

**First Quarter 2025
Remedial Progress Evaluation Report for
Former Circle K 1461 Site
Seattle, Washington**

June 2025

ERRG Project No. 20230065

Prepared for:



State of Washington, Department of Ecology
3190 160th Avenue SE
Bellevue, WA 98008

Prepared by:




ERRG

Engineering/Remediation Resources Group, Inc.
15333 NE 90th Street, Bldg. S, Suite 100
Redmond, WA 98052
(425) 658-5026

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Submitted by:
Engineering/Remediation Resources Group, Inc.



Signature

Spencer Slominski, PE

Name



Signature

Fernando Idiarte, LG

Name

6/12/2025

Date

Project Manager

Title

6/12/2025

Date

Project Geologist

Title

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Acronyms and Abbreviations

amsl	above mean sea level
bgs	below ground surface
BTEX	benzene, ethylbenzene, toluene, and total xylenes
CAP	Cleanup Action Plan
cfm	cubic feet per minute
COCs	chemicals of concern
CULs	cleanup levels
CVOCs	chlorinated volatile organic compounds
DRO	diesel-range organics
EA	Engineering EA Engineering, Science, and Technology, Inc.
Ecology	Washington State Department of Ecology
EFR	enhanced fluid recovery
EIWs	extraction/injection wells
ERRG	Engineering/Remediation Resources Group, Inc.
FOG	fats, oils, and grease
FS	Feasibility Study
GAC	granular activated carbon
Glacier	Glacier Environmental Services
GRO	gasoline-range organics
IDW	investigation-derived waste
inHg	inches of mercury
Kennedy Jenks	Kennedy Jenks Consultants, Inc.
KCIW	King County Industrial Waste
lbs/hr	pounds per hour
LNAPL	light nonaqueous-phase liquid
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MPE	multiphase extraction
MTCA	Model Toxics Control Act
O&M	Operation and Maintenance

Acronyms and Abbreviations *(continued)*

PID	photoionization detector
ppm	parts per million
PSCAA	Puget Sound Clean Air Agency
PVC	polyvinyl chloride
QAPP	Quality Assurance Project Plan
RI	remedial investigation
SAP	Sampling and Analysis Plan
SOG	Standard Operating Guideline
SSD	sub-slab depressurization
SVE	soil vapor extraction
TPH	total petroleum hydrocarbons
USTs	underground storage tanks
VOC	volatile organic compound
VTs	vapor treatment system
WAC	Washington Administrative Code
WTS	water treatment system
yd ³	cubic yards
µg/L	micrograms per liter
µg/m ³	micrograms per cubic meter

1. Introduction

Engineering/Remediation Resources Group, Inc. (ERRG) has prepared this Quarterly Remedial Progress Evaluation Report to document the operations, monitoring, and maintenance activities performed for the remedial system at the Former Circle K 1641 Site during First Quarter 2025 under Phase 1. The requirements for system sampling and operations are detailed in the Operations and Maintenance (O&M) Manual (Kennedy Jenks Consultants, Inc. [Kennedy Jenks], 2024b).

1.1. SITE INFORMATION

The site is located at 2350 24th Avenue East in Seattle, Washington (Figure 1). The site is a former gasoline service station located in an area of primarily commercial and residential mixed-use development. The former service station operated from 1968 to 1990. Four gasoline underground storage tanks (USTs), one pump island, one waste oil UST, and one heating oil UST were located at the site. The site is managed by the Washington State Department of Ecology (Ecology), Facility Site ID No. 92-2-08095-8.

1.2. SITE HISTORY

The site was operated as a retail gasoline station from 1968 to mid-1990. In 1989, a leak was discovered in one of the four gasoline USTs. It was estimated that approximately 4,000 to 6,000 gallons of gasoline was released to the subsurface. Following the discovery of the release, all six USTs and the pump island were removed along with about 900 cubic yards (yd³) of petroleum hydrocarbon-impacted soil. Follow-up investigative and remedial activities were performed between 1989 and 2006, including groundwater monitoring, light nonaqueous-phase liquid (LNAPL) recovery, groundwater extraction and treatment, soil vapor extraction (SVE), and enhanced fluid recovery (EFR). The site was redeveloped in 1990 and 1991 and currently includes a single one-story building operated as a retail dry cleaning store (Jay's Cleaners) and a convenience store (Mont's Market) (Kennedy Jenks, 2017a).

In February 1992, the site owner entered into Consent Decree No. 92-2-08095-8 with Ecology to perform additional investigation and remediation of petroleum contamination at the site. Ecology's lien on the property for the sum of \$50,000 was released in January 2008, after Ecology received the full payment for past costs from mixed funding sources (Kennedy Jenks, 2017a).

In 1994, Ecology conducted a Site Hazard Assessment for the site. The site ranked a 3 out of 5, with 1 being the highest risk and 5 being the lowest risk (Ecology, 1994).

A health investigation of the site was reportedly performed by the Washington State Department of Health in 1995, although the investigation report was not available for review in Ecology's files. The health department noted that, while the site posed a potential for adverse impact to public health, it was not of immediate concern because of the lack of any completed human exposure pathway (Kennedy Jenks, 2017a).

1.3. SITE USE

Two businesses currently operate at the site, including a dry cleaner (Jay's Cleaners) and a general store (Mont's Market). Jay's Cleaners is operated by the property owner, and Mont's Market is operated independently under a lease agreement. The site is located in an approximately two-block-long area of commercial and residential mixed-use development within the Montlake neighborhood of the city of Seattle (a primarily residential neighborhood) ([Kennedy Jenks, 2017a](#)).

Jay's Cleaners has a Resource Conservation and Recovery Act Site ID (WAD988515458) as a hazardous waste generator, but is listed as inactive as a hazardous waste generator since 31 December 1994. The site is also listed in Ecology's Hazardous Waste program (Program ID No. CRK000003160). The start date for this interaction is listed as 1 January 1988 and the end date is listed in Ecology's database as 1 March 1989 ([Kennedy Jenks, 2017a](#)).

2. Site Background

The following sections summarize the geology and hydrogeology at the Site.

2.1. GEOLOGY

Based on a review of boring logs generated during remedial investigation (RI) activities performed in 2016 and 2017 and previous investigations, three generalized stratigraphic units are identified at the Site, as summarized below ([Kennedy Jenks, 2021](#)).

- Silt – Typically encountered from the ground surface (i.e., beneath pavement and subgrade fill) to depths of approximately 2 to 8 feet below ground surface (bgs), but extends to greater depths (up to approximately 13 feet bgs) in the northern portion of the site. The unit is generally described as soft to stiff, brown to gray, silt to sandy silt, locally with gravel and/or organics.
- Sand/Silt – Typically encountered below the silt layer to depths of approximately 17 to 22 feet bgs. The unit is generally described as gray to brown, fine sand, silty fine sand, or sandy silt locally containing cobbles. The unit is also described as loose, medium dense, dense, and very dense with vertical and lateral variation. This unit may locally include the uppermost, possibly weathered, portion of the underlying glacial till unit.
- Till – Typically encountered below the sand/silt starting at approximately 17 to 22 feet bgs. The unit is generally described as gray silt, silty sand, or sandy silt with sand and gravel. The till unit is also described as dense to very dense, hard to very hard, or stiff to very stiff, as indicated during drilling by increased drilling pressure and significant increases in blow counts required to drive split-spoon soil samplers.

Fill has also been encountered at the site, including pea gravel that was placed within the former excavation area to depths of approximately 17 feet bgs ([Kennedy Jenks, 2021](#)).

2.2. HYDROGEOLOGY

The depth to groundwater at the site ranges from 3 to 12 feet bgs, based on water levels measured from April to December 2016. This zone of shallow groundwater occurs under unconfined conditions, is perched on top of the till unit, and is interpreted to represent the local water table aquifer. Although a seasonal fluctuation of 1 foot or less in the aquifer was generally observed near the former UST area during the April and December 2016 monitoring events, a fluctuation of nearly 6 feet was recorded at the northernmost monitoring well MW-11 ([Kennedy Jenks, 2021](#)). It should be noted that wells MW-17 through MW-21 were completed in August and September 2016; therefore, they were only included in the December 2016 monitoring event.

Groundwater level data collected from wells located at the site in April and December 2016 (within the property parking lot) show a flow direction to the southeast, with a localized area of depression in the

vicinity of well MW-6. The potentiometric low around well MW-6 (located in East McGraw Street) is likely attributable to utility corridors located in the center of the street right-of-way ([Kennedy Jenks, 2017a](#)).

Previous reports have indicated that the general direction of groundwater flow was toward the northeast, and that while the onsite LNAPL recovery and remediation system was operating (December 1989 through May 2000), a stable cone of depression developed near the recovery well ([Kennedy Jenks, 2017a](#)).

2.3. PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIVITIES

This section summarizes the previous site investigations and remedial activities. Unless indicated otherwise, the information provided in this section is from the 2017 RI/Feasibility Study (FS) Report ([Kennedy Jenks, 2017a](#)).

2.3.1. 1989–1990 UST Removal and Remediation (GeoEngineers)

On 7 August 1989, a leak was detected in one of the gasoline USTs at the site. Upon discovery of the release, the remaining product was removed from the leaking UST, and a release notification was made to Ecology ([GeoEngineers, 1990a](#)). The capacity of the leaking UST was reportedly 4,000 gallons and it is unknown whether the tank stored leaded or unleaded gasoline. (Note: Leaded gasoline was not completely phased out in Washington until 1996.) Based on a review of tank inventory records, the release occurred between 22 June and 7 August 1989.

In late 1989, 16 groundwater monitoring wells (MW-1 through MW-16) were constructed at the site. During drilling, a petroleum-like odor was reportedly observed at several well locations (MW-2, MW-3, MW-4, MW-6, MW-10, MW-13, and MW-15) ([GeoEngineers, 1990a](#)). Soil samples were collected from each of the monitoring well borings for analysis of petroleum hydrocarbons (gasoline-range organics [GRO] and diesel-range organics [DRO]); benzene, ethylbenzene, toluene, and xylenes (BTEX); and other gasoline-related compounds. The highest detected concentration of GRO was in a soil sample collected from well MW-4 at 8.5 feet bgs (1,200 milligrams per kilogram [mg/kg]).

All six USTs and the pump island were removed from the site in October 1989. In addition to the UST removals, approximately 900 yd³ of petroleum hydrocarbon-impacted soil was excavated and removed. The four gasoline USTs were removed from one excavation, and the waste oil and heating oil USTs were each removed from separate excavations ([GeoEngineers, 1990a](#)). Monitoring wells MW-2 and MW-3 were abandoned during excavation activities because they were located within the footprint of the main UST excavation. Following excavation activities, the excavation was backfilled with pea gravel with a crushed gravel top course.

Following removal of the gasoline USTs, approximately 80 to 100 gallons of LNAPL was removed from the excavation. Petroleum hydrocarbon-impacted soil was removed from the UST excavation to a depth of approximately 14 to 16 feet bgs. Eight confirmation soil samples were collected from the sidewalls and

base of the excavation. The confirmation soil sample results indicated GRO and/or DRO and BTEX were present at concentrations exceeding the Model Toxics Control Act (MTCA) Method A cleanup levels (CULs), except in the sample collected from the eastern sidewall. The GRO concentrations ranged from not detected (samples EW-1 and ET-3, eastern sidewall) to 1,700 mg/kg (sample NW-1 along the northern sidewall). The highest benzene concentration (31 mg/kg) was also detected in sample NW-1, while other detected concentrations ranged from 0.11 to 1.3 mg/kg.

The waste oil and heating oil USTs reportedly contained residual product, which was removed prior to excavation ([GeoEngineers, 1990a](#)). No perforations were observed in either tank; however, field screening of soil samples surrounding each tank indicated that some petroleum hydrocarbon-impacted soil was present. Approximately 10 yd³ of impacted soil was removed from the area surrounding the heating oil UST, and approximately 80 yd³ of impacted soil was removed from the waste oil UST excavation, primarily from the base and the eastern sidewall ([GeoEngineers, 1990a](#)). Following excavation of petroleum hydrocarbon-impacted soil, confirmation soil samples were collected from each excavation sidewall and bottom and analyzed for total petroleum hydrocarbons (TPH). TPH concentrations in all samples were less than the MTCA Method A CULs for diesel and oil in soil.

The former pump island was reportedly removed from the site in March 1990 ([Ecology, 2009](#)); however, no information on confirmation sampling, if any, was available.

In late 1989, an LNAPL recovery system, groundwater treatment system, and SVE system were also installed at the site within the former gasoline tanks excavation area. The remediation systems consisted of a 30-inch-diameter steel recovery well along the northern edge of the excavation and a dual-pumping system consisting of an LNAPL (free product) recovery pump and a water table depression pump ([Ecology, 2009](#)). Three groundwater and LNAPL recovery trenches were also constructed within the excavation along the northern sidewall.

Approximately 538 gallons of LNAPL was recovered from December 1989 through September 1990 ([GeoEngineers, 1990b](#)). In addition, measurable LNAPL was bailed from the monitoring wells on a monthly basis. The groundwater treatment system was operated until May 2000, at which time Ecology decided to discontinue operation of the system and evaluate other cleanup alternatives (Glacier Environmental Services [[Glacier](#)], 2001).

