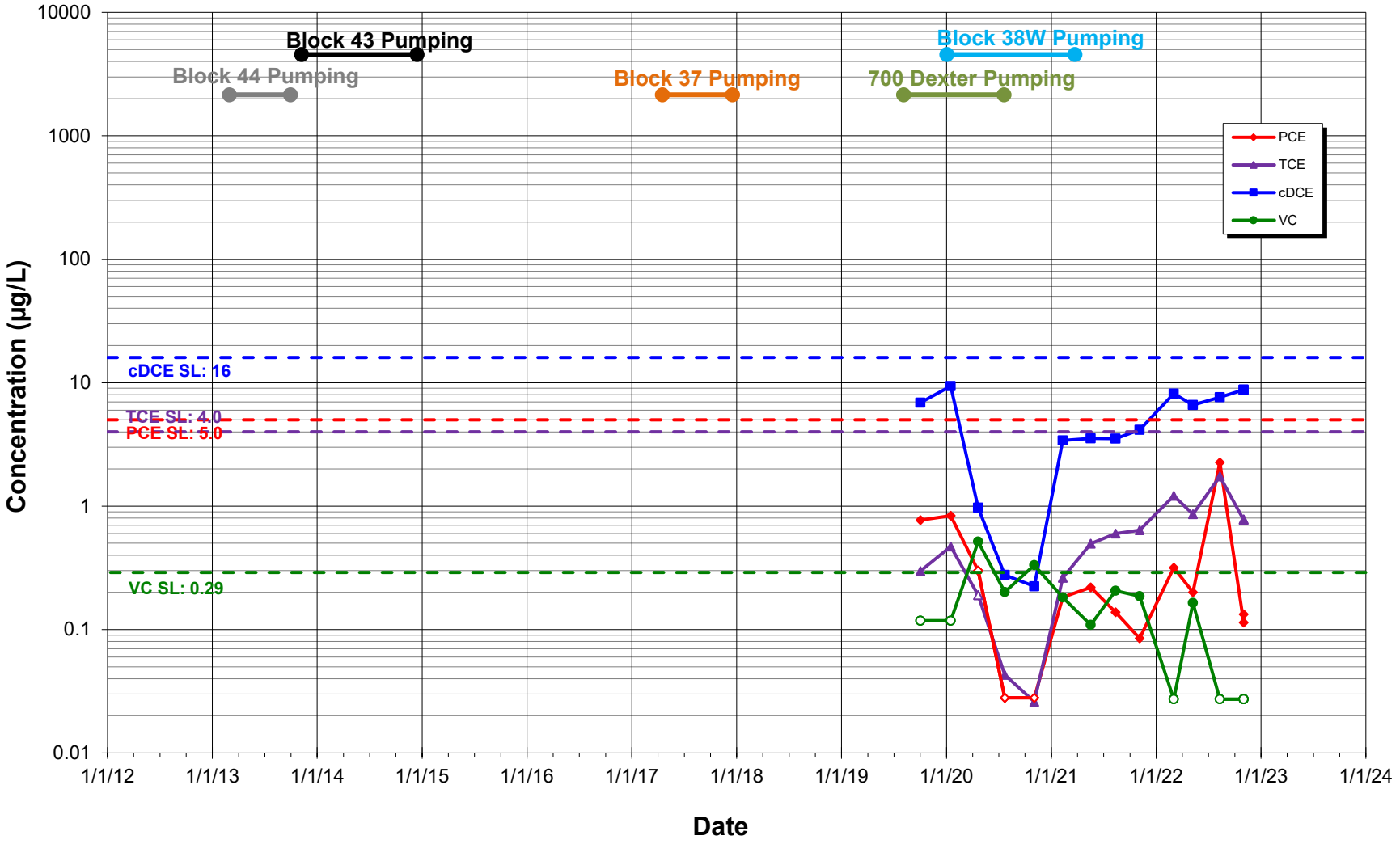

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-324 (-32.1 to -42.1 feet NAVD), Roy St ROW, N side
## American Linen Supply Co Dexter Ave Site



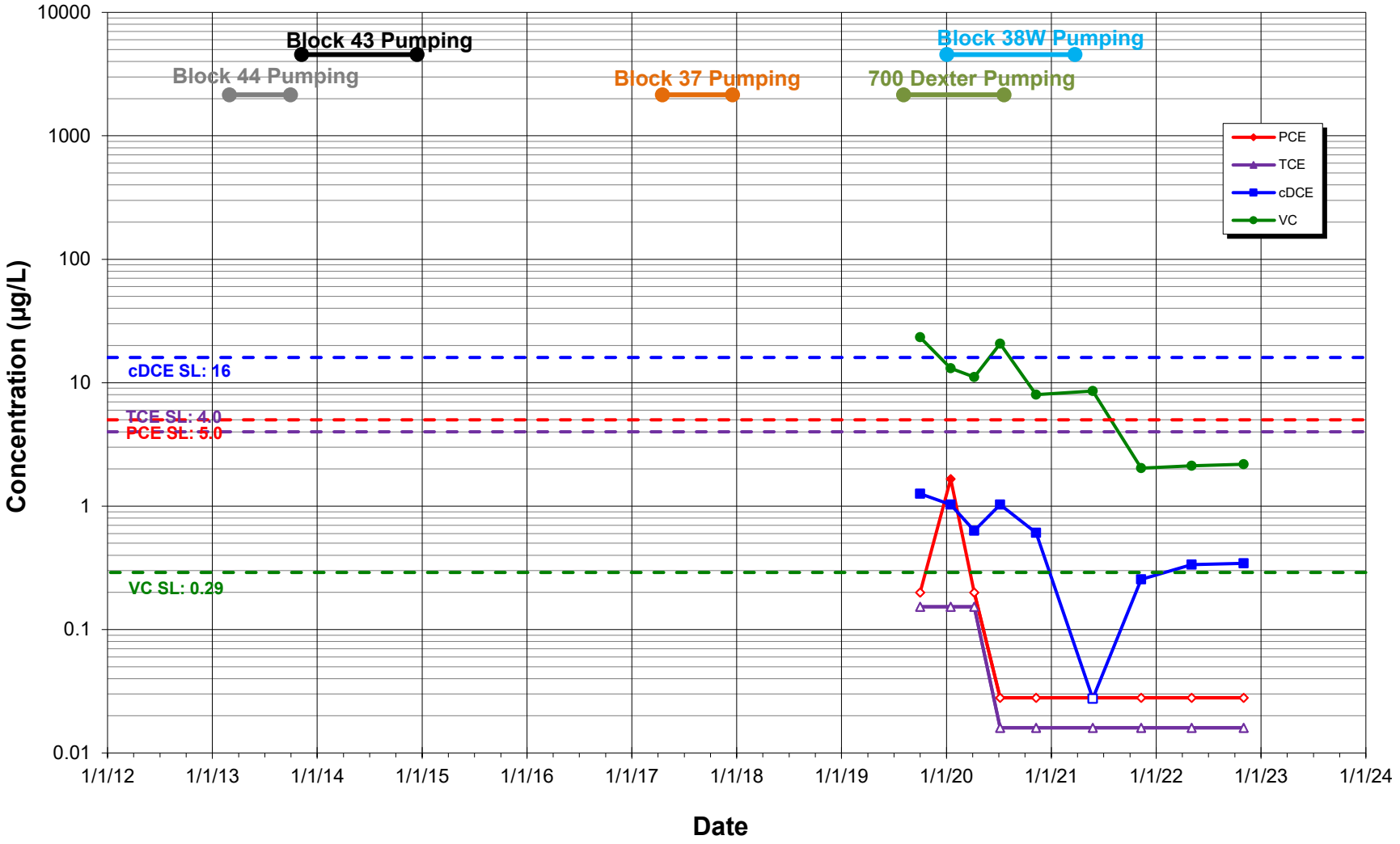

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-326 (-48.7 to -58.7 feet NAVD), Mercer St ROW, N side
## American Linen Supply Co Dexter Ave Site



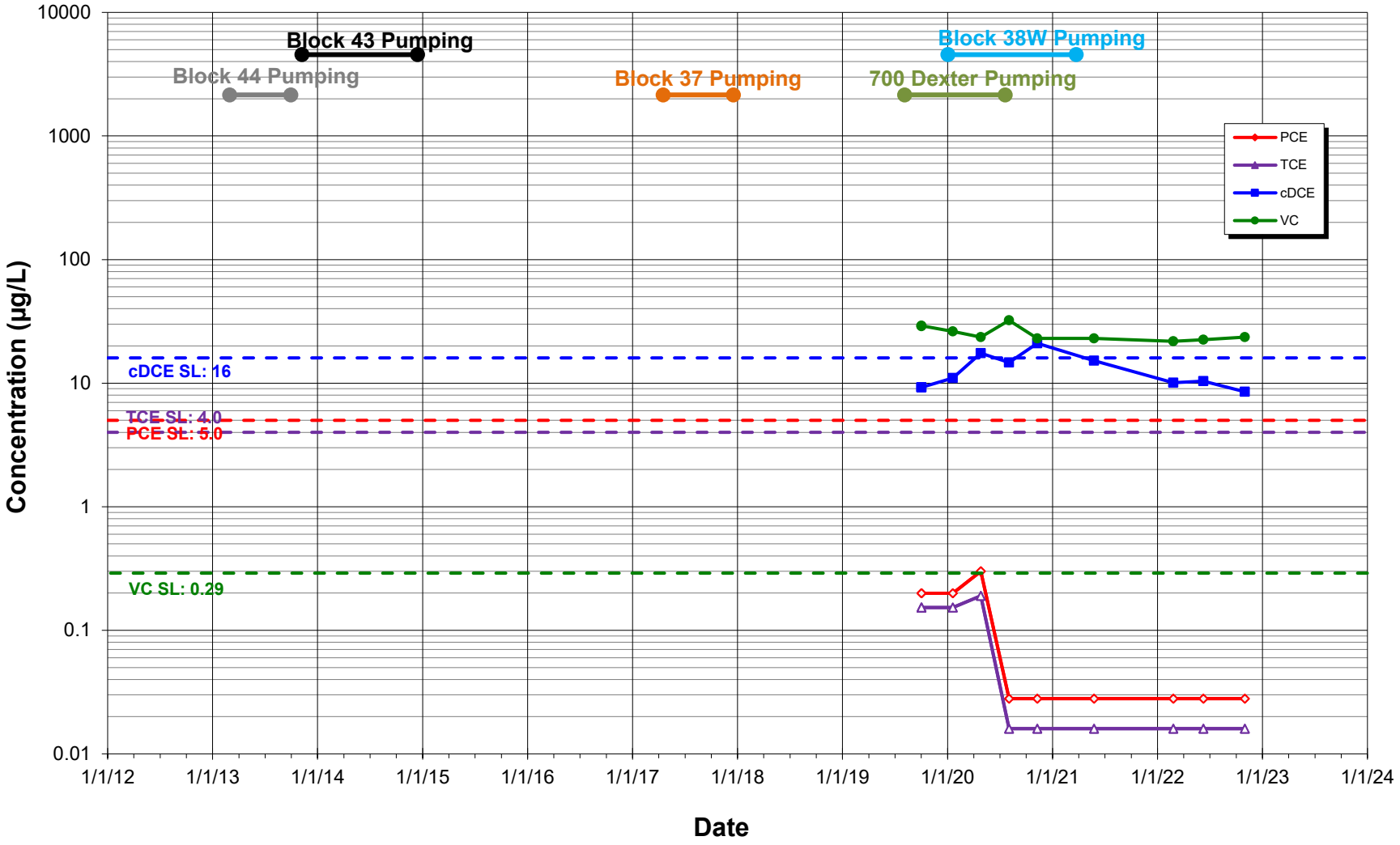

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-328 (-36.1 to -46.1 feet NAVD), Lake Union Park, S side
## American Linen Supply Co Dexter Ave Site