The SVE system was installed in the excavation and consisted of horizontal slotted polyvinyl chloride (PVC) vapor extraction piping connected to a blower. Soil vapors were routed through a condensate trap, particulate filter, and a series of granular activated carbon (GAC) filters for treatment. Although the SVE system was installed at the same time as the LNAPL recovery and groundwater treatment systems were installed, it was operated from the early 1990s until 1997, at which time it was shut down because no

significant hydrocarbons were detected in the extracted soil vapor for 2 consecutive months (Ecology, 2009).

2.3.2. 1992–1999 Groundwater Monitoring and Operation and Maintenance (Glacier)

From 1992 through 1999, Glacier performed two groundwater monitoring events and O&M of the groundwater treatment system at the site. Groundwater monitoring activities consisted of collecting groundwater samples and measuring LNAPL in the second quarter 1992 and second quarter 1999.

2.3.3. 2005 Enhanced Fluid Recovery (EcoVac Services, Inc.)

In June 2005, EcoVac Services, Inc. performed a pilot test to evaluate use of an EFR mobile dual-phase extraction technology to remediate petroleum hydrocarbons at the site. The EFR technology uses a combination of a specially designed truck-mounted vacuum and liquid handling system integrated with a mobile hydrocarbon vapor treatment system (VTS). High vacuum is applied to one or more monitoring or recovery wells with down-hole apparatuses to control the fluid elevation in each well. EFR simultaneously removes multiple phases of hydrocarbons (liquid, dissolved, adsorbed, and vapor phase) by extracting free product, soil vapors, and groundwater from the selected monitoring and/or recovery wells. The purpose of the 8-hour EFR pilot test was to evaluate the technology as a method for removing LNAPL, impacted groundwater, and hydrocarbon vapors from monitoring wells MW-4, MW-8, MW-9, and MW-13 located near the former UST excavation area. The results of the EFR pilot test are summarized below.

- Approximately 18 gallons of gasoline was removed during the test.
- Vapor-phase hydrocarbon removal rates ranged from 1.9 pounds per hour (lbs/hr) when extracting from monitoring well MW-13 located farthest from the former UST excavation area to 38 lbs/hr when simultaneously extracting from multiple monitoring wells (i.e., MW-4, MW-8, and MW-9) located nearer to the former UST excavation area.
- The groundwater drawdown measured in the observation monitoring wells ranged from 0.08 foot to 2.75 feet when extracting from monitoring well MW-9 and generally correlated with the distance from the point of applied vacuum. The groundwater drawdown measured in three observation wells when extracting from monitoring well MW-4 was approximately the same, regardless of distance.
- Pre-test LNAPL measurements ranged from a sheen in monitoring well MW-8 to 0.42 foot in monitoring well MW-4. LNAPL was not present in measurable thicknesses in measurements taken approximately 3 weeks after the pilot test. Measurements of LNAPL collected during the three subsequent quarters indicated that LNAPL was measurable on the groundwater but did not return to the pre-test thickness in monitoring well MW-4.

2.3.4. 2005–2006 Groundwater Monitoring (EA Engineering, Science, and Technology, Inc.)

In 2005 and 2006, EA Engineering, Science, and Technology, Inc. (EA) performed groundwater monitoring activities at the site (EA, 2006). The monitoring activities during this period consisted of collecting groundwater samples from select monitoring wells and measuring for LNAPL approximately 1 week prior to the EFR pilot test described in Section 2.3.3 and approximately 1 week after the pilot test. EA performed three additional rounds of groundwater monitoring in 2006. The groundwater monitoring results during this period indicated that GRO and benzene remained in groundwater at concentrations exceeding the MTCA Method A CULs to the north of the former gasoline UST area (EA, 2006). In addition, the LNAPL thickness in monitoring wells located in the former gasoline UST area slowly rebounded following the EFR pilot test but did not return to pre-test thicknesses in the monitoring well (MW-4) located adjacent to the former USTs, where the greatest thickness had been observed prior to the test. Follow-up monitoring performed in February 2008 indicated that LNAPL remained as film (i.e., no measurable thickness) in monitoring wells MW-4 and MW-13 and a hydrocarbon sheen was present in monitoring wells (MW-8, MW-9, and MW-15) to the north, and that the extent of LNAPL-impacted groundwater was relatively stable.

2.3.5. 2016–2017 Remedial Investigation/Feasibility Study (Kennedy Jenks)

The RI was performed to address identified data gaps and evaluate the nature and extent of contamination at the site. The RI included constructing 3 new groundwater monitoring wells (MW-17, MW-18, and MW-19) and 9 new multipurpose wells (MW-20, MW-21, and RW-1 through RW-7); advancing 16 reconnaissance soil borings; collecting soil samples for laboratory analyses; and performing additional rounds of groundwater monitoring.

GRO and benzene were identified as the primary chemicals of concern (COCs) at the site. Concentrations of GRO and benzene in soil and groundwater appeared to be highest in the western-central portion of the site and appeared to extend off-property to the north and east. The vertical extent of GRO and benzene concentrations in soil exceeding the MTCA Method A CULs appeared to be generally limited to depths from about 8 to 20 feet bgs. No LNAPL was observed in the monitoring wells during the 2016–2017 RI activities. Potentially complete pathways for human exposure to contaminated soil, groundwater, and soil vapors were identified.

The FS evaluated remedial alternatives for the site, with the goal of identifying the most effective remedial strategy that is protective of human health and the environment and meets the requirements of Ecology's MTCA regulations (Washington Administrative Code [WAC] 173-340). The recommended remedial alternative for the site included a combination in-situ bioremediation to address impacted saturated soil and groundwater at the site and SVE to support remediation of the vadose zone and to mitigate the vapor intrusion pathway into on-property buildings.

2.4. SYSTEM DESIGN, INSTALLATION, AND TESTING

This section summarizes the design, installation, and testing of the remedial system at the site.

2.4.1. System Design

An Engineering Design Report was prepared in December 2021 detailing the specific criteria and design requirements for implementing the remedial alternative selected during the RI/FS and Cleanup Action Plan (CAP) process ([Kennedy Jenks, 2021](#)). The remedial alternative chosen in the RI/FS and CAP included an SVE system for remediation of residual soil impacts and implementation of a groundwater recirculation system with injection of bioaugmentation reagents. Kennedy Jenks prepared the design drawings and specifications, which were provided in the bid package for the construction bidding process in December 2022.

2.4.2. System Installation

Glacier was awarded the contract to construct and install the proposed remedial system in February 2023, but permit approvals delayed the start of work. After obtaining approved permits, Glacier completed the work elements described below between June 2024 and November 2024.

- Installed three new vertical and three new slant remediation wells.
- Installed four vapor pins and three horizontal sub-slab depressurization wells.
- Trenched and backfilled piping from each wellhead to the treatment shed.
- Procured and delivered the treatment system shed, GAC vessels, catalytic oxidizer, security fencing, and other treatment system components.
- Commissioned the system and performed functionality testing.

2.4.3. System Commissioning and Testing

Glacier and Kennedy Jenks performed commissioning and testing of system components in October and November 2024. System commissioning and testing included, but was not limited to:

- confirming functionality of system components (pumps, gauges, flowmeters, etc.);
- testing well performance to estimate extraction flow rates;
- testing alarms and notification;
- performing treatment batching and obtaining discharge rates; and
- obtaining baseline vapor measurements of vapor pins and sub-slab depressurization wells.

During testing, the system discharge outlet overflowed after only 300 gallons had been discharged between 4 November and 6 November 2024. After troubleshooting and scoping the drainpipe, a blockage was identified between the outlet and the sanitary sewer main. An alternate discharge outlet was selected, and

temporary piping was installed in December 2024 to allow for system operation. Extraction and injection lines were removed from the wells to minimize groundwater extraction and focus on SVE. After successful operation using the temporary piping for batch discharges, the extraction and injection lines were reinstalled at the wells to increase groundwater extraction on 05 February 2025. The installation of the permanent discharge pipeline was completed on 04 March 2025.

[Section 3.1](#) further discusses the system components. Glacier submitted system commissioning and testing documentation, troubleshooting discussion, and as-built drawings under their Construction Completion Report to Ecology ([Glacier, 2025](#)).

3. System Operation, Monitoring, Sampling, and Maintenance

The remedial system consists of a multiphase extraction (MPE) component and a surfactant/nutrient/oxygen injection component to reduce concentrations of GRO and BTEX in the site soil and groundwater in accordance with the CAP (Kennedy Jenks, 2017b). Groundwater, soil, and vapor samples are collected to monitor treatment progress in accordance with the Sampling and Analysis Plan/Quality Assurance Project Plan ([SAP/QAPP]; Kennedy Jenks, 2024a). Weekly, monthly, semiannual, and annual inspections, monitoring, maintenance, and sampling are performed on the MPE system to ensure it remains operational and the site is progressing toward achieving the remedial action objectives. Section 3.1 provides details on the system components. Sections 3.2, 3.3, and 3.4 describe the specific maintenance, monitoring, and system sampling activities performed during this event, respectively. Sections 3.5 and 3.6 describe field quality control activities and management of investigation-derived waste (IDW). Section 3.7 discusses deviations from the O&M Manual and SAP/QAPP. Section 4 describes the groundwater monitoring activities, and Section 5 summarizes the monitoring results.

3.1. SYSTEM DETAILS

The MPE system was designed to incorporate three new vertical wells and three new slant wells along with seven existing wells into a single extraction/injection system for a total of 13 remediation wells (Figure 2 and Table 1). Each well within the network of remediation wells is individually connected to both the extraction and injection manifolds in the treatment system enclosure (i.e., the Treatment Shed) located on site. Figure 2 shows the location of the Treatment Shed, and Figure 3 provides the system process flow diagram. The vapor and water extracted from the wells is piped to the treatment system. The treatment train splits at a knock-out tank to a water treatment train and a vapor treatment train.

3.1.1. General Conveyance and Monitoring Infrastructure

The extraction/injection wells (EIWs) consist of 13 remediation wells, including 1 existing monitoring well (MW-4), as follows (Figure 2):

- Seven existing remediation wells (RW-2, RW-3, RW-4, RW-5, RW-6, RW-7, and MW-4)
- Three new remediation wells (RW-8, RW-9, and RW-10)
- Three new slant remediation wells (SW-1, SW-2, and SW-3)

The wells are organized into four groups of either three or four remediation wells.

Three 4-foot-long sub-slab depressurization (SSD) horizontal wells constructed of 3-inch-diameter PVC slotted pipes are installed below grade in gravel. Four vapor pin monitoring points are also installed through the floor slab inside of the onsite building. Figure 2 shows the locations of the SSD wells and the vapor monitoring pins.

Extracted soil vapor from the three SSD wells are manually controlled at Manifold A. Extracted vapor/water from each well group is controlled at Manifold B located within the Treatment Shed at the southwest corner of the onsite building. Treated water for recirculation back into the individual EIWs is controlled at Manifold C, also located within the Treatment Shed.

3.1.2. Vapor Treatment System

The VTS begins with a liquid ring vacuum pump (B-301) installed downstream of the 40-gallon steel moisture separator/knockout tank (T-300) and connecting piping to pull vapor and groundwater from active EIWs ([Figure 3](#)). B-301 pulls vapor from T-300 into the system. A heat exchanger reduces the exit temperature on the discharge side of the liquid ring pump. A temporary catalytic oxidizer (FALCO-300) is installed downstream from B-301 for use during the first several months of operation to treat vapor concentrations to satisfy Puget Sound Clean Air Agency (PSCAA) requirements. Two 2,000-pound vapor GAC vessels are connected downstream from B-301, parallel to the catalytic oxidizer, for use once influent vapor concentrations are less than 500 parts per million (ppm) during vapor monitoring.

3.1.3. Water Treatment System

The water treatment system (WTS) begins at T-300 located upstream of B-301 ([Figure 3](#)). A transfer pump (P-300) is located adjacent to T-300 to transfer water from T-300 to a 400-gallon storage tank (T-301). A second transfer pump (P-400) is located adjacent to T-301 to transfer untreated water through the filtration and treatment process. The filtration and treatment process consists of an inline bag filter and four 200-pound liquid GAC vessels which are plumbed for operation in a lead-lag arrangement downstream of the bag filter (two sets of lead-lag trains). A 300-gallon storage tank (T-400) is connected downstream of the liquid GAC vessels to collect treated groundwater. Treated groundwater is discharged by gravity into the sanitary sewer from the storage tank until COC concentrations are amenable to bioremediation. Once COC concentrations are amendable, treated groundwater will then be pumped to a 300-gallon mixing tank (T-500) where amendments will be added. An inline oxygen generator is connected to the injection piping downstream of the transfer pump, which is connected to the mixing tank.

3.1.4. Continuous Operation Phases

After completion of the startup testing discussed in [Section 2.4.3](#), the remedial system began continuous operation. The remedial system is expected to operate in three phases throughout the life of the system. [Sections 3.1.4.1, 3.1.4.2, and 3.1.4.3](#) describe each operational phase.

3.1.4.1. Phase 1 – Multiphase Extraction

The EIWs will be operated to extract groundwater and vapor for treatment. Extraction will occur at all wells and all sub-slab depressurization locations. Vapors will be treated with the temporary catalytic oxidizer until extracted vapor concentrations are reduced to 500 ppm. When that concentration is reached,

the catalytic oxidizer will be removed, and vapor GAC will be implemented. The use of the catalytic oxidizer is estimated to last from 1 to 3 months. Vapor GAC will be used until groundwater concentrations stabilize and approach asymptotic levels, approximately 6 to 12 months, after which Phase 2 will begin. Treated groundwater will be discharged to the sanitary sewer under an approved King County Industrial Waste (KCIW) permit.

3.1.4.2. Phase 2 – Surfactant Reinjection

When groundwater concentrations stabilize and approach asymptotic levels, the system will begin reinjection with surfactant addition. Surfactants in the reinjected water will act to liberate hydrocarbons adsorbed in the soil. Reinjection will occur until the liquid-phase concentrations have dropped to a level indicative of asymptotic performance of the surfactant reinjection. The duration of Phase 2 is estimated to be 6 months.

3.1.4.3. Phase 3 – Enhanced Bioremediation

Once Phase 2 is complete, the surfactant reinjection will be replaced by adding oxygen/nutrients to the reinjected water. Operation will be rotated between the four sets of wells monthly to quarterly based on the monitoring results. Enhanced bioremediation will be performed until the site COCs have been reduced significantly in the wells or site CULs have been reached. The duration of Phase 3 is estimated to be 24 to 48 months.

3.2. SYSTEM OPERATION AND MAINTENANCE

The system construction contractor (Glacier) performed system O&M until transitioning responsibility to ERRG on 04 March 2025. System O&M activities were performed in accordance with the O&M Manual ([Kennedy Jenks, 2024b](#)). [Sections 3.2.1 and 3.2.2](#) describe the weekly and monthly O&M activities.

3.2.1. Weekly O&M

A visual inspection, temperature check, and removal of accumulated debris of the catalytic oxidizer within the VTS were performed weekly. The catalytic oxidizer was observed as operational and in working condition; no deficiencies were noted during the inspection. Site inspections are documented in the System Monitoring Forms ([Appendix A](#)).

3.2.2. Monthly O&M

Monthly general inspections were performed of the following items:

- Equipment piping
- Manifold piping
- Gas and electrical lines

- Programmable logic controller
- Treatment shed
- Vapor pins (located on the VTS)
- Liquid ring pump (located on the VTS)
- Heat exchanger (located on the VTS)
- Transfer pumps (located on the WTS)
- Bag filter (located on the WTS)
- Liquid GAC vessels (located on the WTS)
- Oxygen generator and air compressor (located on the WTS)

The system was observed to be operational and in good working condition; no deficiencies were noted during the inspection. Site inspections are documented in the System Monitoring Forms ([Appendix A](#)).

3.3. SYSTEM MONITORING

The following system parameters were monitored during this event:

- Ambient air temperature
- Ambient barometric pressure
- Vacuum and flow of EIW and SSD wells
- Vacuum and flow of the VTS
- Vacuum of vapor pins
- Temperature of the catalytic oxidizer
- Volatile organic compound (VOC) concentrations at the EIWs, SSD wells, vapor pins and VTS
- pH and turbidity of the WTS
- Volume discharged to sewer by WTS

[Sections 3.3.1, 3.3.2, and 3.3.3](#) provide additional details on system monitoring activities. All monitoring data are logged on the System Monitoring Forms ([Appendix A](#)).

3.3.1. Well VOCs, Vacuum, and Flow

VOC concentrations, vacuum, and flow are measured monthly at the well manifold. A photoionization device (PID) is used to measure VOC concentration at each EIW and SSD, as well as the monitoring four vapor pins located inside the adjacent buildings. Vacuum is measured based on the pressure gauge readings along the well manifold for each EIW and SSD well, if the well was active. Flow at each EIW and SSD is

measured using an anemometer. SSD and vapor pins are monitored for additional gas measurements, such as carbon dioxide, hydrogen sulfide, methane, and oxygen.

3.3.2. System VOCs, Vacuum, and Flow

VOC concentrations, vacuum, and flow are measured monthly at VTS. VOC concentrations in influent and effluent are measured with a PID. VTS vacuum and flow are recorded based on the readings on the system status panel.

3.3.3. System Liquid Discharge

The total volume discharged from the WTS to the sewer is currently measured with a temporary flowmeter and then calculating the change between totalizer measurements. Glacier installed a permanent flowmeter after the alternate discharge outlet construction activities were completed in February 2025.

3.4. SYSTEM SAMPLING

This section describes the as-needed vapor sampling, as well as system compliance vapor and water samples, which were collected monthly during Phase 1 and submitted for laboratory analysis in accordance with the SAP/QAPP ([Kennedy Jenks, 2024a](#)). [Table 2](#) summarizes system performance and recorded field measurements.

3.4.1. Vapor Pin Sampling

Vapor samples were collected on 13 February 2025 at vapor pins VP-3, and VP-4, using Summa canisters. Sampling was performed in response to PID measurements exceeding 425 ppb at both vapor pins on 31 January 2025. Samples were submitted to an offsite laboratory for analysis of VOCs (including GRO and BTEX) by Method TO-15. Results are presented in [Table 3](#) and discussed in [Section 5.2.1](#).

3.4.2. VTS Sampling

Monthly VTS samples were collected from two locations (influent and effluent of the catalytic oxidizer) using 1-liter Summa canisters on 17 January 2025, 13 February 2025, and 24 March 2025. Samples were submitted to an offsite laboratory for analysis of VOCs (including GRO and BTEX) by Method TO-15. Results are presented in [Table 4](#), shown on [Figure 4](#), and discussed in [Section 5.2.2](#).

3.4.3. WTS Sampling

Monthly WTS samples were collected from the following three locations throughout the system: influent to the lead liquid GAC vessel, midpoint between the lead and lag liquid GAC vessel, and effluent of the lag liquid GAC vessel. Results are presented in [Table 6](#), shown on [Figure 5](#), and discussed in [Section 5.2.3](#).

WTS samples were collected on 17 January 2025, 27 February 2025, and 21 March 2025 from LG-401, LG-403, and LG-404 (influent, midpoint, and effluent, respectively). Samples were submitted to an offsite laboratory for analysis of GRO, BTEX, and nonpolar fats, oil, and grease (FOG). Samples were also analyzed for selected chlorinated VOCs, as required per the KCIW permit. Field instruments were used to measure pH and turbidity.

3.5. FIELD QUALITY CONTROL

During the January 2025 WTS sampling event, three duplicates were collected at LG-404 (DUP-1, DUP-2, and DUP-3). DUP-1 was analyzed for GRO, BTEX, chlorinated VOCs, and FOG. DUP-2 and DUP-3 were analyzed for FOG only.

During the February 2025 and March 2025 WTS sampling events, two duplicates were collected at LG-404 (DUP-1 and DUP-2). DUP-1 was analyzed for GRO, BTEX, chlorinated VOCs, and FOG for each event, while DUP-2 was analyzed for FOG only.

3.6. INVESTIGATION-DERIVED WASTE

System operations generated the following IDW during the reporting period:

- Used WTS filter, which was placed inside a 55-gallon drum within the WTS containment area
- Treated and untreated system water during sample collection, which was placed into T-301 for processing

3.7. DEVIATIONS

No deviations with system monitoring or sampling were observed during the reporting period.

4. Groundwater Monitoring Activities

Groundwater monitoring is performed during remedial system operation for compliance and performance monitoring, as well as during confirmation monitoring after remedy implementation (Kennedy Jenks, 2024a). Each groundwater monitoring and sampling event includes measuring groundwater levels (and LNAPL levels, if applicable) (collectively known as “liquid levels”) in site monitoring wells and EIWs (as accessible) and collecting groundwater samples from select monitoring wells for laboratory analysis. Although LNAPL has not been observed in the site monitoring wells since October 2006 (EA, 2006), its presence will be monitored during the groundwater monitoring events.

4.1. GROUNDWATER MEASUREMENTS AND INSPECTIONS

Liquid-level measurements were obtained from all wells prior to collecting groundwater samples in accordance with Standard Operating Guideline (SOG)-005 in the O&M Manual (Kennedy Jenks, 2024b). Groundwater measurements were taken on 17 January 2025, 27 February 2025, and 21 March 2025, during the monthly events at the monitoring, compliance, and remediation wells (25 in total). Table 7 and Figure 6 show the groundwater elevation results, which are summarized in Section 5.3.1. An electronic oil/water interface probe was used to measure the depth to product and depth to water levels. Measurements were referenced to the top of the well casing on the north side.

4.2. GROUNDWATER SAMPLING

Groundwater samples were collected on 17 January 2025, 21 February 2025, and 28 March 2025, during each monthly sampling event using low-flow purging methodology in accordance with SOG-006 (Kennedy Jenks, 2024b). Table 8 and Figures 7 and 8 show the groundwater analytical results, which are summarized in Sections 5.3.2 and 5.3.3, for the first quarter monthly monitoring events.

Upon arrival, the condition of the well was noted and then an oil-water interface probe was used to measure the depth to water and total well depth to the nearest 0.01 foot from the top of the well casing to establish the appropriate purge volumes. Dedicated polyethylene tubing was used at each well prior to purging the well, and the tubing inlet was placed within the screened interval. Groundwater wells were purged using a portable peristaltic pump. Field parameters were monitored during the purging process using a multi-parameter water quality meter, equipped with a flow-through cell, to continuously monitor the following parameters: temperature, pH, specific conductivity, oxidation-reduction potential, and dissolved oxygen. Turbidity was measured using a separate turbidity meter. Meter readings were recorded at 5-minute intervals during the purging process, including a final reading taken at the completion of purging each well location.

The monitoring wells were purged at low-flow rates (5 to 50 milliliters per minute) and adjusted, as necessary, to minimize drawdown in the well until water quality parameters stabilized within ranges established in SOG-006 (Kennedy Jenks, 2024b). Parameter readings, as well as olfactory and visual

observations, obtained during the purging and sampling process were recorded on groundwater purge forms ([Appendix A](#)). Purged groundwater was containerized and managed as discussed in [Section 4.4](#).

4.3. EQUIPMENT DECONTAMINATION

All non-dedicated equipment used during sampling (oil-water interface probe, water quality meter, turbidity meter, and flow-through cell) were decontaminated in accordance with the SOG-008 ([Kennedy Jenks, 2024b](#)). Decontamination water was stored in a 55-gallon drum on the site.

All disposable personal protective equipment (i.e., gloves) and sampling equipment (i.e., tubing, paper towels, etc.) were placed in trash bags on the site during sampling and were disposed of as municipal solid waste at the end of the day.

4.4. INVESTIGATION-DERIVED WASTE

IDW generated during groundwater monitoring was purge water and equipment decontamination water. IDW was stored in 5-gallon buckets during sampling activities and then transferred to a 55-gallon steel drum on the site during the January 2025 event. The IDW was transferred from the drum to T-301 for treatment through the WTS during the February 2025 event. IDW was transferred after completion of monitoring activities into T-301 during the February 2025 and March 2025 events.

4.5. FIELD QUALITY CONTROL

In January 2025, a blind duplicate was collected from well MW-9 and submitted for analysis of GRO and BTEX. A trip blank was also submitted and analyzed for GRO and BTEX. In February 2025, a blind duplicate was collected from well MW-8 and submitted for analysis of GRO and BTEX. Two trip blanks were also submitted and analyzed for GRO and BTEX. In March 2025, a blind duplicate was collected from well MW-6 and submitted for analysis of GRO and BTEX. Two trip blanks were also submitted and analyzed for GRO and BTEX. [Appendix A](#) includes field documentation, and [Appendix B](#) includes the analytical laboratory reports.

4.6. DEVIATIONS

The deviations listed below were documented during the reporting period.

- Liquid level measurements were not collected at well MW-10 due to obstruction in well.
- Liquid level measurements were not collected at well MW-4 due to wellhead fitting. The well is currently equipped for extraction, and persistent removal and reinstallation of the fitting would damage the well and its components.
- Only one trip blank and no equipment blank were collected during the January 2025 event due to a shortage of available trip blank containers.

5. Results

This section summarizes the system monitoring and sampling results.

5.1. SYSTEM MONITORING

[Table 2](#) presents the system monitoring measurements recorded during the reporting period. [Table 5](#) presents the total volume discharged per month during the reporting period.

System influent flow rates ranged between 42 cubic feet per minute (cfm) and 112.8 cfm. System influent vacuum ranged from 14.2 pounds inches of mercury (inHg) to 24.7 inHg. VOC concentrations in vapor influent ranged from 61.6 ppm to 254.9 ppm. VOC concentrations in vapor effluent ranged from 0.198 ppm to 33.4 ppm.