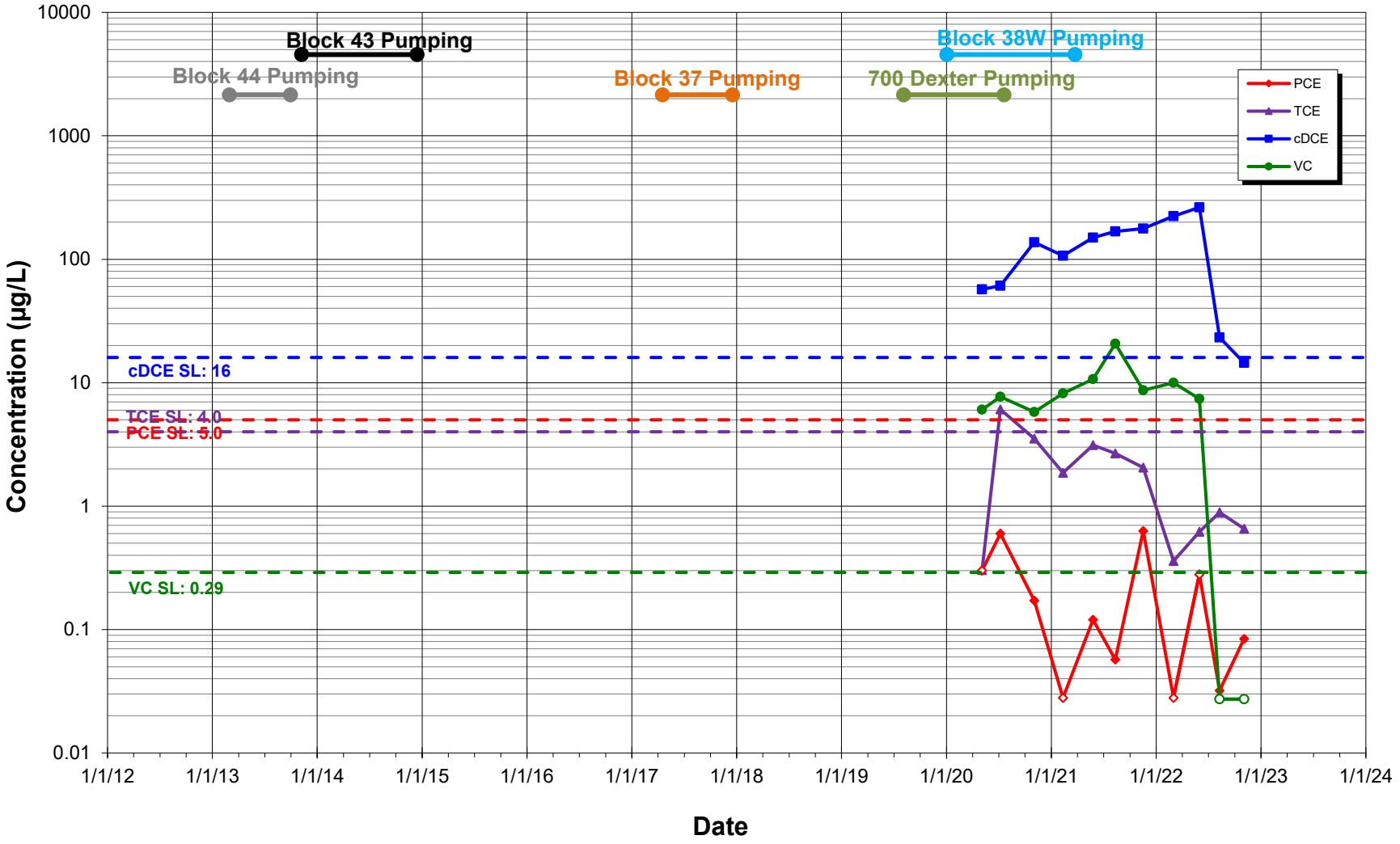

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-329 (-69.0 to -79.0 feet NAVD), Westlake Ave N ROW, E side
## American Linen Supply Co Dexter Ave Site



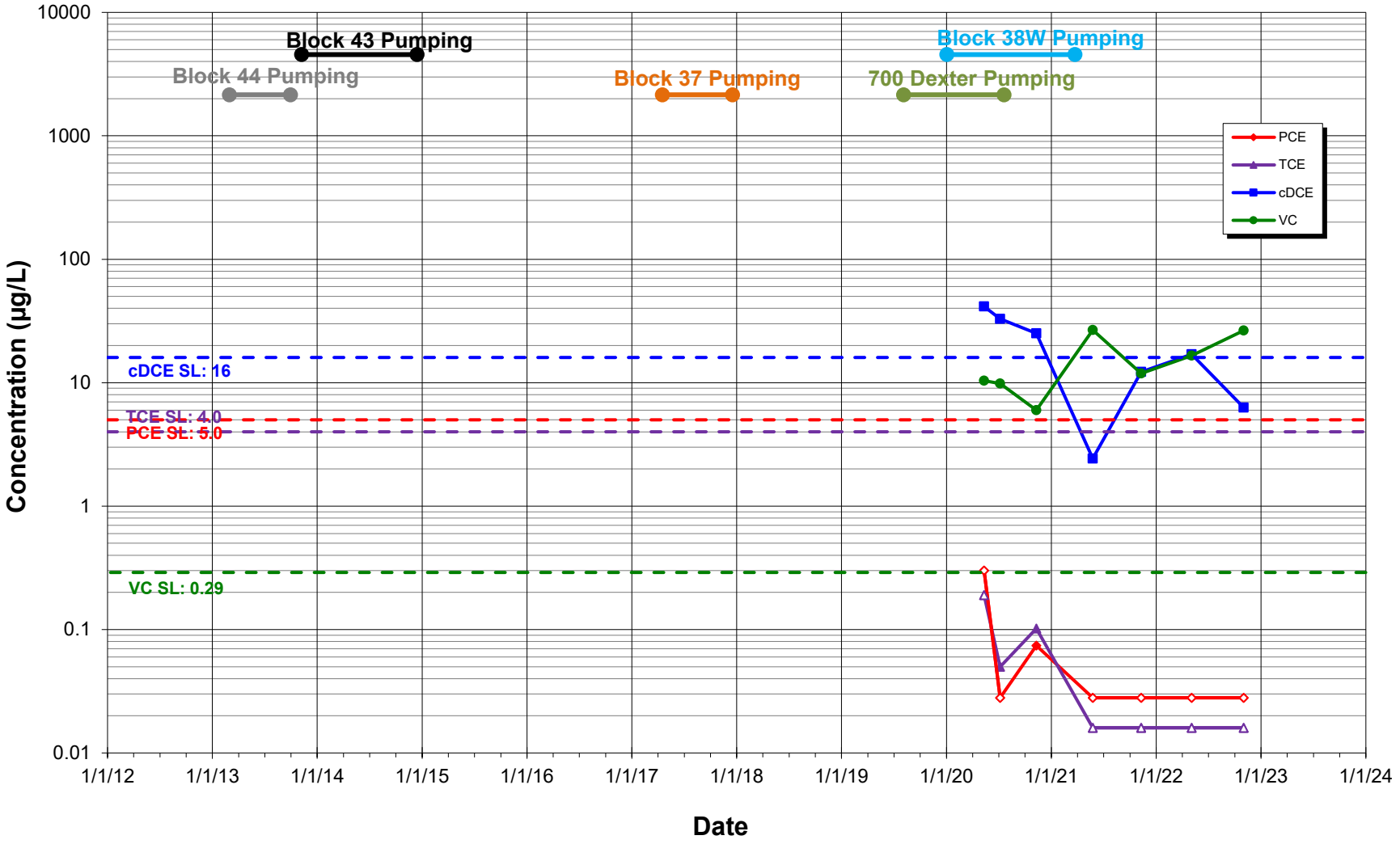

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-336 (-51.6 to -61.6 feet NAVD), Mercer St ROW, N side
## American Linen Supply Co Dexter Ave Site



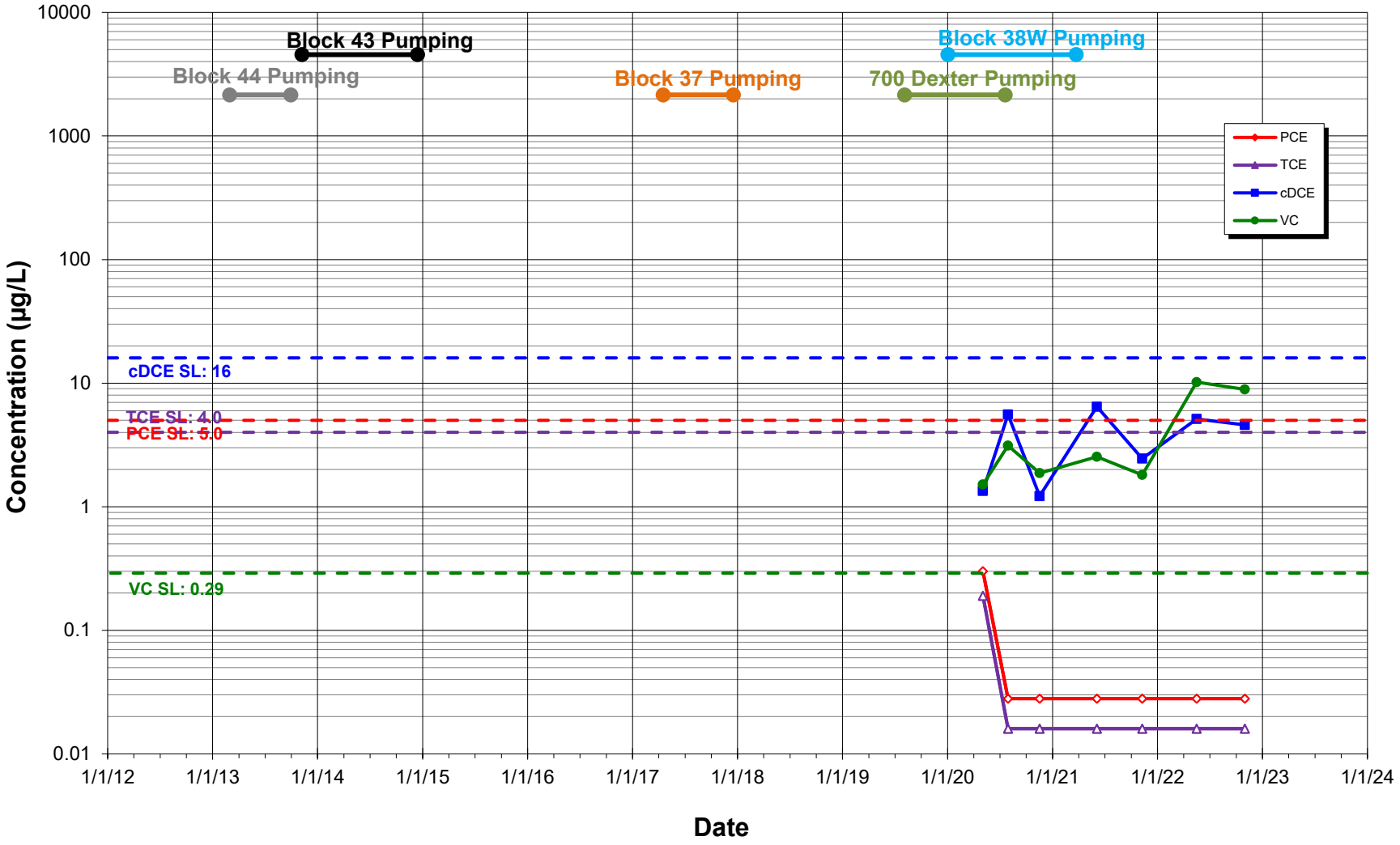

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-341 (-66.8 to -76.8 feet NAVD), Lake Union Park, S end
## American Linen Supply Co Dexter Ave Site



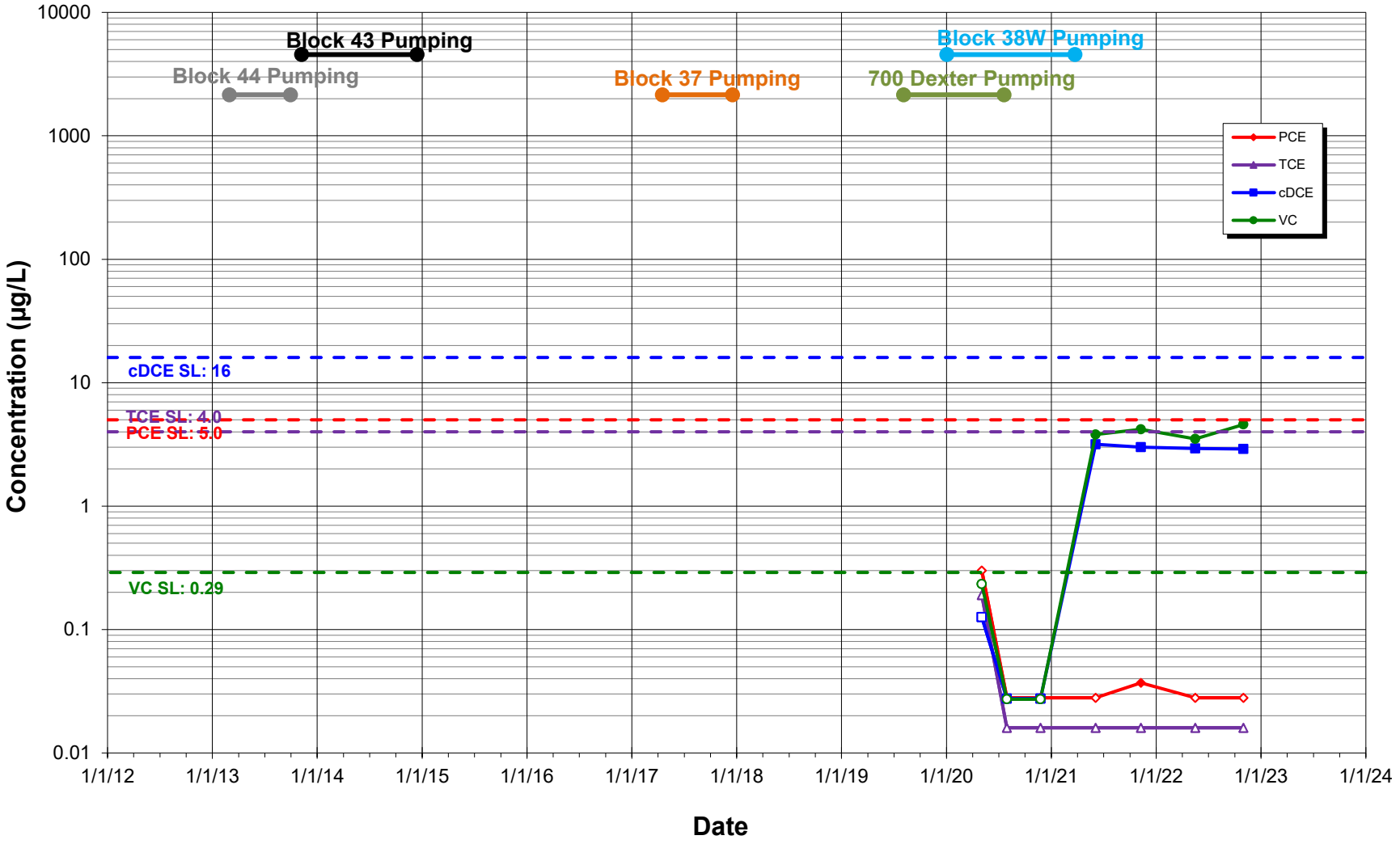

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## MW-342 (-32.4 to -42.4 feet NAVD), Valley St ROW, S side
## American Linen Supply Co Dexter Ave Site



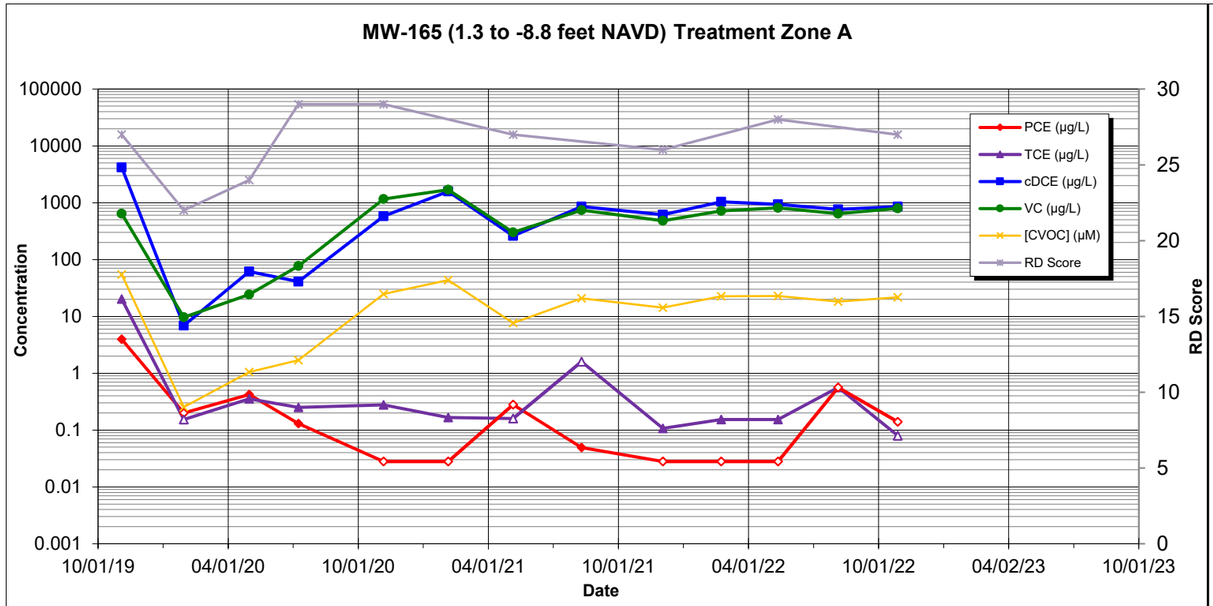

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

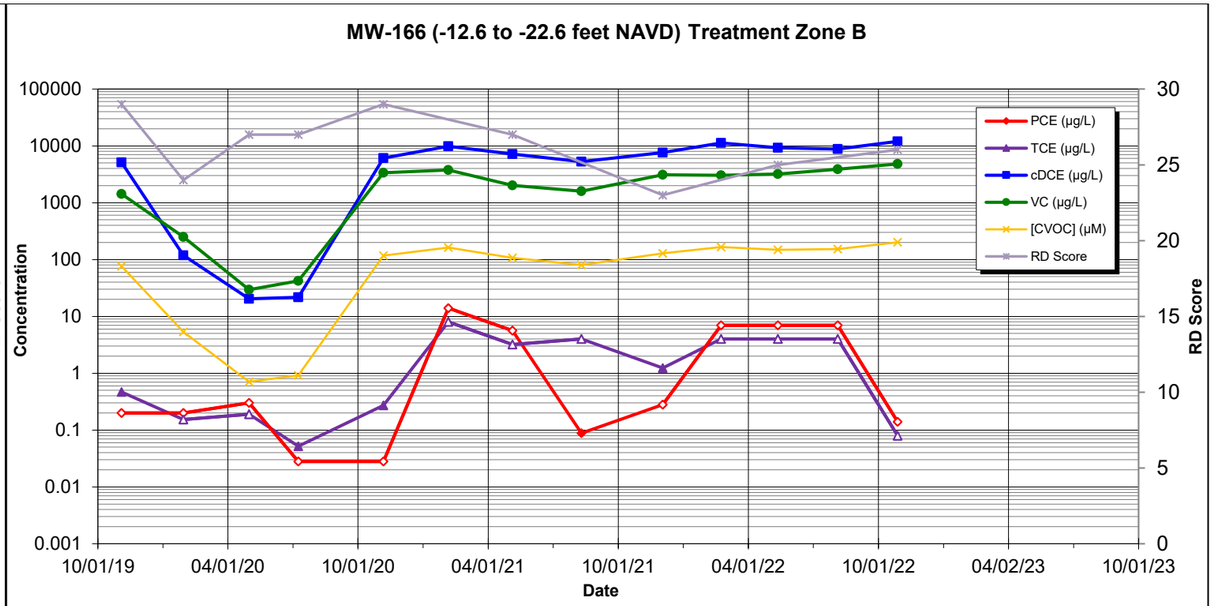
# Concentration vs Time
## MW-343 (-71.5 to -81.5 feet NAVD), Valley St ROW, S side
## American Linen Supply Co Dexter Ave Site