EIW vacuum measurements ranged from 2 inHg at well RW-2 to 13 inHg at well RW-7. EIW flow rates ranged from 3 cfm at well RW-8 to 133.1 cfm at well RW-9. Measured VOC concentrations at EIWs ranged from 0 ppm at MW-4 to 698.2 ppm at RW-7.

Vapor pin vacuum measurements ranged from 0.001 inH₂O (inches of water) at vapor pin VP-2 to 0.14 inH₂O at vapor pin VP-1. VOC concentrations at vapor pins ranged from 0.108 ppm at VP-2 to 137.7 ppm at VP-4. Methane, oxygen, carbon dioxide, and hydrogen sulfide measurements were also collected at all vapor pins. Oxygen measurements ranged from 19.0% at VP-4 to 20.5% at VP-2, while carbon dioxide measurements ranged from 0.04% at VP-2 and 1.06% at VP-4. Methane and hydrogen sulfide were not observed in vapor pin measurements.

SSD vacuum measurements ranged from 0.661 inH₂O at SSD-1 to 18 inH₂O at SSD-3. SSD flow rates ranged from 4.2 cfm at SSD-1 to 22.8 cfm at SSD-3. VOC concentrations at SSD locations ranged from 2.3 ppm at SSD-3 to 118 ppb at SSD-2. Methane, oxygen, carbon dioxide, and hydrogen sulfide measurements were also collected at all vapor pins. Oxygen was measured at 20.9% at all SSD locations, while carbon dioxide measurements ranged from 0.02% at SSD-2 and 0.09% at SSD-3. Methane and hydrogen sulfide were not observed in SSD measurements.

During First Quarter 2025 reporting period, approximately 49,151 gallons of treated water were discharged to the sewer ([Table 5](#)).

5.2. SYSTEM VAPOR AND WATER SAMPLES

[Table 3](#) presents the analytical results for the as-needed vapor sampling event. [Table 4](#) and [Figure 4](#) present the analytical results from sampling VTS influent and effluent. [Table 6](#) and [Figure 5](#) present the analytical results from sampling WTS influent, midpoint, and effluent.

[Appendix B](#) includes the analytical laboratory reports for the soil vapor and water samples. Laboratory Data Consultants, Inc. completed Stage 2A validation of the data in accordance with the SAP/QAPP ([Kennedy Jenks, 2024a](#)). [Appendix C](#) includes the data validation reports.

[Sections 5.2.1, 5.2.2, and 5.2.3](#) summarize vapor pin, VTS, and WTS sample results, respectively.

5.2.1. As-Needed Vapor Sampling

Vapor pin samples were analyzed for VOCs, including GRO and BTEX, however only GRO was detected at concentrations exceeding the sub-slab soil gas screening levels, as summarized below.

- GRO concentrations exceeded the screening level of 1,500 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) in both samples (VP-3 and VP-4), with concentrations of 1,920 $\mu\text{g}/\text{m}^3$ and 158,000 $\mu\text{g}/\text{m}^3$, respectively.
- Benzene, toluene, ethylbenzene, and total xylenes were detected in both samples (VP-3 and VP-4); however, concentrations did not exceed the screening levels of 460 $\mu\text{g}/\text{m}^3$, 76,000 $\mu\text{g}/\text{m}^3$, 15,000 $\mu\text{g}/\text{m}^3$, and 1,500 $\mu\text{g}/\text{m}^3$, respectively.

Additional VOCs that were detected in the vapor pin samples are provided in the laboratory analytical reports ([Appendix B](#)).

5.2.2. VTS Sampling

GRO and BTEX were detected in influent and effluent samples, as summarized below.

- GRO concentrations were 107,000 $\mu\text{g}/\text{m}^3$ (influent) and 1,020 $\mu\text{g}/\text{m}^3$ (effluent) in January 2025, 599,000 $\mu\text{g}/\text{m}^3$ (influent) and 2,500 $\mu\text{g}/\text{m}^3$ (effluent) in February 2025, and 300,000 $\mu\text{g}/\text{m}^3$ (influent) and 1,000 $\mu\text{g}/\text{m}^3$ (effluent) in March 2025.
- Benzene concentrations were 399 $\mu\text{g}/\text{m}^3$ (influent) and 9.14 $\mu\text{g}/\text{m}^3$ (effluent) in January 2025, 7,510 $\mu\text{g}/\text{m}^3$ (influent) and 28.7 $\mu\text{g}/\text{m}^3$ (effluent) in February 2025, and 6,900 $\mu\text{g}/\text{m}^3$ (influent) and 9.97 $\mu\text{g}/\text{m}^3$ (effluent) in March 2025.
- Toluene concentrations were 618 $\mu\text{g}/\text{m}^3$ (influent) and 1.17 $\mu\text{g}/\text{m}^3$ (effluent) in January 2025, 12,200 $\mu\text{g}/\text{m}^3$ (influent) and 28.0 $\mu\text{g}/\text{m}^3$ (effluent) in February 2025, and 13,100 $\mu\text{g}/\text{m}^3$ (influent) and not detected (effluent) in March 2025.
- Ethylbenzene concentrations were 1,040 $\mu\text{g}/\text{m}^3$ (influent) and 0.542 $\mu\text{g}/\text{m}^3$ (effluent) in January 2025, 3,680 $\mu\text{g}/\text{m}^3$ (influent) and 9.19 $\mu\text{g}/\text{m}^3$ (effluent) in February 2025, and 3,030 $\mu\text{g}/\text{m}^3$ (influent) and not detected (effluent) in March 2025.
- Total xylenes concentrations were 8,770 $\mu\text{g}/\text{m}^3$ (influent) and 0.808 $\mu\text{g}/\text{m}^3$ (effluent) in January 2025, 37,100 $\mu\text{g}/\text{m}^3$ (influent) and 40.9 $\mu\text{g}/\text{m}^3$ (effluent) in February 2025, and 30,500 $\mu\text{g}/\text{m}^3$ (influent) and 4.60 $\mu\text{g}/\text{m}^3$ (effluent) in March 2025.

Additional VOCs that were detected in the VTS samples are provided in the laboratory analytical reports ([Appendix B](#)).

5.2.3. WTS Sampling

During the January 2025 monitoring event, GRO was detected below the screening level concentration of 0.25 milligrams per liter (mg/L), at 0.109 mg/L in influent sample LG-401-INF (influent to lead liquid GAC vessel), and 0.119 mg/L in the triplicate sample for LG-404-EFF (effluent to lead liquid GAC vessel). All other analyte concentrations were below the detection limit for all samples collected.

In February 2025, analytes were not detected above the laboratory limit of detection all samples, except for the influent sample, where oil and grease, GRO, and tetrachloroethylene (PCE) were detected below their screening levels of 100 mg/L, 0.25mg/L, and 0.24 mg/L, respectively. Oil and grease were detected at a concentration of 11.9 mg/L, GRO was at 0.114 mg/L, and PCE was at 0.00336 mg/L.

In March 2025, analytes were not detected above the laboratory limit of detection all samples, except for the influent sample, where oil and grease, GRO, and total xylenes were detected below their screening levels of 100 mg/L, 0.25 mg/L, and 2.2 mg/L, respectively. Oil and grease were detected at a concentration of 6.31 mg/L, GRO was at 0.180 mg/L, and PCE was at 0.00604 mg/L.

Field instrument measurements for pH and turbidity were within permitted ranges. Measurements for pH ranged from 6.49 to 6.82, and turbidity measurements ranged from 19 to 40 nephelometric turbidity units.

5.3. GROUNDWATER RESULTS

This section summarizes the groundwater elevation results and the baseline and January groundwater sample results.

[Appendix B](#) includes the analytical laboratory reports for the groundwater samples, which underwent Stage 2A validation in accordance with the SAP/QAPP ([Kennedy Jenks, 2024a](#)). [Appendix C](#) includes the data validation reports prepared by Laboratory Data Consultants, Inc.

5.3.1. Groundwater Elevations Results

No LNAPL was observed during the baseline and January monitoring events. Between January 2025 and March 2025, depth-to-water measurements showed a general fluctuation of groundwater elevations across all monitoring wells and EIWs, as a result of start-up and the active groundwater extraction. Groundwater elevations in January 2025 ranged from 51.49 feet amsl to 60.92 feet amsl at wells MW-6 and MW-11, respectively. Groundwater elevations in February 2025 ranged from 51.43 feet amsl to 60.74 feet amsl at wells MW-6 and MW-11, respectively. Groundwater elevations in March 2025 ranged from 32.52 feet amsl to 62.05 feet amsl at wells MW-4 and MW-11, respectively. Depth-to-water measurements and

groundwater elevation contours for March 2025 are shown on [Figure 6](#) and calculations are summarized in [Table 7](#). Due to high concentrations of analytes, dilutions were required for certain samples in order to obtain results within the instrument calibration range, which increases laboratory limit of detection for all analytes. In samples, with elevated concentrations of detected analytes, some analytes may be reported as non-detected due to the increased limit of detection.

5.3.2. January 2025 Groundwater Sampling Results

During the January 2025 event, GRO and/or BTEX analytes were detected at concentrations exceeding their respective cleanup levels¹ in seven monitoring wells, as summarized below.

- GRO was detected at concentrations ranging from 117 µg/L to 18,300 µg/L in wells MW-18 and MW-8, respectively. GRO concentrations ranging from 3,850 µg/L to 18,300 µg/L exceeded the cleanup level of 800 µg/L in six wells (MW-8, MW-9 [in primary and duplicate], MW-13, MW-19, MW-20, and MW-21).
- Benzene was detected at concentrations ranging from 46.2 µg/L to 3,130 µg/L in wells MW-6, MW-13, MW-19, MW-20, and MW-21. All detected benzene concentrations exceeded the cleanup level of 5 µg/L.
- Toluene was detected at concentrations ranging from 1.67 µg/L to 1,780 µg/L in wells MW-6 and MW-21, respectively. The detected toluene concentration in well MW-21 exceeded the cleanup level of 1,000 µg/L.
- Ethylbenzene was detected at concentrations ranging from 5.28 µg/L to 1,270 µg/L in wells MW-6 and MW-8, respectively. Ethylbenzene concentrations (1,270 µg/L, 712 µg/L, and 712 µg/L) exceeded the cleanup level of 700 µg/L in three wells (MW-8, MW-13, and MW-20, respectively).

5.3.3. February 2025 Groundwater Sampling Results

During the February 2025 event, GRO and/or BTEX analytes were detected at concentrations exceeding their respective groundwater levels¹ in seven monitoring wells, as summarized below.

- GRO was detected at concentrations ranging from 5,270 µg/L to 69,000 µg/L in wells MW-9 and MW-21, respectively, which exceeded the cleanup level of 800 µg/L in six wells (MW-8 [in primary and duplicate], MW-9, MW-13, MW-19, MW-20, and MW-21).
- Benzene was detected at concentrations ranging from 22.7 µg/L to 16,400 µg/L in wells MW-6 and MW-21, respectively. All detected benzene concentrations exceeded the cleanup level of 5 µg/L, across seven wells (MW-6, MW-8, MW-9, MW-13, MW-19, MW-20, and MW-21).

¹ Cleanup levels are based on MTCA Method A Groundwater CULs (WAC 173-340-720, Table 720-1) ([Kennedy Jenks, 2024a](#)).

- Toluene was detected at concentrations ranging from 32.5 µg/L to 14,700 µg/L in wells MW-9 and MW-21, respectively. The detected toluene concentration in wells MW-8 (1,140 µg/L, only in the duplicate), MW-20 (7,970 µg/L), and MW-21 (14,700 µg/L), exceeded the cleanup level of 1,000 µg/L.
- Ethylbenzene was detected at concentrations ranging from 1.38 µg/L to 1,070 µg/L in wells MW-6 and MW-8, respectively. Ethylbenzene concentrations (1,070 µg/L, 719 µg/L, 920 µg/L, and 970 µg/L) exceeded the cleanup level of 700 µg/L in four wells (MW-8, MW-19, MW-20, and MW-21, respectively).
- Total xylenes were detected at concentrations ranging from 665 µg/L to 6,390 µg/L in wells MW-9 and MW-21, respectively. Total xylenes concentrations ranging from 3,820 µg/L to 6,390 µg/L exceeded the cleanup level of 1,000 µg/L in five wells (MW-8 [in primary and duplicate], MW-13, MW-19, MW-20, and MW-21).

5.3.4. March 2025 Groundwater Sampling Results

During the March 2025 event, GRO and/or BTEX analytes were detected at concentrations exceeding their respective groundwater levels¹ in seven monitoring wells, as summarized below.