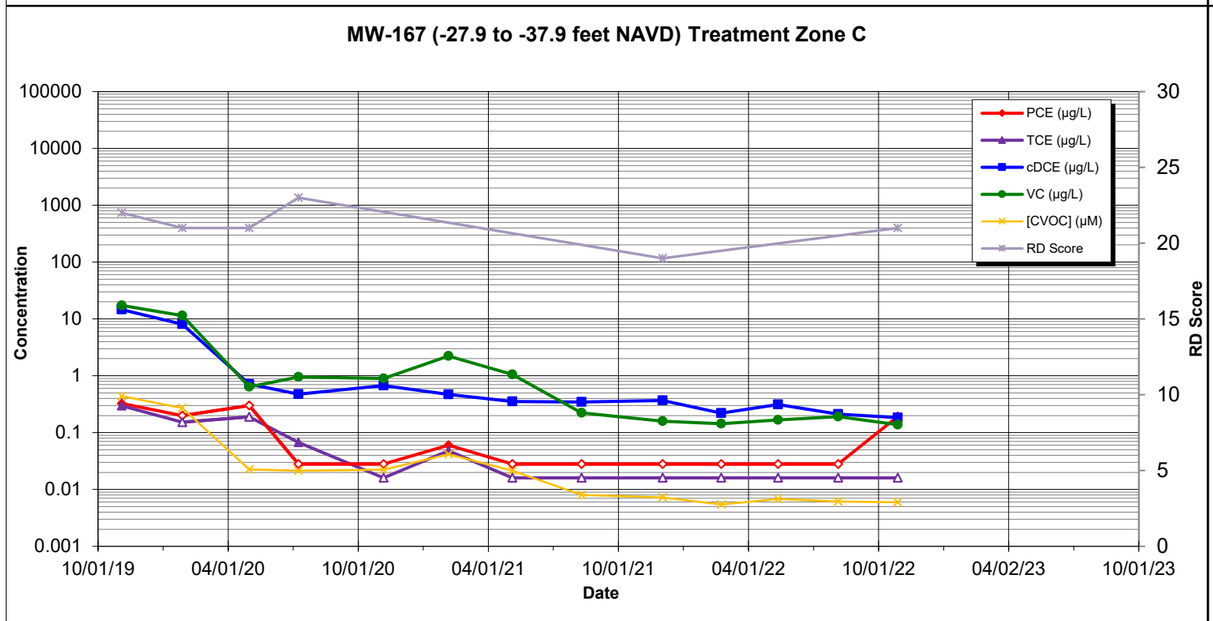


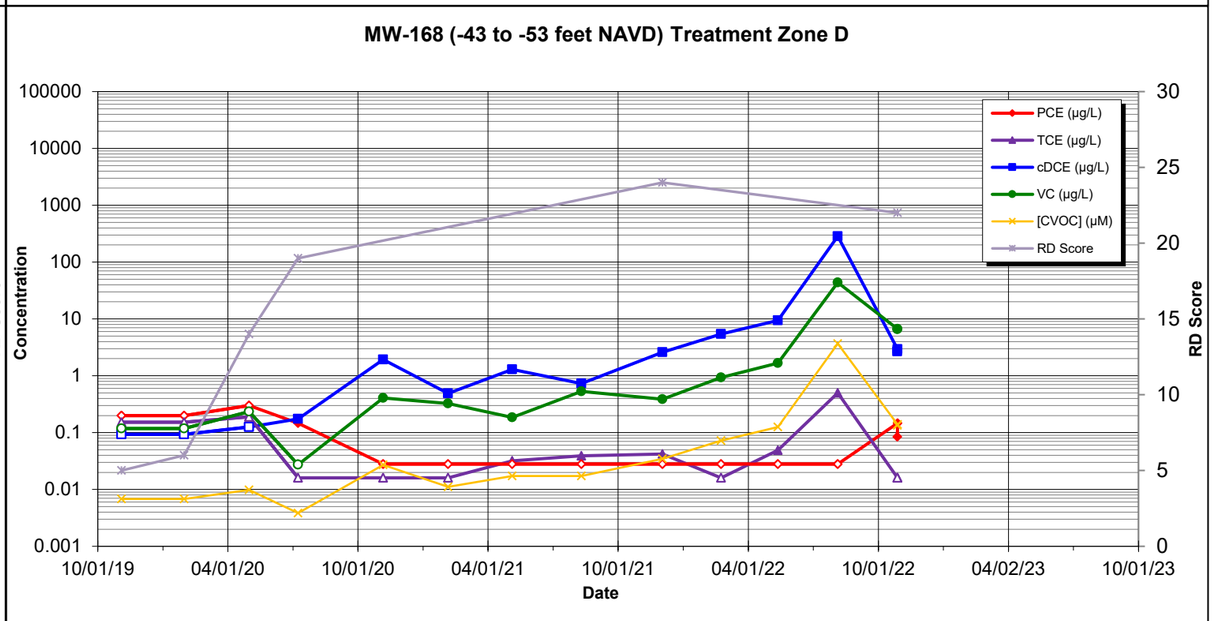

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Screening levels represent Proposed Cleanup Levels: PCE = 5.0 µg/L, TCE = 4.0 µg/L, cDCE = 16 µg/L, and VC = 0.29 µg/L.

# Concentration vs Time
## Cluster 1 American Linen Supply Co–Dexter Ave Site



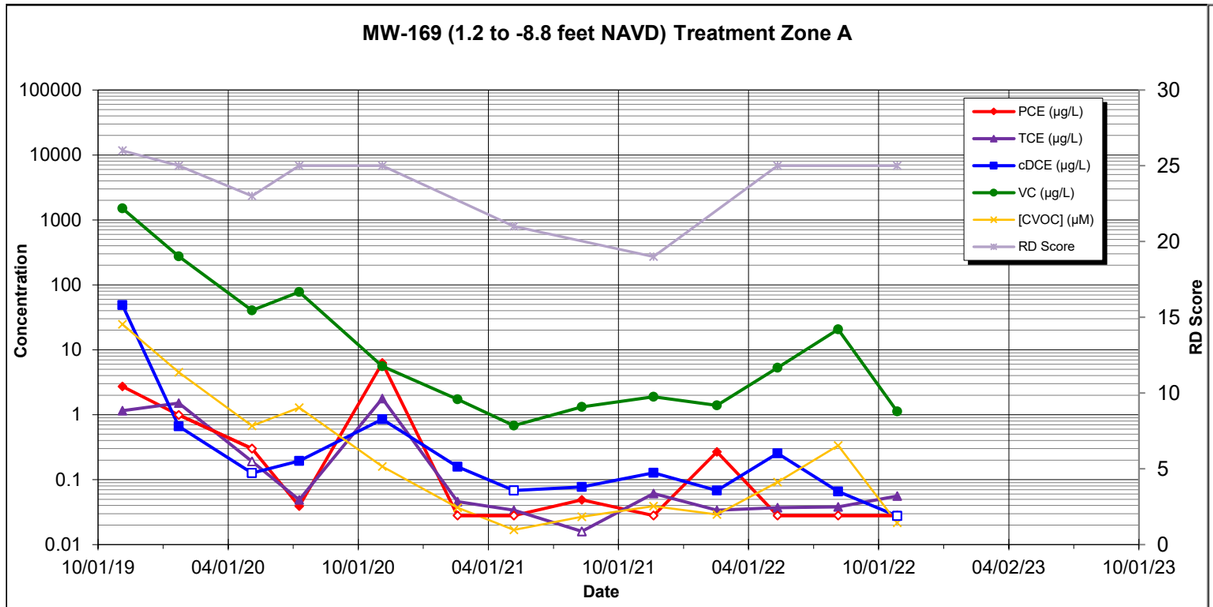



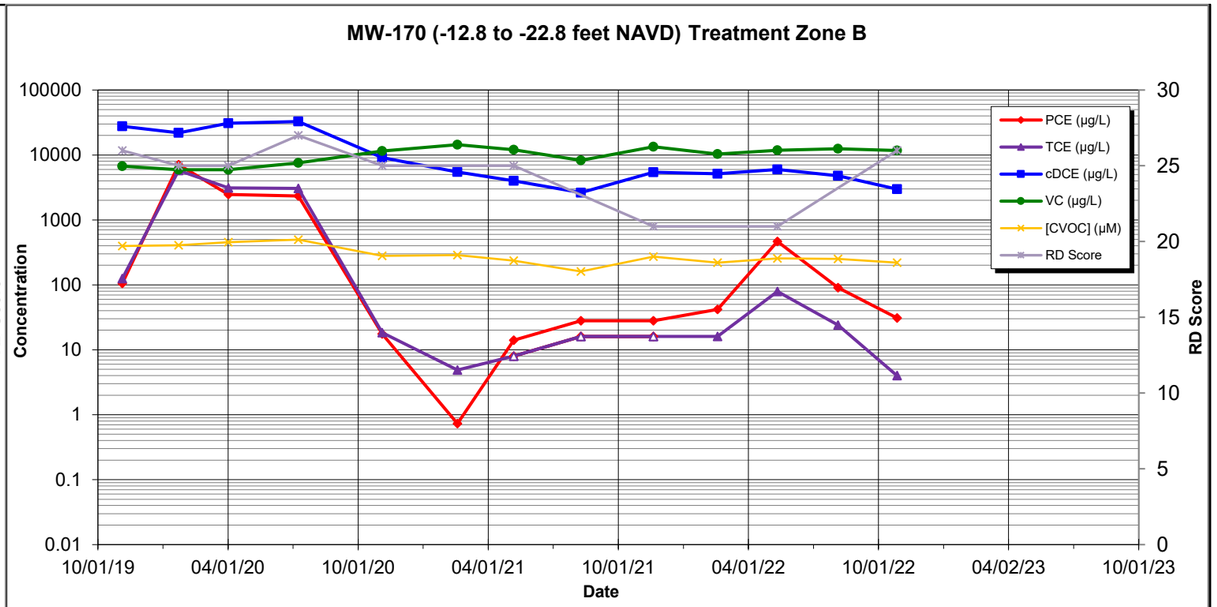

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Preliminary Screening Levels: PCE = 2.4 µg/L, TCE = 1 µg/L, cDCE = 16 µg/L, and VC = 0.2 µg/L.
3) On Property Dewatering: 8/6/19 - 7/20/20.
4) CVOC micrmolar (µM) concentration = Σ[individual CVOC concentration (µg/L)] / [CVOC molar mass (g/mol)]

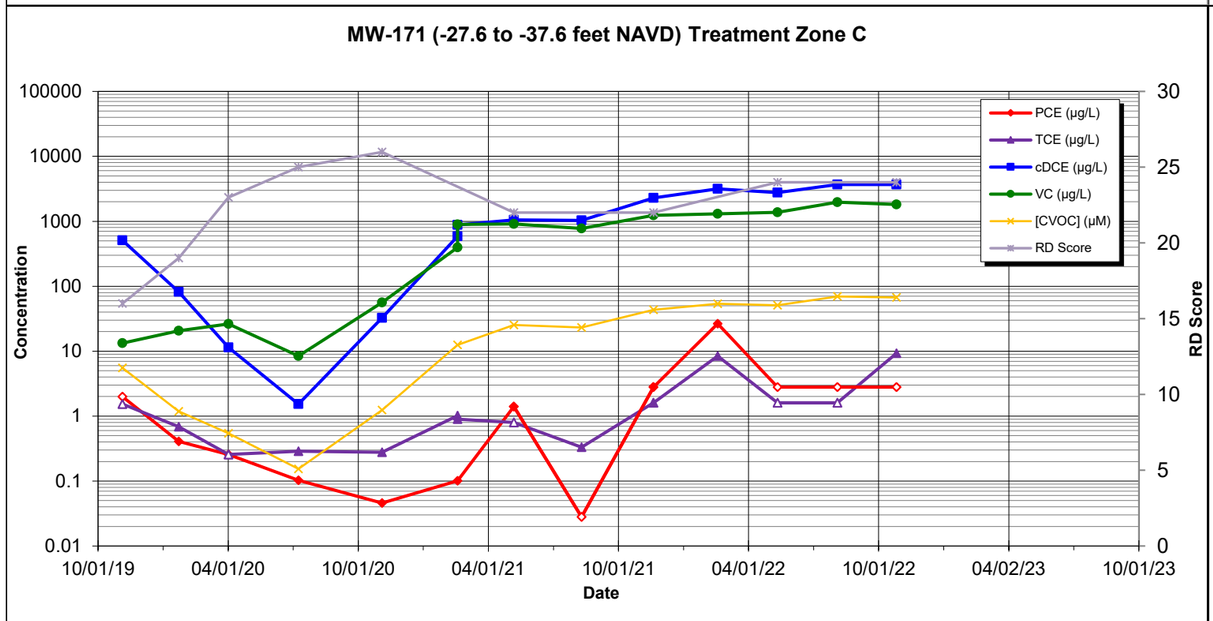
Evaluation of RD (Reductive Dechlorination) Score:

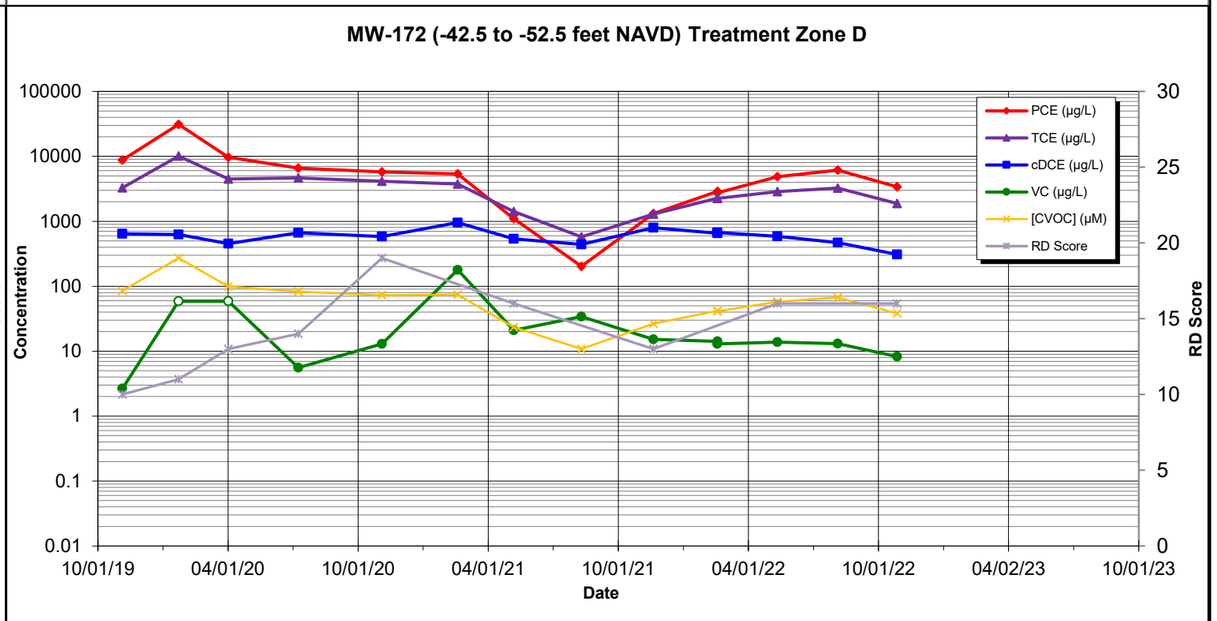
| | |
|---|---|
| 0-5 | Inadequate evidence for anaerobic biodegradation of CVOCs |
| 6-14 | Limited evidence for anaerobic biodegradation of CVOCs |
| 15-20 | Adequate evidence for anerobic biodegradation of CVOCs |
| >20 | Strong evidence for anaerobic biodegradation of CVOCs |

# Concentration vs Time
## Cluster 2 American Linen Supply Co–Dexter Ave Site



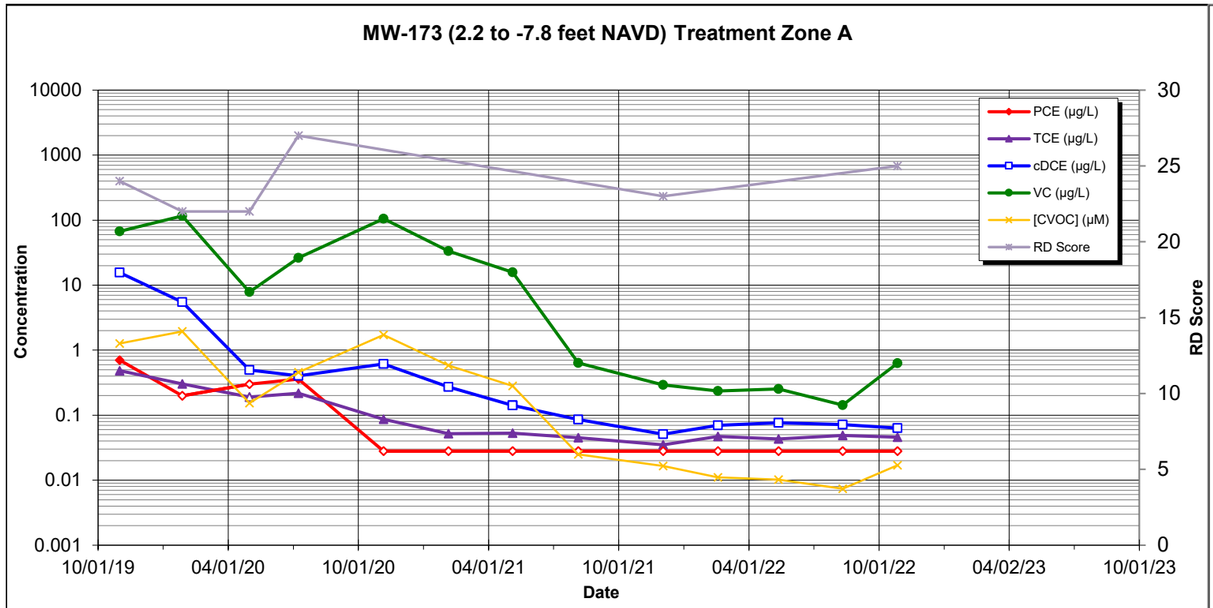



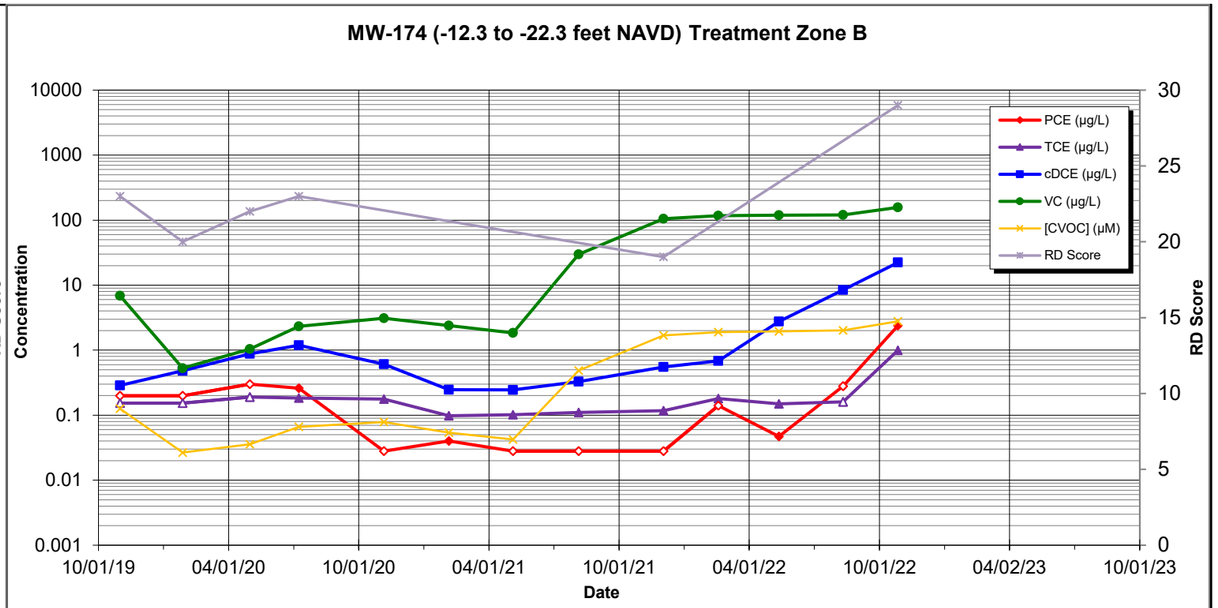

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Preliminary Screening Levels: PCE = 2.4 µg/L, TCE = 1 µg/L, cDCE = 16 µg/L, and VC = 0.2 µg/L.
3) On Property Dewatering: 8/6/19 - 7/20/20.
4) CVOC micrmolar (µM) concentration = Σ[individual CVOC concentration (µg/L)] / [CVOC molar mass (g/mol)]

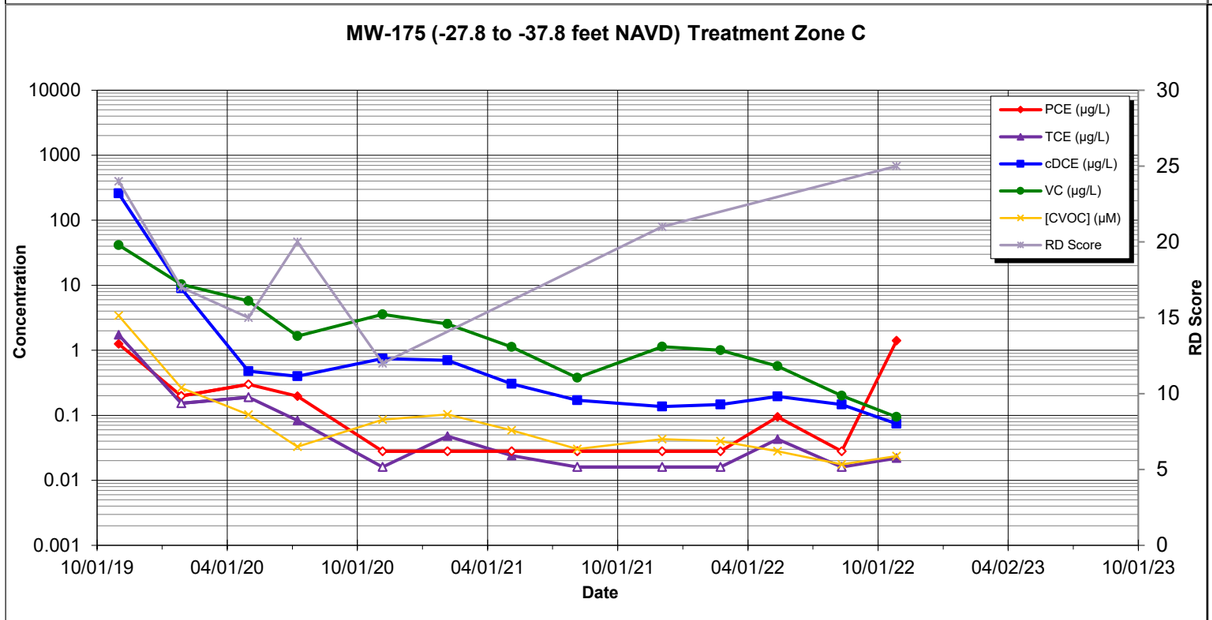
Evaluation of RD (Reductive Dechlorination) Score:

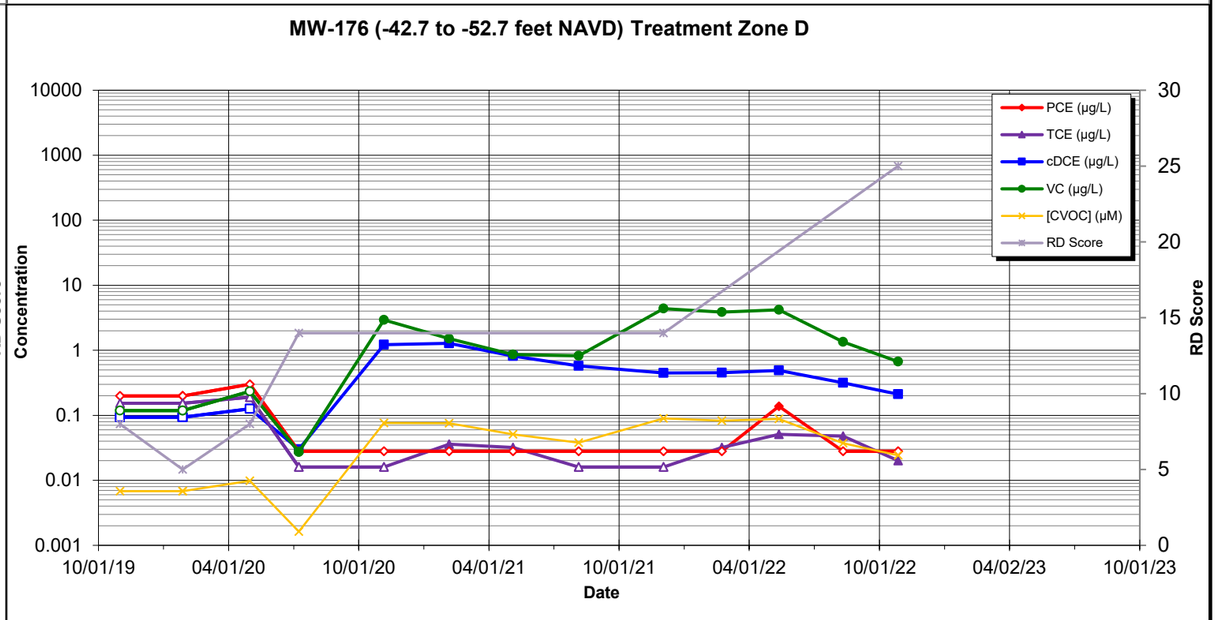
| | |
|---|---|
| 0-5 | Inadequate evidence for anaerobic biodegradation of CVOCs |
| 6-14 | Limited evidence for anaerobic biodegradation of CVOCs |
| 15-20 | Adequate evidence for anerobic biodegradation of CVOCs |
| >20 | Strong evidence for anaerobic biodegradation of CVOCs |

# Concentration vs Time
# Cluster 3 American Linen Supply Co–Dexter Ave Site



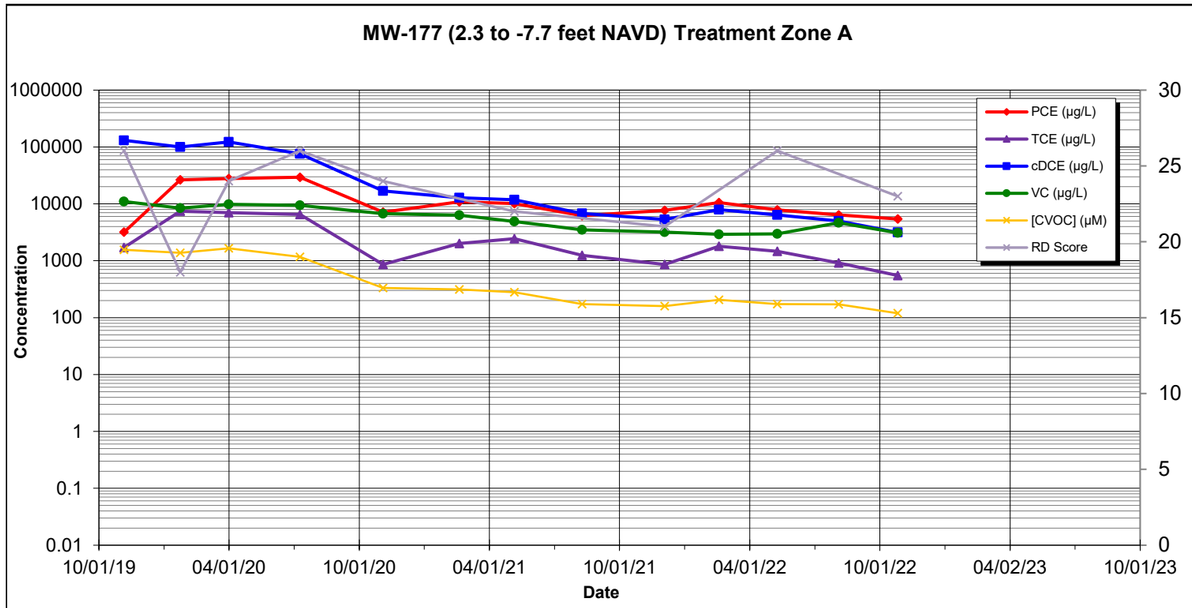



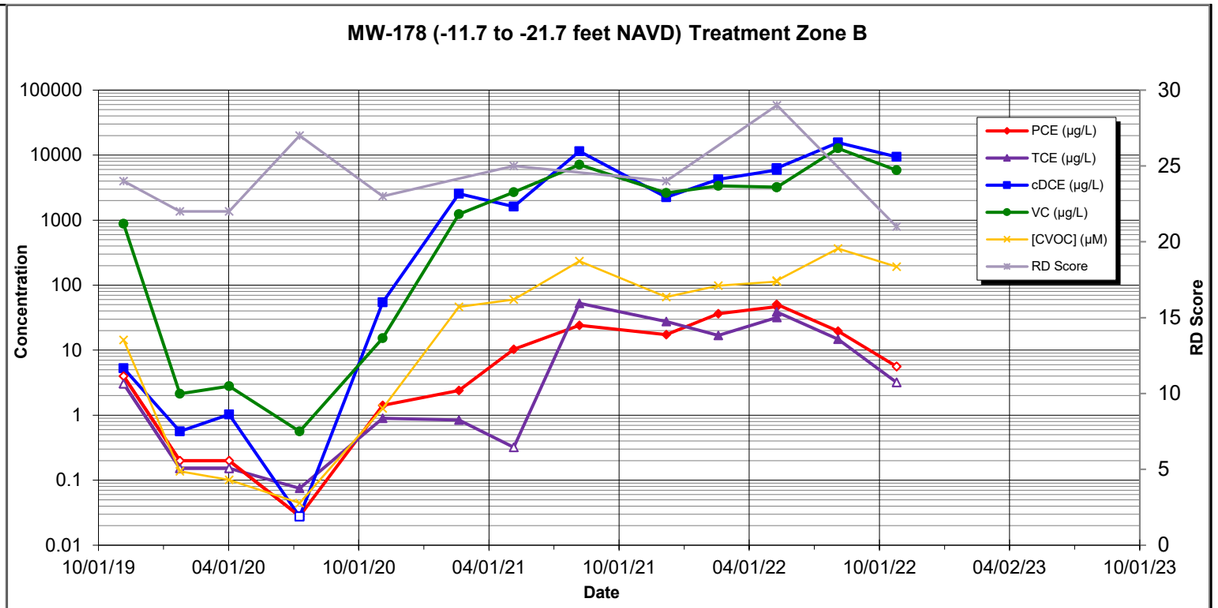

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Preliminary Screening Levels: PCE = 2.4 µg/L, TCE = 1 µg/L, cDCE = 16 µg/L, and VC = 0.2 µg/L.
3) On Property Dewatering: 8/6/19 - 7/20/20.
4) CVOC micrmolar (µM) concentration = Σ[individual CVOC concentration (µg/L)] / [CVOC molar mass (g/mol)]

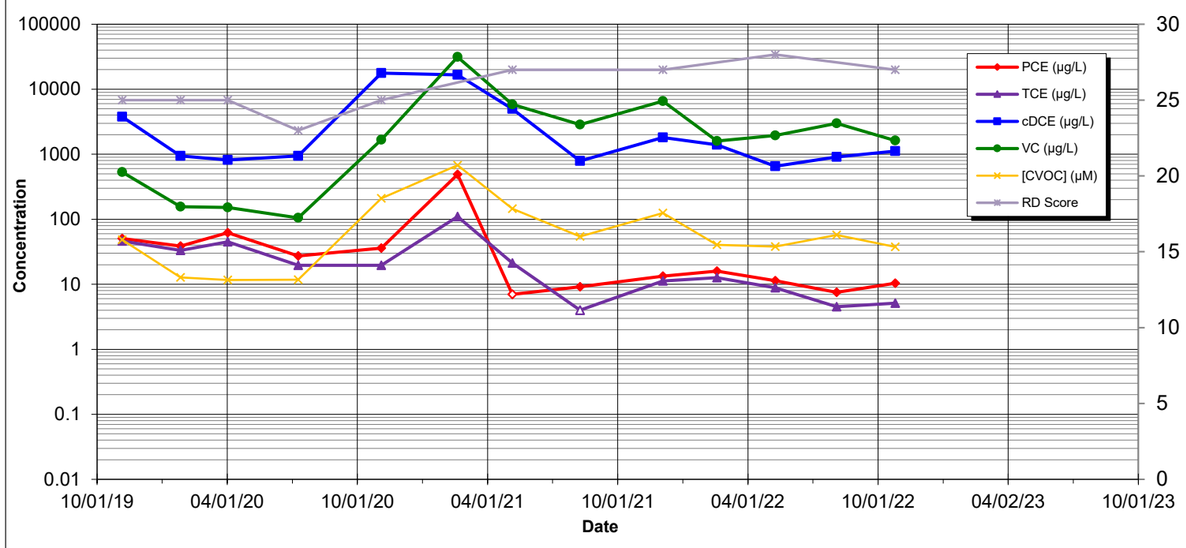
Evaluation of RD (Reductive Dechlorination) Score:

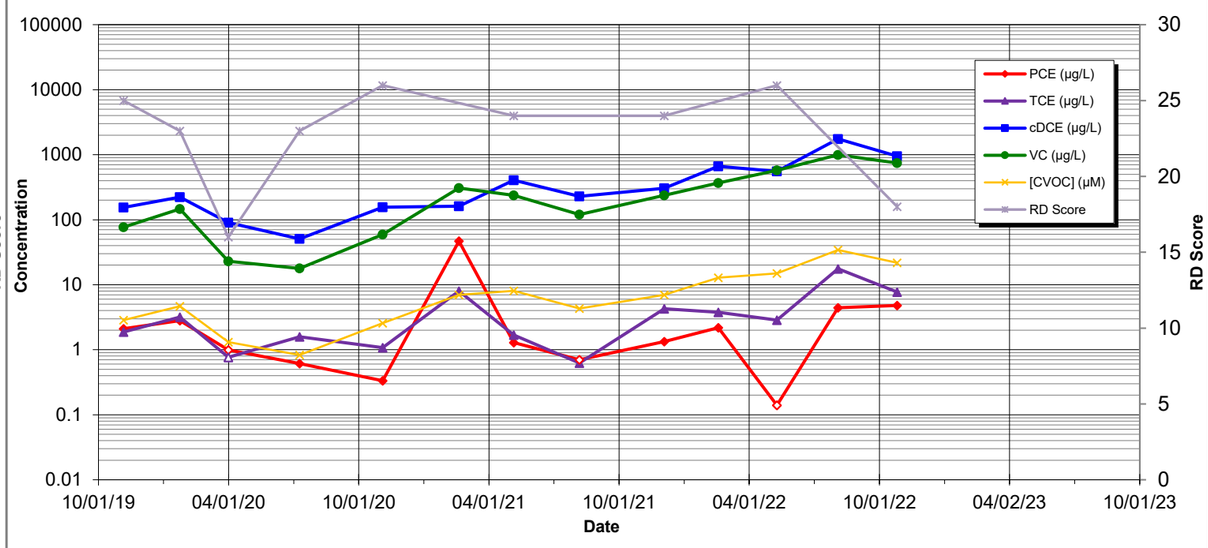
| | |
|---|---|
| 0-5 | Inadequate evidence for anaerobic biodegradation of CVOCs |
| 6-14 | Limited evidence for anaerobic biodegradation of CVOCs |
| 15-20 | Adequate evidence for anaerobic biodegradation of CVOCs |
| >20 | Strong evidence for anaerobic biodegradation of CVOCs |

# Concentration vs Time
# Cluster 4 American Linen Supply Co–Dexter Ave Site



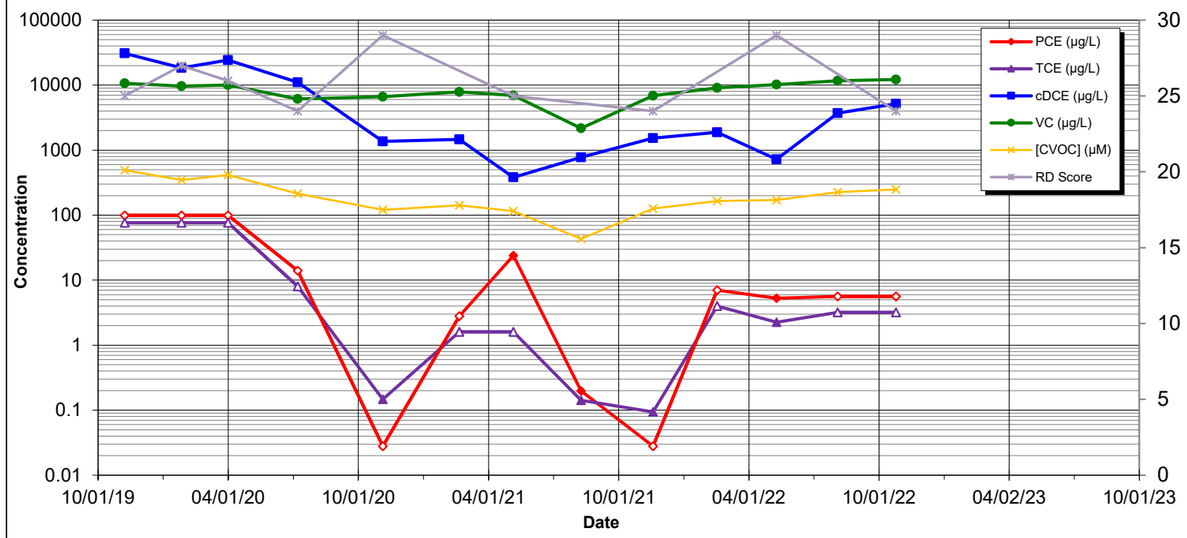

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Preliminary Screening Levels: PCE = 2.4 µg/L, TCE = 1 µg/L, cDCE = 16 µg/L, and VC = 0.2 µg/L.
3) On Property Dewatering: 8/6/19 - 7/20/20.
4) CVOC micrmolar (µM) concentration = Σ[individual CVOC concentration (µg/L)] / [CVOC molar mass (g/mol)]

Evaluation of RD (Reductive Dechlorination) Score:

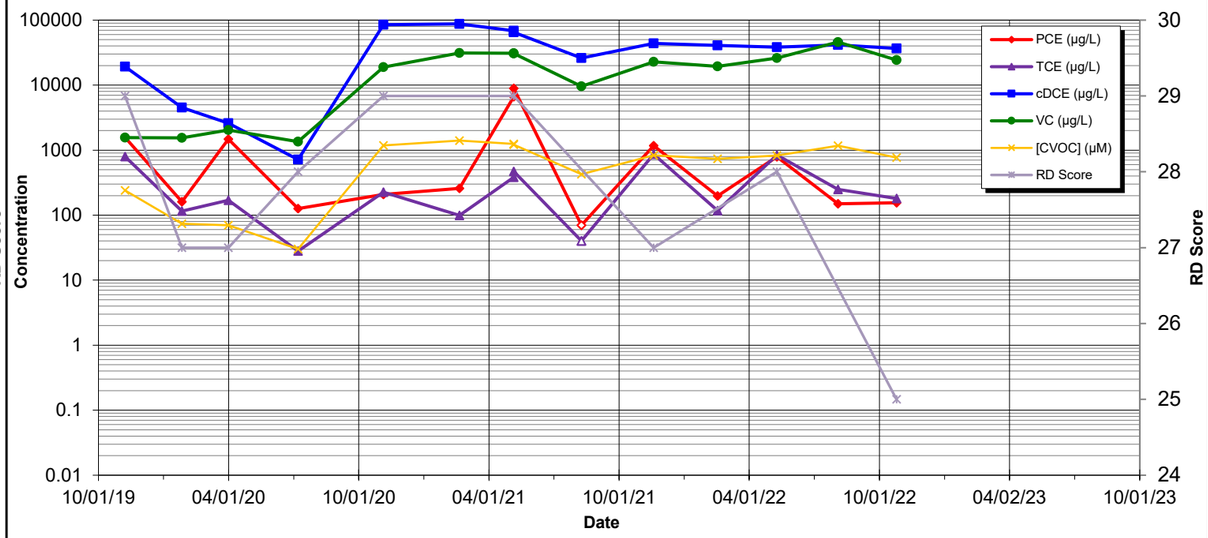
| | |
|---|---|
| 0-5 | Inadequate evidence for anaerobic biodegradation of CVOCs |
| 6-14 | Limited evidence for anaerobic biodegradation of CVOCs |
| 15-20 | Adequate evidence for anaerobic biodegradation of CVOCs |
| >20 | Strong evidence for anaerobic biodegradation of CVOCs |

# Concentration vs Time
## Cluster 5 American Linen Supply Co–Dexter Ave Site

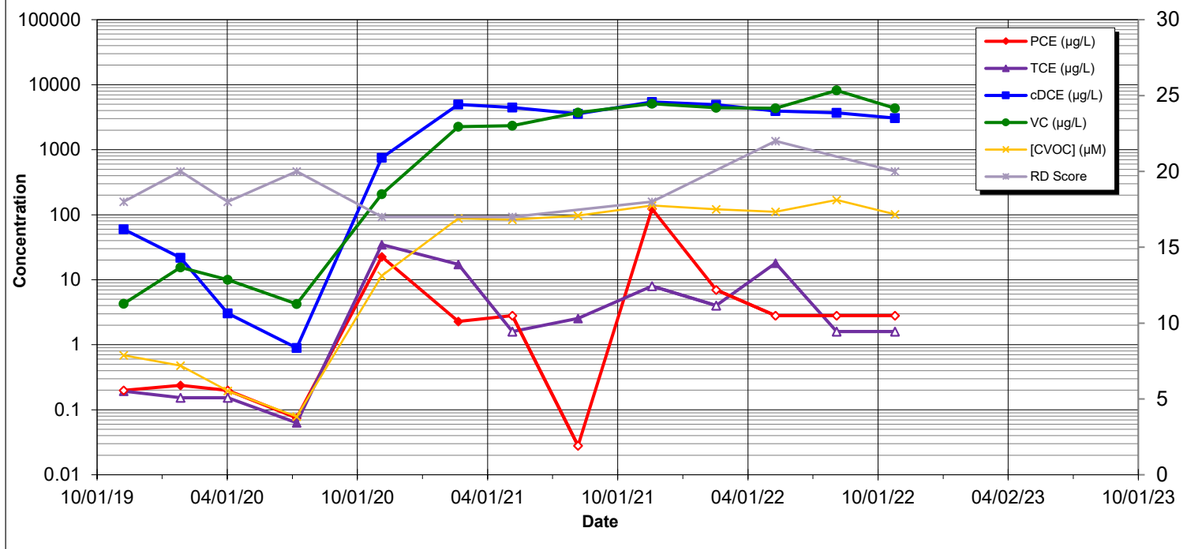
### MW-181 (1.5 to -8.5 feet NAVD) Treatment Zone A