- GRO was detected at concentrations ranging from 128 J+ µg/L to 47,200 µg/L in wells RW-1 and MW-21, respectively. GRO concentrations (16,200 µg/L, 5,000 µg/L, 8,290 µg/L, 13,500 µg/L, 25,400 µg/L, and 47,200 µg/L) exceeded the cleanup level of 800 µg/L in six wells (MW-8, MW-9, MW-13, MW-19, MW-20, and MW-21, respectively).
- Benzene was detected at concentrations ranging from 19.1 µg/L to 9,270 µg/L in wells MW-6 and MW-21, respectively. Benzene concentrations exceeded the cleanup level of 5 µg/L, across seven wells (MW-6, MW-8, MW-9, MW-13, MW-19, MW-20, and MW-21).
- Toluene was detected at concentrations ranging from 20.4 µg/L to 8,460 µg/L in wells MW-9 and MW-21, respectively. The detected toluene concentration in wells MW-20 (3,070 µg/L), and MW-21 (8,460 µg/L), exceeded the cleanup level of 1,000 µg/L.
- Ethylbenzene was detected at concentrations ranging from 1.22 µg/L to 1,540 µg/L in wells MW-6 and MW-21, respectively. Ethylbenzene concentrations (725 µg/L, 886 µg/L, and 1,540 µg/L) exceeded the cleanup level of 700 µg/L in three wells (MW-19, MW-20, and MW-21, respectively).
- Total xylenes were detected at concentrations ranging from 508 µg/L to 7,400 µg/L in wells MW-9 and MW-21, respectively. Total xylenes concentrations ranging from 1,360 µg/L to 7,400 µg/L exceeded the cleanup level of 1,000 µg/L in five wells (MW-8, MW-13, MW-19, MW-20, and MW-21).

Groundwater samples collected during the March 2025 event were also analyzed for chlorinated volatile organic compounds (CVOCs), as requested by Ecology.

- Trichloroethene was detected in five wells (MW-6, MW-17, MW-18, MW-19, and RW-1), with concentrations ranging from 2.85 µg/L to 185 µg/L in wells MW-18 and MW-19, respectively.
- cis-1,2-Dichloroethene was detected in five wells (MW-6, MW-17, MW-18, MW-19, and RW-1), with concentrations ranging from 1.91 µg/L to 142 µg/L in wells MW-18 and MW-19, respectively.
- Tetrachloroethene was detected in four wells (MW-17, MW-18, MW-19, and RW-1), with concentrations ranging from 82.5 µg/L to 1030 µg/L in wells MW-18 and MW-17, respectively.
- Vinyl chloride was detected in one well, MW-6, with a concentration of 13.2 µg/L.
- Trans-1,2-Dichloroethene was not detected in any of the wells.

Table 8 summarizes the March 2025 groundwater results. Figures 6 and 7 show the TPH-G and benzene concentration contours, respectively.

6. Conclusions and Recommendations

This section summarizes the conclusions and recommendations for the site based on the system operation, monitoring, sampling, and maintenance activities completed during the First Quarter 2025 reporting period.

6.1. CONCLUSIONS

The remedial system operated under Phase 1 conditions from 17 December 2024 through 31 January 2025. Extraction/injection piping was removed from the EIWs prior to continuous operation to focus on vapor extraction and minimize water discharge, while discharge outlet piping issues were being resolved. EIW adjustments were based on discussions between Glacier and Kennedy Jenks during this reporting period.

6.1.1. Vapor Monitoring and Sampling

VOC PID readings exceeded 100 ppm at three EIWs (RW-4, RW-7, and RW-8) and exceeded 425 ppb at all four vapor pins, as shown in [Table 2](#). Only VP-3 and VP-4 exceeded 425 ppb when measured by ERRG, which were then sampled with Summa canisters for laboratory analysis. Samples from the vapor pins exhibited GRO concentrations exceeding the 1,500 $\mu\text{g}/\text{m}^3$ screening level² ([Table 3](#)). Although BTEX concentrations were detected in both samples, all BTEX concentrations were less than their respective screening levels² ([Appendix B](#)).

6.1.2. System Vapor and Water Treatment

The VTS and WTS operated as intended during the reporting period. GRO and benzene concentrations in effluent vapor were less than the PSCAA emission limits. All analyte concentrations for the WTS effluent samples were also less than their respective KCIW permit limits. [Figures 4 and 5](#) show the GRO and benzene concentrations in vapor effluent and liquid effluent samples across each event.

6.1.3. Groundwater Monitoring and Sampling

[Figure 6](#) shows the groundwater elevation contours for March 2025. Groundwater elevations between January 2025 and March 2025 show offsite groundwater flow in a south to southeast direction from wells MW-11 and MW-2 ([Table 7](#)). Groundwater elevations northeast of the WTS are relatively flat, while groundwater from MW-17 and MW-18 flows north by northwest, toward MW-21, and the localized area of depression in the vicinity of well MW-6 and MW-7, consistent with historical groundwater flow.

[Figure 7](#) and [Figure 8](#) present the contours for GRO and benzene concentrations detected at the site during the March 2025 event, respectively. The benzene and GRO plumes are largely bounded within the site

² Screening levels are based on MTCA Method B, “Noncancer Sub-Slab Soil Gas Screening Level – Cleanup Levels and Risk Calculation Vapor Intrusion Method B Table, February 2025” ([Kennedy Jenks, 2024a](#)). Also available online at: <https://ecology.wa.gov/regulations-permits/guidance-technical-assistance/contamination-cleanup-tools/clarc/data-tables>.

property boundaries, with the northern portion extending into the adjacent road and sidewalk. Following start-up and groundwater extraction, a large depression of elevated concentrations has formed around MW-20 and MW-21. These concentrations drop down rapidly in all directions, with elevated GRO concentrations extending north, towards MW-8. GRO and/or BTEX concentrations exceeding the cleanup levels³ were observed in seven monitoring wells in January 2025, February 2025, and March 2025. A decrease in concentrations was observed in monitoring wells MW-6, MW-8, and MW-13, while fluctuation was observed in monitoring wells MW-19, MW-20, and MW-21.

GRO concentrations exceeded the cleanup level of 800 µg/L in six wells (MW-8, MW-9, MW-13, MW-19, MW-20, and MW-21) between January 2025 and March 2025. GRO concentrations did not decrease to below cleanup levels in any wells. Concentrations decreased in five wells (RW-1, MW-6, MW-8, MW-13, and MW-19), and increased in three wells (MW-9, MW-20, and MW-21) between the January 2025 and March 2025 monitoring events.

Benzene concentrations exceeded the cleanup level of 5 µg/L in seven wells (MW-6, MW-8, MW-9, MW-13, MW-19, MW-20, and MW-21) between January 2025 and March 2025. Benzene concentrations did not decrease to below cleanup levels in any wells. Concentrations decreased in three wells (MW-6, MW-13, and MW-19), and increased in two wells (MW-20 and MW-21) between the January 2025 and March 2025 monitoring events.

Toluene concentrations exceeded the cleanup level of 1,000 µg/L in two wells (MW-20 and MW-21) between January 2025 and March 2025. Toluene concentrations did not decrease to below cleanup levels in any wells. Concentrations decreased in one well (MW-13), and increased in two wells (MW-20 and MW-21) between January 2025 and March 2025 monitoring events.

Ethylbenzene concentrations exceeded the cleanup level of 700 µg/L in five wells (MW-8, MW-13, MW-19, MW-20, and MW-21) between January 2025 and March 2025. Ethylbenzene concentrations (570 µg/L and 61.3 µg/L) decreased to below screening levels in two wells (MW-8 and MW-13). Additionally, concentrations increased in three wells (MW-19, MW-20, and MW-21) between January 2025 and March 2025 monitoring events.

Total xylenes concentrations exceeded the cleanup level of 1,000 µg/L in five wells (MW-8, MW-13, MW-19, MW-20, and MW-21) between January 2025 and March 2025. Total xylenes concentrations did not decrease to less than the cleanup levels in any wells. Concentrations decreased in three wells (MW-8, MW-13, and MW-19) and increased in two wells (MW-20 and MW-21) between the January 2025 and March 2025 monitoring events.

³ Cleanup levels are based on MTCA Method A Groundwater CULs in WAC 173-340-720, Table 720-1.

The blind duplicate sample collected in March 2025 from MW-6 presented no detectable concentrations for GRO or BTEX, likely due to the higher dilution factor compared to previous samples at that well. However, historical analyte concentrations from primary samples still present an overall decrease in GRO and BTEX. The variations in GRO and BTEX concentrations observed in monitoring wells during the first quarter is likely attributed to initial system operation. Comparisons of groundwater concentration contour maps between the October 2024 and March 2025 shows minimal change in the shape of the GRO and BTEX plume, however the concentrations decrease as you move outward from the center of the plume, near MW-20 and MW-21.

6.2. RECOMMENDATIONS

The recommendations listed below are based on the results of system monitoring and sampling.

- Continue to operate the remedial system under Phase 1 conditions.
- Focus extraction on EIWs with vapor concentrations greater than 100 ppm based on PID measurements.

6.2.1. Upcoming Work

The upcoming work is expected to be completed between the end of this reporting period through the subsequent reporting period, as summarized below.

- ERRG will continue O&M of remedial system.
- Glacier will remove catalytic oxidizer and ERRG will transition VTS to Vapor GAC vessels.
- Vapor monitoring of EIWs, vapor pins, SSD wells, and VTS will occur in April 2025.
- Vapor sampling at VTS influent and effluent will occur in April 2025, May 2025, and June 2025.
- Water sampling at WTS influent, midpoint, and effluent will occur in April 2025 and May 2025.
- Groundwater monitoring and sampling will occur in April 2025 and May 2025.
- As-needed vapor or water sampling.

6.2.2. Identified Problems and Proposed Solutions

The problems and proposed solutions summarized below were identified during the reporting period.

- Groundwater samples collected in March 2025 were analyzed for select CVOCs and detections for various CVOCs were observed in several wells.
 - Groundwater impacts via chlorinated VOCs will be resolved under separate Consent Decree or Agreed Order.

- Liquid level measurements are were unable to be collected at wells MW-4 and MW-10.
 - The current configuration of well MW-4 does not allow access to measure liquid levels. Persistent removal and reinstallation of the wellhead fitting would damage the well and effect extraction performance.
 - Well MW-10 will be abandoned at a later time by Ecology due to the obstruction observed in the well.
 - Liquid level measurements will be discontinued at MW-4 and MW-10.

7. References

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Figures

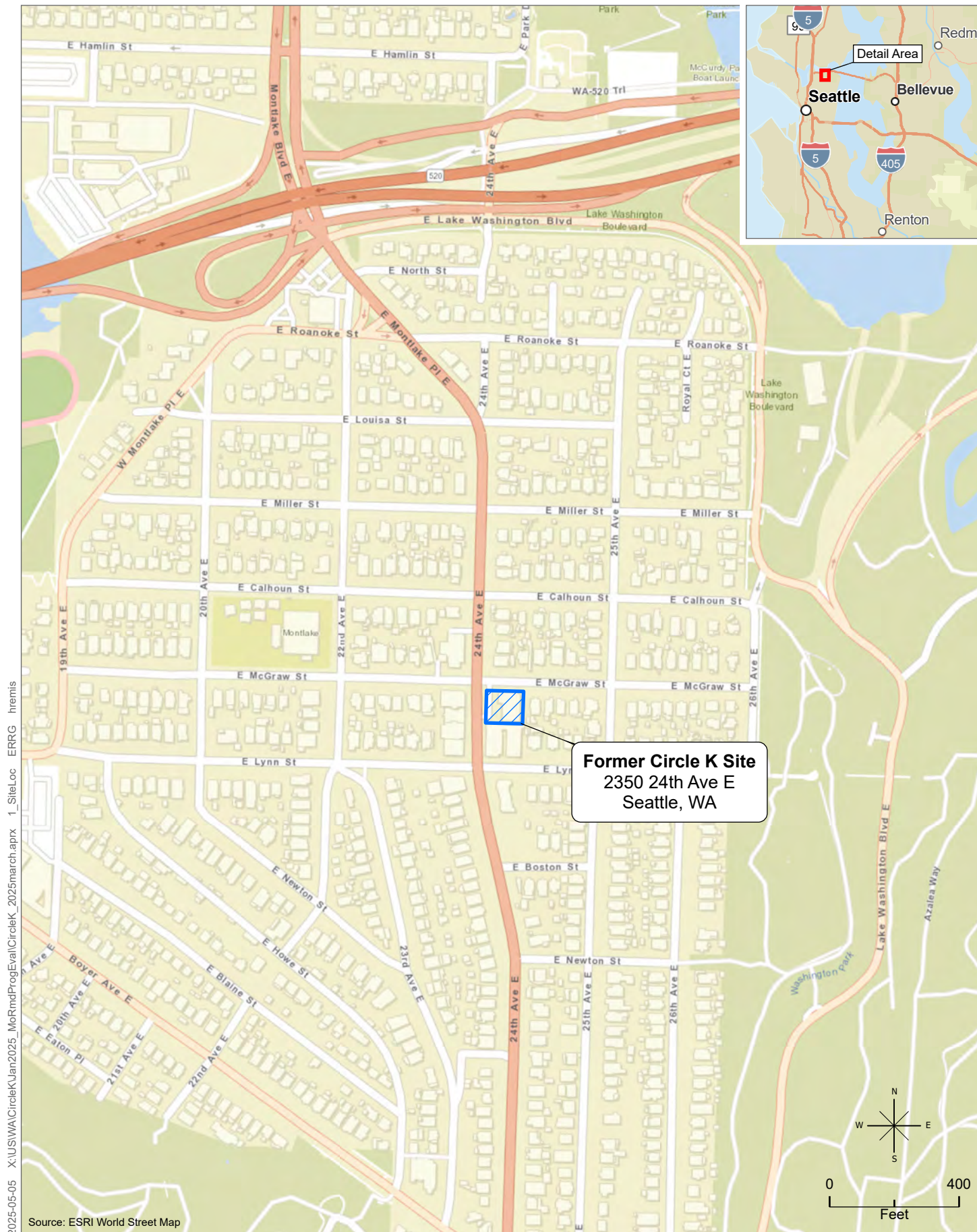


Figure 1. Site Location and Vicinity

First Quarter 2025 Remedial Progress Evaluation Report for Former Circle K 1461
Seattle, WA