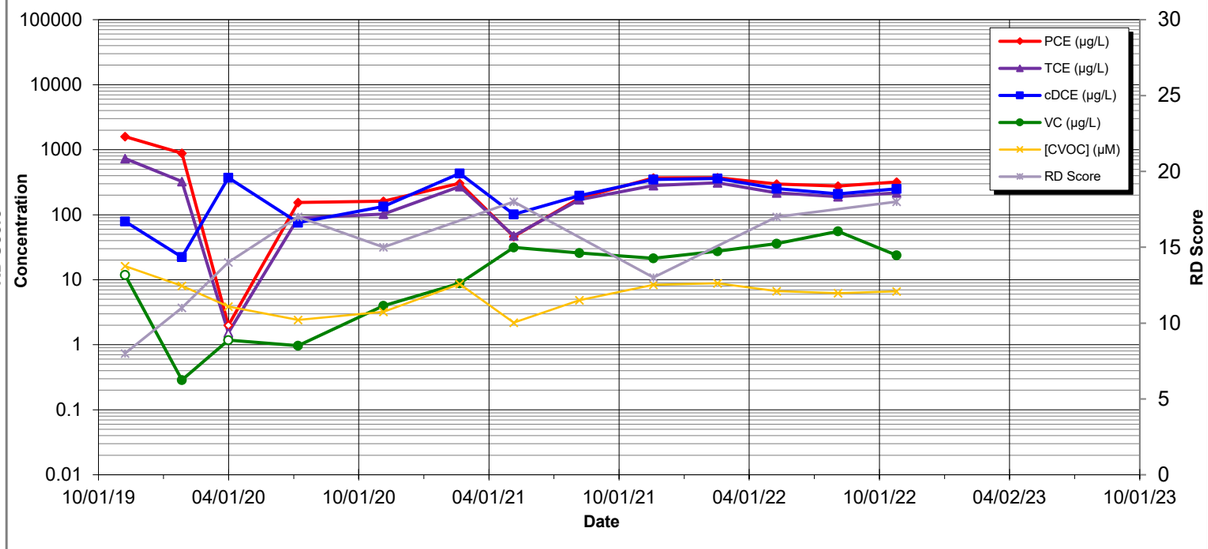

### MW-182 (-12.5 to -22.5 feet NAVD) Treatment Zone B




### MW-183 (-27.4 to -37.4 feet NAVD) Treatment Zone C




### MW-184 (-42.5 to -52.5 feet NAVD) Treatment Zone D



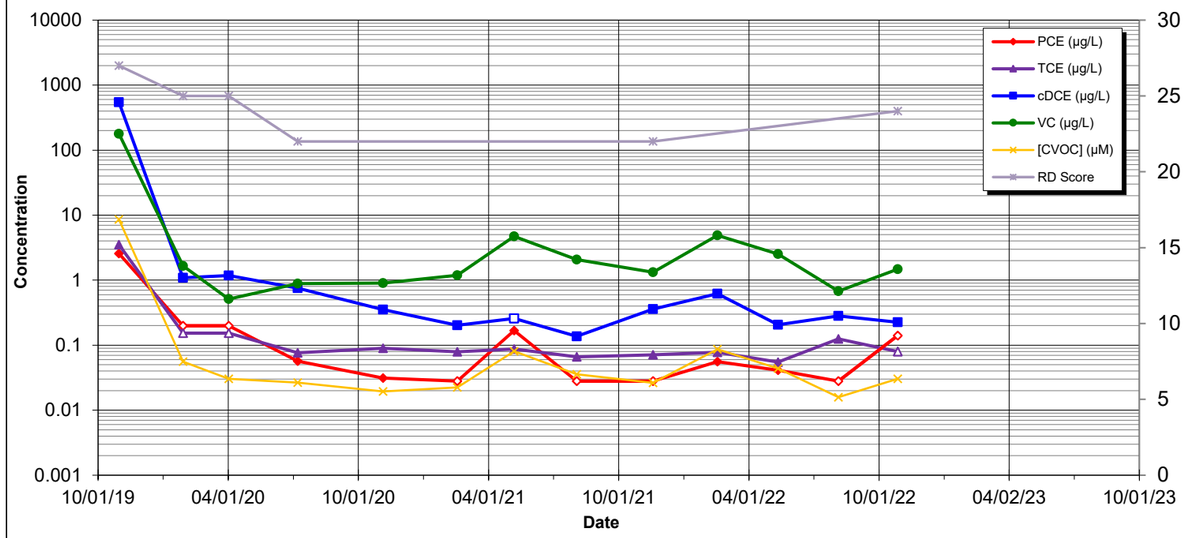

Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Preliminary Screening Levels: PCE = 2.4 µg/L, TCE = 1 µg/L, cDCE = 16 µg/L, and VC = 0.2 µg/L.
3) On Property Dewatering: 8/6/19 - 7/20/20.
4) CVOC micrmolar (µM) concentration = Σ[individual CVOC concentration (µg/L)] / [CVOC molar mass (g/mol)]

Evaluation of RD (Reductive Dechlorination) Score:

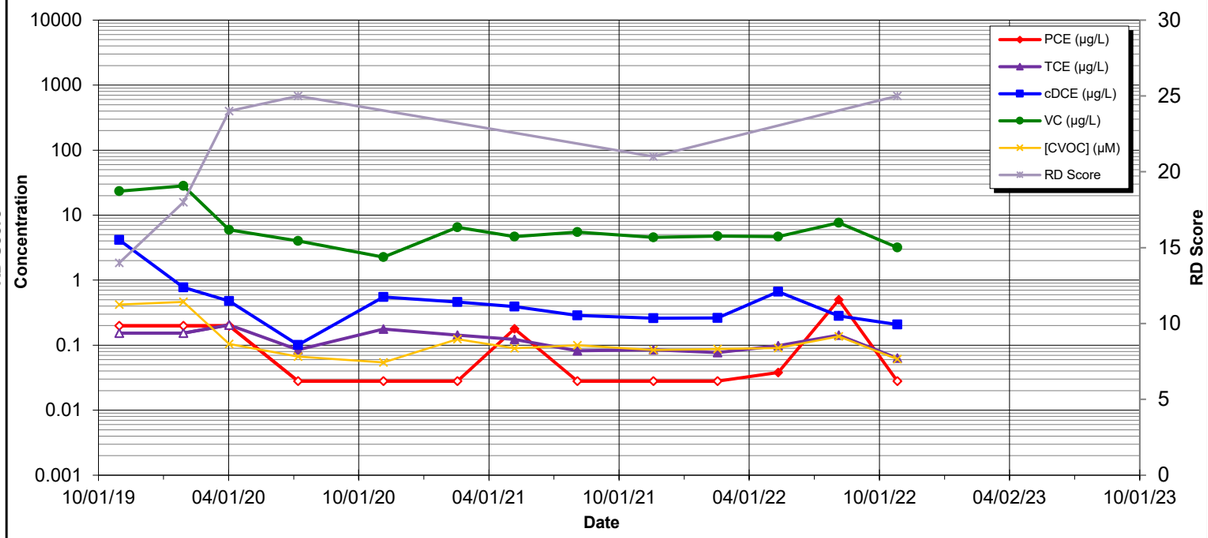
| | |
|---|---|
| 0-5 | Inadequate evidence for anaerobic biodegradation of CVOCs |
| 6-14 | Limited evidence for anaerobic biodegradation of CVOCs |
| 15-20 | Adequate evidence for anerobic biodegradation of CVOCs |
| >20 | Strong evidence for anaerobic biodegradation of CVOCs |

# Concentration vs Time
# Cluster 6 American Linen Supply Co–Dexter Ave Site

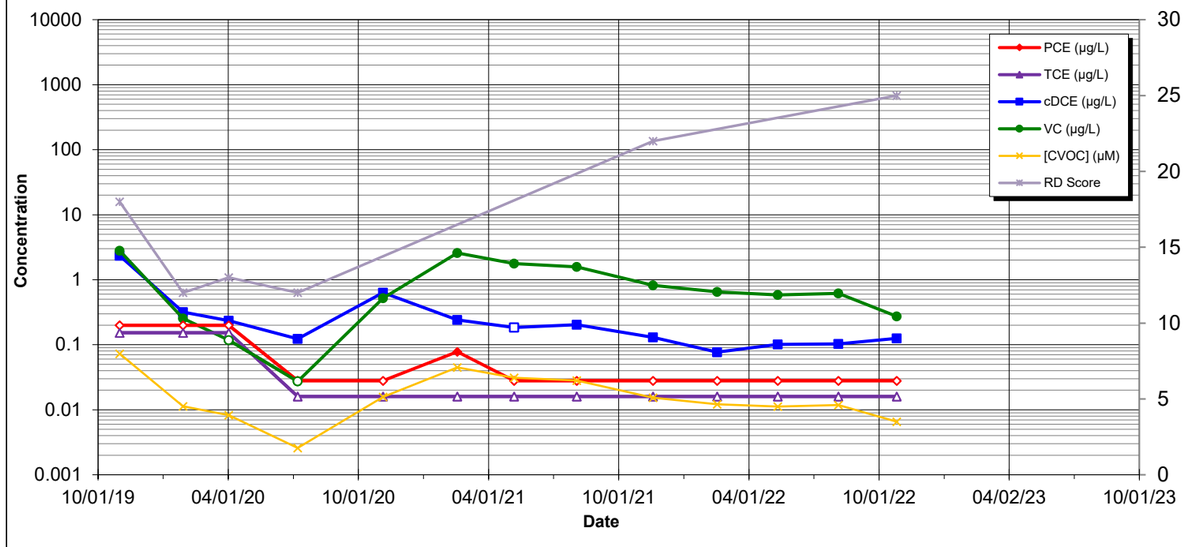
## MW-185 (1.4 to -8.7 feet NAVD) Treatment Zone A



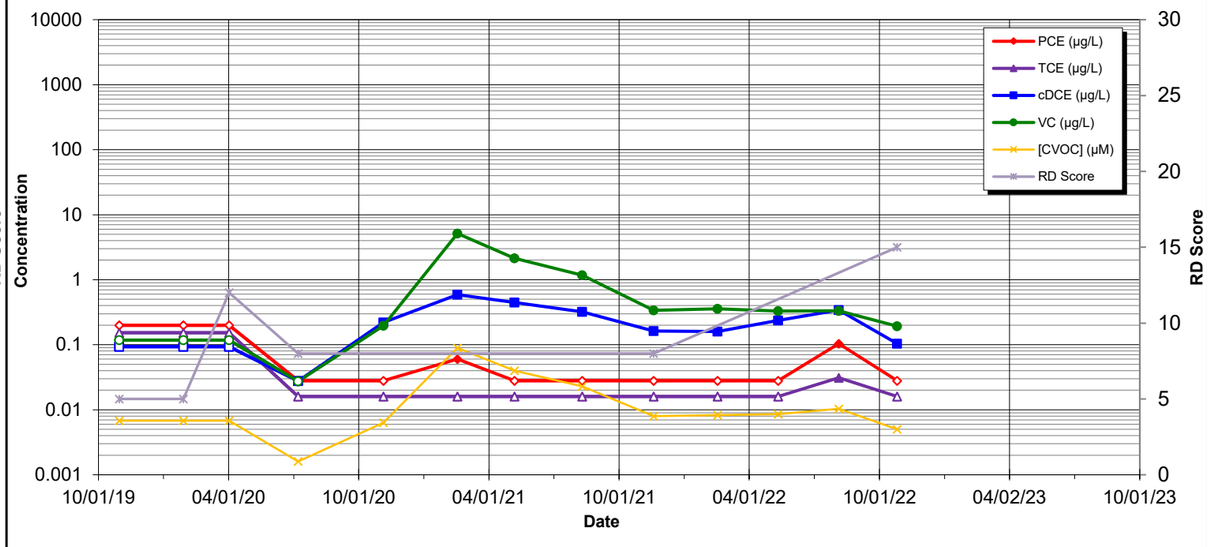

## MW-186 (-12.7 to -22.7 feet NAVD) Treatment Zone B




## MW-187 (-27.0 to -37.0 feet NAVD) Treatment Zone C




## MW-188 (-42.2 to -52.2 feet NAVD) Treatment Zone D




Notes:
1) All results detected below the laboratory MDLs are shown as hollow data points .
2) Preliminary Screening Levels: PCE = 2.4 µg/L, TCE = 1 µg/L, cDCE = 16 µg/L, and VC = 0.2 µg/L.
3) On Property Dewatering: 8/6/19 - 7/20/20.
4) CVOC micrmolar (µM) concentration = Σ[individual CVOC concentration (µg/L)] / [CVOC molar mass (g/mol)]

Evaluation of RD (Reductive Dechlorination) Score:

| | |
|---|---|
| 0-5 | Inadequate evidence for anaerobic biodegradation of CVOCs |
| 6-14 | Limited evidence for anaerobic biodegradation of CVOCs |
| 15-20 | Adequate evidence for anerobic biodegradation of CVOCs |
| >20 | Strong evidence for anaerobic biodegradation of CVOCs |