Figure 2. Site Layout with System and Wells
 First Quarter 2025 Remedial Progress Evaluation Report for Former Circle K 1461
 Seattle, WA

2025-05-05 X:\USWA\CircleK\Jan2025 MoRmdProgEval\CircleK 2025march.aprx 3 Proc Flw Dia ERRG hnmis

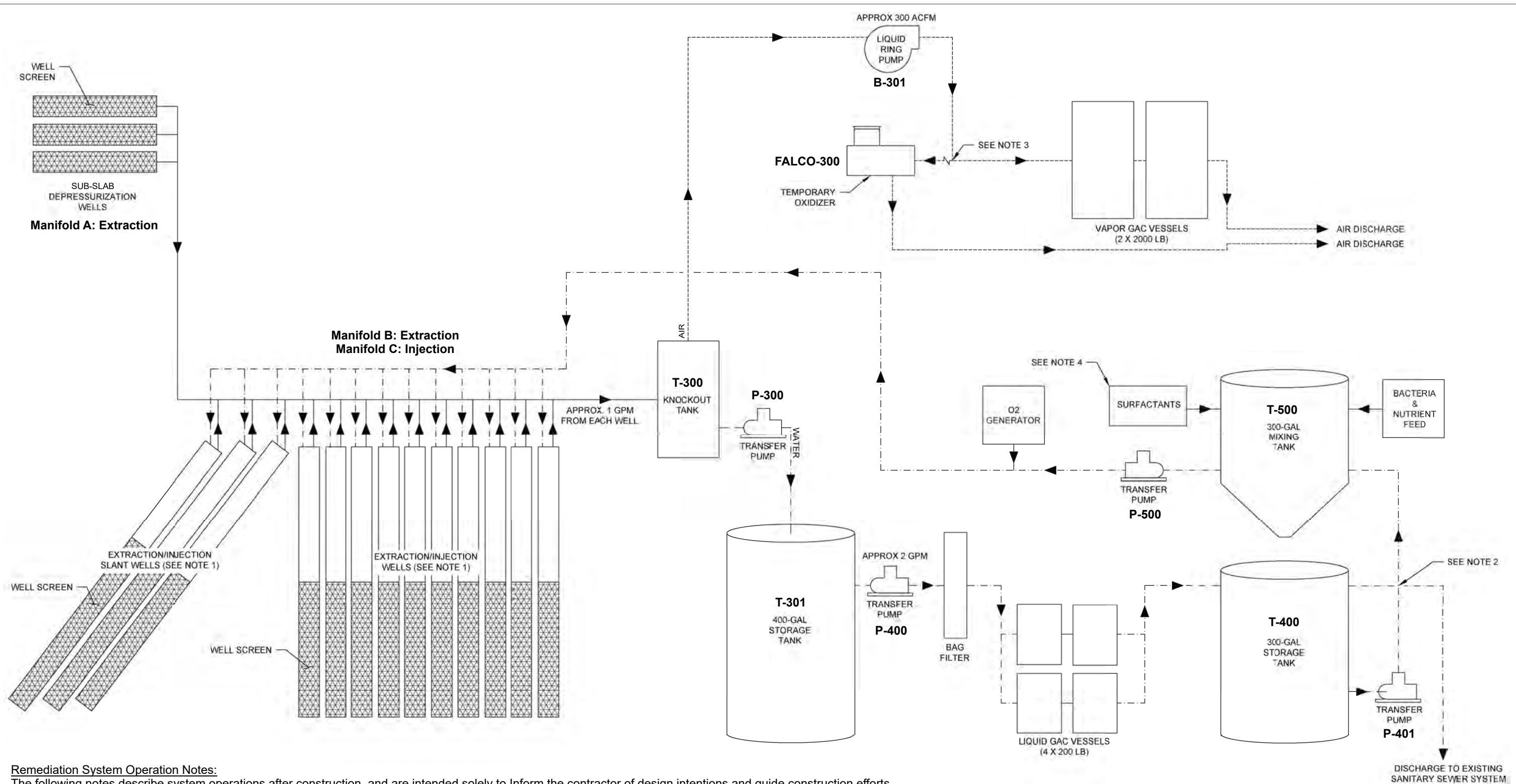


Figure 3. System Process Flow Diagram

First Quarter 2025 Remedial Progress Evaluation Report for Former Circle K 1461
Seattle, WA

2025-05-13 X:\USWACircleKJan2025_MoRmdProgEvalCircleK_2025march.aprx 4_Graph_Vapor_ERRG hremis

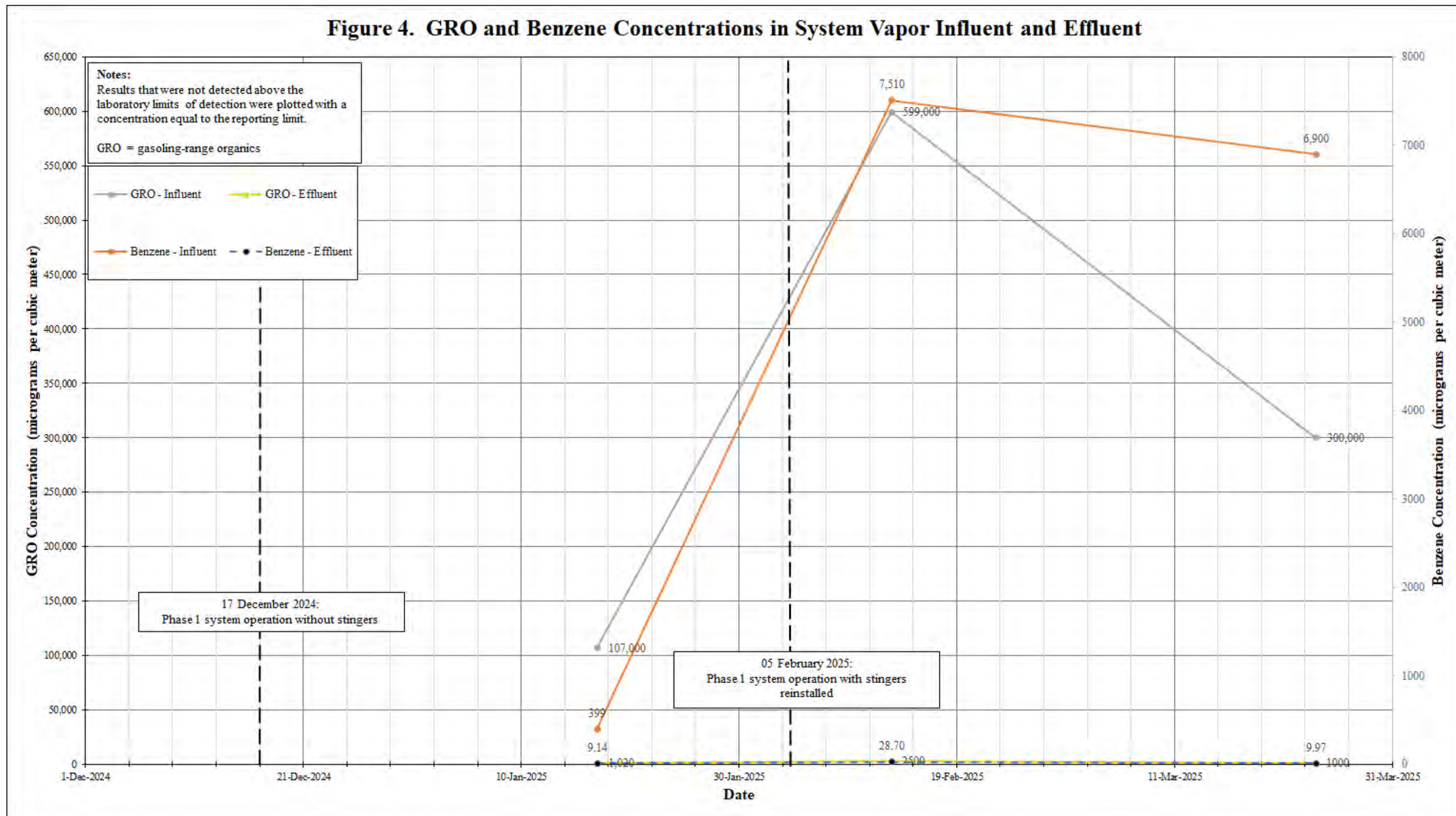


Figure 4. GRO and Benzene Concentrations in System Vapor Influent and Effluent
First Quarter 2025 Remedial Progress Evaluation Report for Former Circle K 1461
Seattle, WA

Figure 5. GRO and Benzene Concentrations System Water Influent and Effluent

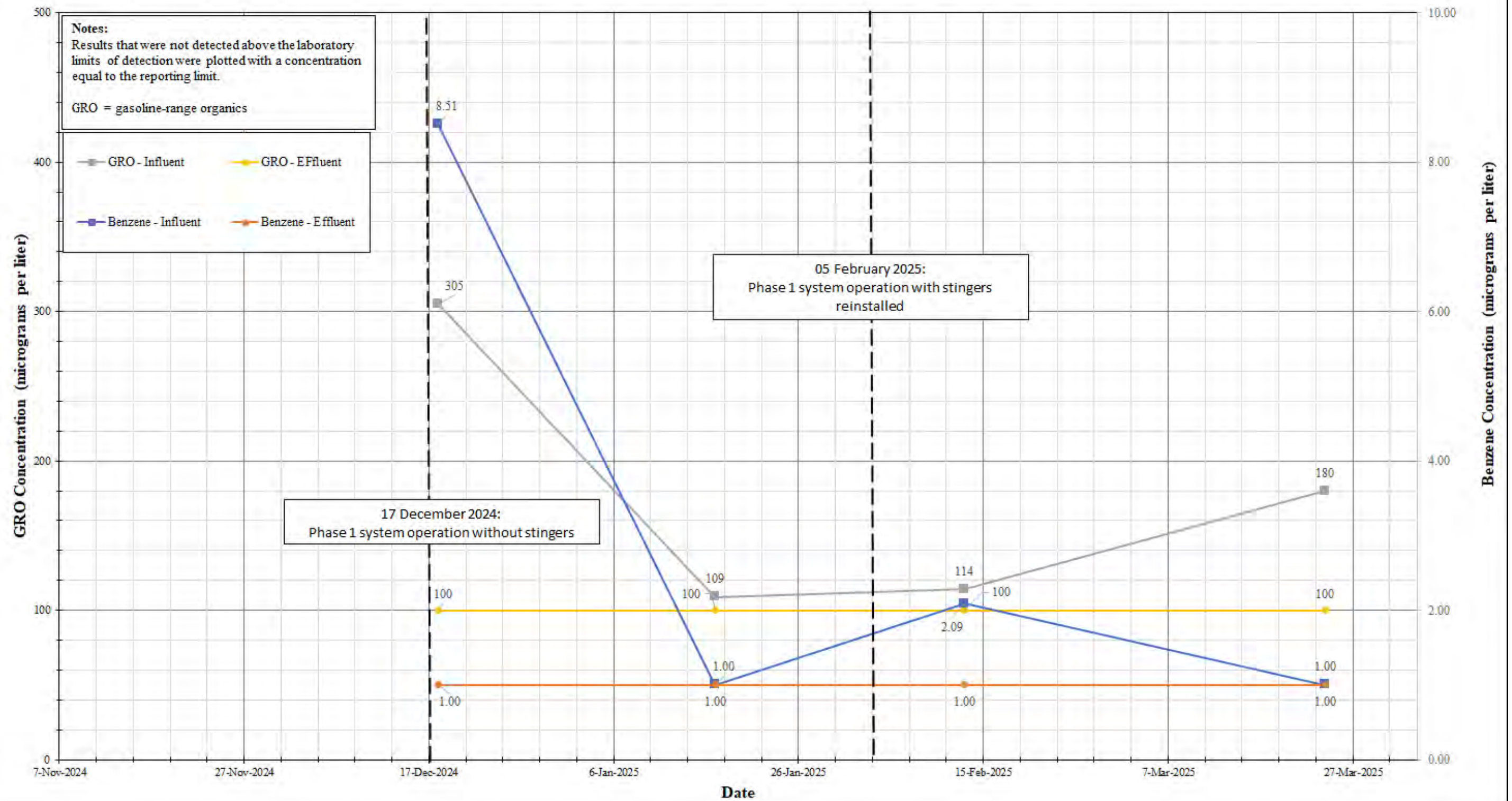


Figure 5. GRO and Benzene Concentrations in System Water Influent and Effluent
First Quarter 2025 Remedial Progress Evaluation Report for Former Circle K 1461
Seattle, WA

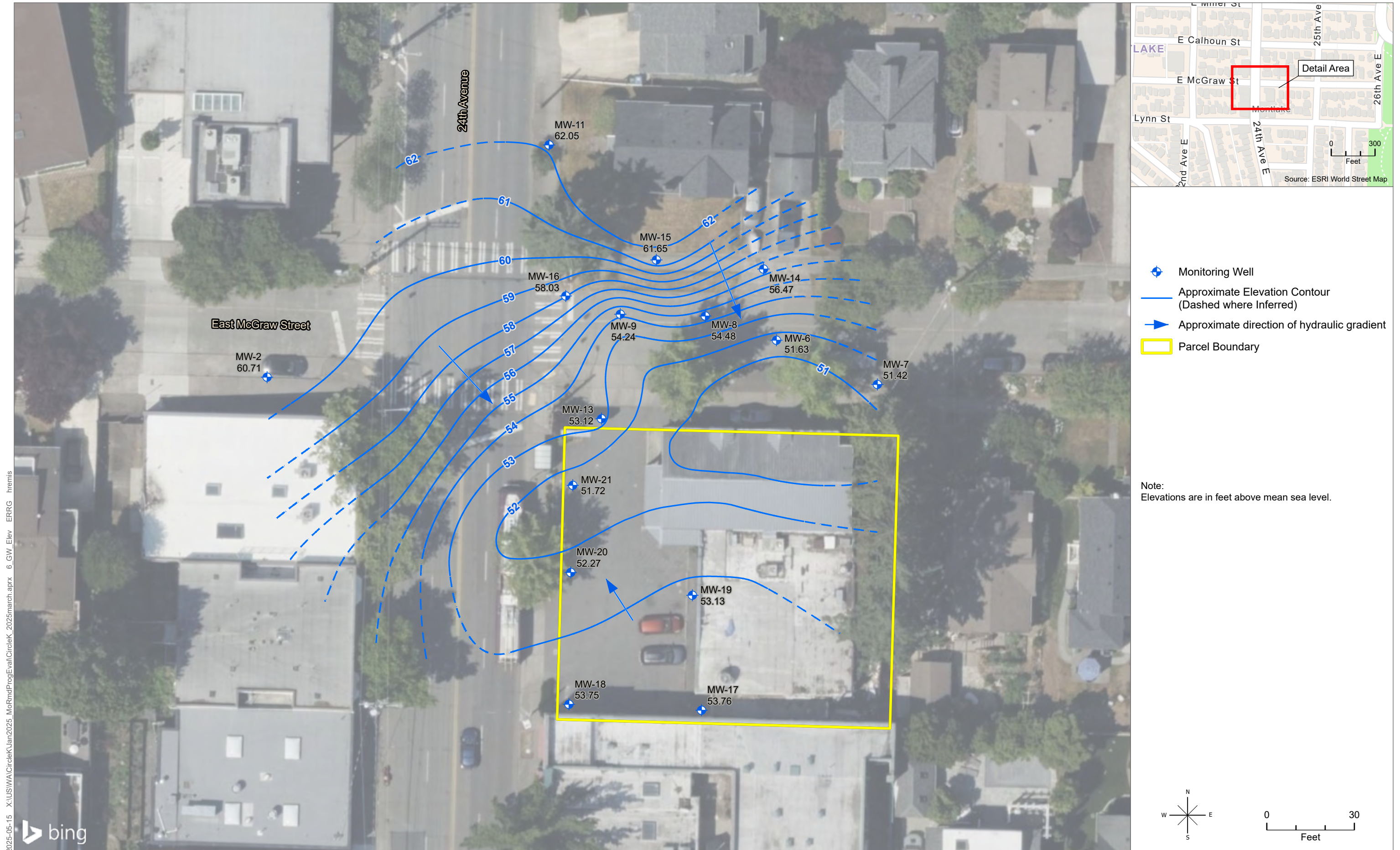


Figure 6. Groundwater Elevation Contours, March 2025
First Quarter 2025 Remedial Progress Evaluation Report for Former Circle K 1461
Seattle, WA



Figure 7. Groundwater Gasoline-Range Organics Contours, March 2025
First Quarter 2025 Remedial Progress Evaluation Report for Former Circle K 1461
Seattle, WA



Figure 8. Groundwater Benzene Concentration Contours, March 2025
First Quarter 2025 Remedial Progress Evaluation Report for Former Circle K 1461
Seattle, WA

ERRG

Tables

Table 1. Well Construction Information

Monitoring Well ID No.	Date Installed	Easting (feet)	Northing (feet)	MPE Well Group	Well Diameter (inches)	Screened Interval (feet bgs)	Top of Casing Elevation (feet amsl)	Well Use
MW-2	9/11/1989	1278287.96	236985.88	MW	2	5.5–20.9	69.79	Monitoring Well
MW-4	09/12/1989	1278447.91	236985.00	1	2	4–18.8	63.62	Remediation Well
MW-6	10/02/1989	1278462.46	236998.42	MW	2	5–20.4	63.13	Compliance Well
MW-7	10/02/1989	1278497.04	236983.26	MW	2	5–20.2	62.66	Monitoring Well
MW-8	10/03/1989	1278438.10	237006.82	MW	2	5–20.3	63.59	Compliance Well
MW-9	10/03/1989	1278408.96	237007.40	MW	2	5–21.2	64.3	Compliance Well
MW-10	10/03/1989	1278488.93	236997.48	MW	2	5–20.4	62.86	Monitoring Well
MW-11	10/04/1989	1278384.53	237065.31	MW	2	5–20	63.59	Monitoring Well
MW-13	12/20/1989	1278402.55	236971.66	MW	2	4–19	65.08	Compliance Well
MW-14	12/20/1989	1278458.03	237022.92	MW	2	4–19.3	63.3	Compliance Well
MW-15	12/21/1989	1278421.35	237026.01	MW	2	4–18.7	64.18	Compliance Well
MW-16	12/21/1989	1278390.29	237013.58	MW	2	4–19.2	64	Compliance Well
MW-17	08/01/2016	1278436.82	236871.78	MW	2	4–19	65.98	Compliance Well
MW-18	08/01/2016	1278391.36	236873.73	MW	2	5–15	66.73	Compliance Well
MW-19	09/23/2016	1278433.66	236911.07	MW	2	5–20	66.36	Compliance Well
MW-20	09/23/2016	1278392.00	236918.95	MW	4	5–20	66.17	Compliance Well
MW-21	09/23/2016	1278392.68	236948.84	MW	4	5–20	65.89	Compliance Well
RW-1	02/07/2017	1278390.95	236890.20	MW	4	5.5–20.5	--	Compliance Well
RW-2	02/09/2017	1278404.38	236970.10	4	4	5–20	--	Remediation Well
RW-3	02/09/2017	1278409.31	236960.04	1	4	5–20	--	Remediation Well
RW-4	02/08/2017	1278418.32	236947.52	2	4	5–20	--	Remediation Well

Table 1. Well Construction Information *(continued)*

Monitoring Well ID No.	Date Installed	Easting (feet)	Northing (feet)	MPE Well Group	Well Diameter (inches)	Screened Interval (feet bgs)	Top of Casing Elevation (feet amsl)	Well Use
RW-5	02/08/2017	1278407.00	236932.47	3	4	5–20	--	Remediation Well
RW-6	02/10/2017	1278425.63	236982.51	1	4	5–20	--	Remediation Well
RW-7	02/07/2017	1278432.90	236913.61	4	4	5–20	--	Remediation Well
RW-8	02/07/2017	1278394.71	236950.38	2	4	5–20	--	Remediation Well
RW-9	02/08/2024	1278403.54	236904.78	1	4	5–20	--	Remediation Well
RW-10	02/08/2024	1278422.51	236924.38	3	4	25–30	--	Remediation Well
SW-1	02/10/2024	1278385.44	236943.23	2	4	5–18	--	Slant Remediation Well
SW-2	02/12/2024	1278397.11	236929.86	3	4	5–18	--	Slant Remediation Well
SW-3	02/09/2024	1278392.00	236913.40	4	4	5–18	--	Slant Remediation Well

Notes:

Monitoring Well = Existing monitoring well for groundwater level measurements only

Compliance Well = Existing monitoring well for groundwater compliance monitoring

Remediation Well = Existing injection/extraction remediation well

Slant Remediation Well = New slanted remediation well

amsl = above mean sea level

bgs= below ground surface

MPE = multiphase

-- = data were not available

Table 2. MPE System Performance and Recorded Field Measurements

Monitoring Location ID No.	Date	System Monitoring		Vapor Monitoring				
		Pressure/Vacuum (inHg, unless noted)	Flow (cfm)	VOCs ¹ (ppm)	CH ₄ (% LEL)	O ₂ (%)	CO ₂ (%)	H ₂ S (ppm)
Falco 300 Influent (Liquid Ring Pump for Pressure)	1/3/2025	24.7	42	119.8				
	1/6/2025	24.7	67	--				
	1/16/2025	21.6	76.4	--				
	1/17/2025 ²	--	--	61.6				
	1/23/2025	20.6	76.4	--				
	2/6/2025	16.3	112.4	254.9				
	2/17/2025	16.3	98.2	--				
	2/19/2025	15.2	112.8	160.9				
	3/7/2025 ²	15.2	98	212				
	3/14/2025 ²	14.2	102	--				
	3/16/2025 ²	18	87.5	--				
	3/21/2025 ²	17.6	83.8	--				
	3/24/2025 ²	17.6	82.9	153				
	3/28/2025 ²	16.5	86.4	--				
Falco 300 Effluent	1/3/2025			33.4				
	1/17/2025 ²			0.198				
	2/19/2025			11.4				
	3/7/2025 ²			1.6				
	3/24/2025 ²			0.9				
RW-2	1/3/2025	-8	9.7	2				
	2/6/2025	-8	17.6	0.9				

Table 2. MPE System Performance and Recorded Field Measurements *(continued)*

Monitoring Location ID No.	Date	System Monitoring		Vapor Monitoring				
		Pressure/Vacuum (inHg, unless noted)	Flow (cfm)	VOCs ¹ (ppm)	CH ₄ (% LEL)	O ₂ (%)	CO ₂ (%)	H ₂ S (ppm)
RW-2 (cont.)	2/19/2025	-2	--	32.8				
	3/7/2025 ²	offline	--	--				
RW-3	1/3/2025	-3.5	7.5	8.1				
	2/6/2025	offline	--	--				
	2/19/2025	-4.5	--	14.5				
	3/7/2025 ²	offline	--	--				
RW-4	1/3/2025	-6	7.5	8.1				
	2/6/2025	-8	0	151.3				
	2/19/2025	-5	--	233.5				
	3/7/2025 ²	-12	63	137				
RW-5	1/3/2025	offline	--	--				
	2/6/2025	offline	--	--				
	2/19/2025	-4.5	--	32.7				
	3/7/2025 ²	offline	--	--				
RW-6	1/3/2025	-6	9.3	1.3				
	2/6/2025	-6	7.55	24.2				
	2/19/2025	-5	--	23.4				
	3/7/2025 ²	offline	--	--				
RW-7	1/3/2025	-5	24.7	18.3				
	2/6/2025	-8	0	56.1				

Table 2. MPE System Performance and Recorded Field Measurements *(continued)*

Monitoring Location ID No.	Date	System Monitoring		Vapor Monitoring				
		Pressure/Vacuum (inHg, unless noted)	Flow (cfm)	VOCs ¹ (ppm)	CH ₄ (% LEL)	O ₂ (%)	CO ₂ (%)	H ₂ S (ppm)
RW-7 <i>(continued)</i>	2/19/2025	-5	--	698.2				
	3/7/2025 ²	-13	40	624				
RW-8	1/3/2025	-6.5	27	9.5				
	2/8/2025	-8	3	334				
	2/19/2025	-5	--	559.8				
	3/7/2025 ²	-12	43	242				
RW-9	1/3/2025	-2.5	133.1	3.1				
	2/6/2025	-7	0	27.5				
	2/19/2025	-4.5	--	39.9				
	3/7/2025 ²	offline	--	--				
RW-10	1/3/2025	--	--	--				
	2/6/2025	offline	--	--				
	2/19/2025	-5	0	39.5				
	3/7/2025 ²	offline	--	--				
MW-4	1/3/2025	offline	--	--				
	2/6/2025	-12	5.46	0				
	2/19/2025	-5	--	25.9				
	3/7/2025 ²	offline	--	--				
SW-1	1/3/2025	7.5	38.7	11.6				
	2/6/2025	offline	--	--				

Table 2. MPE System Performance and Recorded Field Measurements *(continued)*

Monitoring Location ID No.	Date	System Monitoring		Vapor Monitoring				
		Pressure/Vacuum (inHg, unless noted)	Flow (cfm)	VOCs ¹ (ppm)	CH ₄ (% LEL)	O ₂ (%)	CO ₂ (%)	H ₂ S (ppm)
SW-1 (cont.)	2/19/2025	-5	--	52				
	3/7/2025 ²	offline	--	--				
SW-2	1/3/2025	offline	--	--				
	2/6/2025	offline	--	--				
	2/19/2025	-5	--	51.5				
	3/7/2025 ²	offline	--	--				
SW-3	1/3/2025	-4	67.8	--				
	2/6/2025	-12.5	--	1				
	2/19/2025	-4.5	--	20.82				
	3/7/2025 ²	offline	--	--				
VP-1	1/3/2025	0.001 (inH ₂ O)		0.8				
	1/31/2025 ²	--		0.133	0	20.4	0.28	0.0
	2/6/2025	-0.14 (inH ₂ O)		2.6	--	--	--	--
VP-2	1/3/2025	0.001 (inH ₂ O)		0.6	--	--	--	--
	1/31/2025 ²	--		0.108	0	20.5	0.04	0.0
	2/6/2025	-0.1 (inH ₂ O)		6.6	--	--	--	--
VP-3	1/3/2025	0.002 (inH ₂ O)		3.5	--	--	--	--
	1/31/2025 ²	--		1.282	0	20.3	0.26	0.0
	2/6/2025	-0.049 (inH ₂ O)		6.6	--	--	--	--
VP-4	1/3/2025	0.003 (inH ₂ O)		38.1	--	--	--	--
	1/31/2025 ²	--		18.7	0	19.0	1.06	0.0

Table 2. MPE System Performance and Recorded Field Measurements *(continued)*

Monitoring Location ID No.	Date	System Monitoring		Vapor Monitoring				
		Pressure/Vacuum (inHg, unless noted)	Flow (cfm)	VOCs ¹ (ppm)	CH ₄ (% LEL)	O ₂ (%)	CO ₂ (%)	H ₂ S (ppm)
VP-4 <i>(cont.)</i>	2/6/2025	-0.013 (inH ₂ O)		137.7	--	--	--	--
	2/19/2025	0.05 (inH ₂ O)		122	--	--	--	--
SSD-1	2/6/2025	-5 (inH ₂ O)	--	--	--	--	--	--
	2/19/2025	-1.5 (inH ₂ O)	--	--	--	--	--	--
	3/7/2025 ²	-0.661 (inH ₂ O)	4.2	0.020	0	20.9	0.08	0
SSD-2	2/6/2025	-5 (inH ₂ O)	--	--	--	--	--	--
	2/19/2025	-1.5 (inH ₂ O)	--	--	--	--	--	--
	3/7/2025 ²	-1.006 (inH ₂ O)	6.8	0.118	0	20.9	0.02	0
SSD-3	2/6/2025	-18 (inH ₂ O)	--	--	--	--	--	--
	2/19/2025	-4.9 inH ₂ O	--	--	--	--	--	--
	3/7/2025 ²	-3.308 (inH ₂ O)	22.8	0.0023	0	20.9	0.09	0

Notes:

1 = VOCs reading taken with low range sensor if concentrations for measurements <1.0 ppm.

2 = Measurement collected by ERRG

Gray Cell = measurement not required at location

cfm = cubic foot per minute

CH₄ = methane

CO₂ = carbon dioxide

H₂S = hydrogen sulfide

inHg = inch of mercury

inH₂O = inch of water

MPE = multiphase extraction

O₂ = oxygen

ppm = parts per million

ppb = parts per billion

VOC = volatile organic compounds

-- = not measured

%LEL = percentage of the lower explosive limit

Table 3. Vapor Analytical Results – First Quarter 2025

Monitoring Well ID No.	Sample Date	VOCs by Method TO-15				
		GRO ¹	Benzene ¹	Toluene ¹	Ethylbenzene ¹	Total Xylenes ¹
Screening Level (µg/m³):		1,500	460	76,000	15,000	1,500
VP-3	02/13/2025	1,920	5.30	31.6	24.5	306
VP-4	02/13/2025	158,000	4.73	31.8	23.2	227

Notes:

1 = Screening levels are based on updated MTCA Method B, "Noncancer Sub-Slab Soil Gas Screening Level – Cleanup Levels and Risk Calculation Vapor Intrusion Method B Table, February 2025" (Kennedy Jenks, 2024a). Also available online at: <https://ecology.wa.gov/regulations-permits/guidance-technical-assistance/contamination-cleanup-tools/clarc/data-tables>.

Bold = sample result was detected

Yellow = sample result exceeds the screening level

GRO = gasoline-range organics (as total petroleum hydrocarbons)

µg/m³ = micrograms per cubic meter

Table 4. MPE System Vapor Performance, Estimated Emissions and Limits

Analytes of Concern	Date	Vapor Treatment System Results ($\mu\text{g}/\text{m}^3$) ¹		Estimated Emissions with System Flow of 100 cfm		WAC 173-460-150 De Minimis and SQER Values ²			
		Influent	Effluent	Treated Outlet Concentration Rate (lbs/24hr)	Outlet Concentration Rate (lbs/yr)	De Minimis ¹ (lbs/24hr)	De Minimis ¹ (lbs/yr)	SQER ¹ (lbs/24hr)	SQER ¹ (lbs/yr)
GRO	01/17/2025	107,000	1,020	0.0092	3.4	--	--	--	--
	02/13/2025	599,000	2,500	0.022	8.2	--	--	--	--
	03/24/2025	300,000	1,000	0.0090	3.3	--	--	--	--
Benzene	01/17/2025	399	9.14	0.000082	0.030	--	1.0	--	21
	02/13/2025	7,510	28.7	0.00026	0.094	--	1.0	--	21
	03/24/2025	6,900	9.97	0.000090	0.033	--	1.0	--	21
Toluene	01/17/2025	618	1.17 U	0.000011	0.0038	19	--	370	--
	02/13/2025	12,200	28	0.00025	0.092	19	--	370	--
	03/24/2025	13,100	1.88 U	0.000017	0.0062	19	--	370	--
Ethylbenzene	01/17/2025	1,040	0.542 J	0.0000049	0.0018	--	3.2	--	65
	02/13/2025	3,680	9.19	0.000083	0.030	--	3.2	--	65
	03/24/2025	3,030	0.867 U	0.0000078	0.0028	--	3.2	--	65
Total Xylenes	01/17/2025	8,770	0.808 J	0.0000073	0.0027	0.82	--	16	--
	02/13/2025	37,100	40.9	0.00037	0.13	0.82	--	16	--
	03/24/2025	30,500	4.60	0.000041	0.015	0.82	--	16	--
Additional Analytes									
PCE	01/17/2025	1.29 U	66.2	0.00060	0.22	--	1.3	--	27
	02/13/2025	1,910	37.3	0.00034	0.12	--	1.3	--	27
	03/24/2025	136 U	13.8	0.00012	0.045	--	1.3	--	27

Table 4. MPE System Vapor Performance, Estimated Emissions and Limits *(continued)*

Analytes of Concern	Date	Vapor Treatment System Results (µg/m³) ¹		Estimated Emissions with System Flow of 100 cfm		WAC 173-460-150 De Minimis and SQER Values ²			
		Influent	Effluent	Treated Outlet Concentration Rate (lbs/24hr)	Outlet Concentration Rate (lbs/yr)	De Minimis ¹ (lbs/24hr)	De Minimis ¹ (lbs/yr)	SQER ¹ (lbs/24hr)	SQER ¹ (lbs/yr)
Additional Analytes (continued)									
Vinyl Chloride	01/17/2025	1.33	0.486 U	0.0000044	0.0016	--	0.92	--	18
	02/13/2025	51.1 U	0.667	0.0000060	0.0022	--	0.92	--	18
	03/24/2025	51.1 U	0.511 U	0.0000046	0.0017	--	0.92	--	18
Chloroethane	01/17/2025	0.501	0.427 J	0.0000038	0.0014	110	--	2,200	--
	02/13/2025	52.8 U	2.06	0.000019	0.0068	110	--	2,200	--
	03/24/2025	52.8 U	0.615	0.0000055	0.0020	110	--	2,200	--
Chloromethane	01/17/2025	0.392	10.1	0.000091	0.033	0.33	--	6.7	--
	02/13/2025	41.3 U	45.2	0.00041	0.148	0.33	--	6.7	--
	03/24/2025	41.3 U	13.8	0.00012	0.045	0.33	--	6.7	--
Methylene Chloride	01/17/2025	0.660	3.58	0.000032	0.012	--	490	--	9,800
	02/13/2025	69.4 U	24.0	0.00022	0.079	--	490	--	9,800
	03/24/2025	767	4.72	0.000042	0.0155	--	490	--	9,800

Notes:

1 = Emissions were calculated using the limit of detection for effluent results not detected above

2 = Washington Administrative Code 173-460-150 De Minimis and Small Quantity Emission Rate limits.

Green = emissions compared to their respective De Minimis and SQER limit

cfm = cubic feet per minute

GRO = gasoline-range organics

lbs/24hr = pounds per 24 hours

lbs/yr = pounds per year

MPE = multiphase extraction

N/A = not applicable

PCE = tetrachloroethylene

SQER = Small Quantity Emission Rate

WAC = Washington Administrative Code

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

U = not detected at the limit of detection.

-- = no value available

Table 5. MPE System Liquid Performance and Volume Discharged and Injected – First Quarter 2025

Month	Approximate Volume Extracted (gallons) ¹	Cumulative Volume Discharged (gallons)	Maximum Daily Discharge Flow Rate (gpd)	Cumulative Volume Injected (gallons)	Maximum Injection Rate (gpd)	Notes
January 2025	7,920	9,090	561	0	0	Continued Phase 1 operations without stingers; last meter reading 1/24/2025.
February 2025	20,081	29,171	1160	0	0	Stingers reinstalled on 2/5/2025, continued Phase 1 operations,
March 2025	21,150	50,321	1020	0	0	Continued Phase 1 operations

Notes: Wastewater Discharge Authorization No. 4614-01.

1 = Volume estimated based on last recorded totalizer reading for the month.

gpd = gallons per day

MPE = multiphase extraction

Table 6. Water Treatment System Analytical Results – First Quarter 2025

Sample Location	Sample Date	Water Quality Parameters		Nonpolar FOG by EPA Method 1664B	Chemical of Concern									
					VOCs by Method NWTPHGX	VOCs by EPA Method 8260D								
		pH	Turbidity (NTU)	Oil and Grease	GRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	TCE	Cis-1,2-DCE	PCE	Trans-1-2-DCE	Vinyl Chloride
Screening Level ¹ (mg/L):		5.0–12.0	25	100	0.25	0.07	1.4	1.7	2.2	0.5	1	0.24	1	0.012
LG-401-INF	1/17/2025	6.49	21	5.88 U	0.109	0.001 U	0.001 U	0.001 U	0.003 U	--	--	--	--	--
	02/27/2025	6.61	48	11.9 J-	0.114	0.00209	0.00183	0.001 U	0.003 U	0.001 U	0.001 U	0.00336	0.001 U	0.001 U
	03/21/2025	7.23	4.63	6.31	0.180 J+	0.001 U	0.001 U	0.001 U	0.00604	0.001 U	0.001 U	0.001 U	0.001 U	0.001 C3
LG-403-MID	1/17/2025	6.75	19	5.88 U	0.1 U	0.001 U	0.001 U	0.001 U	0.003 U	--	--	--	--	--
	02/27/2025	6.55	36	5.62 UJ	0.1 U	0.001 U	0.001 U	0.001 U	0.003 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
	03/21/2025	7.22	2.84	5.81 U	0.1 U	0.001 U	0.001 U	0.001 U	0.003 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 C3
LG-404-EFF	1/17/2025 ²	6.82	23	5.49 U	0.1 U	0.001 U	0.001 U	0.001 U	0.003 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
DUP-1	1/17/2025 ²	--	--	5.81 U	--	--	--	--	--	--	--	--	--	--
DUP-2	1/17/2025 ²	--	--	5.95 U	--	--	--	--	--	--	--	--	--	--
DUP-3	1/17/2025 ²	6.82	22	5.75 U	0.119	0.001 U	0.001 U	0.001 U	0.003 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
LG-404-EFF	02/27/2025 ³	6.56	19	5.88 UJ	0.1 U	0.001 U	0.001 U	0.001 U	0.003 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
DUP-1	02/27/2025 ³	6.58	23	6.1 UJ	0.1 U	0.001 U	0.001 U	0.001 U	0.003 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
DUP-2	02/27/2025 ³	--	--	6.33 UJ	--	--	--	--	--	--	--	--	--	--
LG-404-EFF	03/21/2025 ⁴	7.23	2.91	5.95 U	0.1 U	0.001 U	0.001 U	0.001 U	0.003 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 C3
DUP-1	03/21/2025 ³	7.23	2.89	5.26 U	0.1 U	0.001 U	0.001 U	0.001 U	0.003 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 C3
DUP-2	03/21/2025 ³	--	--	5.26 U	--	--	--	--	--	--	--	--	--	--

Notes:
1 = Screening levels are based on effluent limits in the KCIW Discharge Permit No. 4614-01.
2 =Samples DUP-1, DUP-2, and DUP-3, collected on 17 January 2025 are field duplicates of LG-404-EFF.
3 =Samples DUP-1, and DUP-2, collected on 27 February 2025 are field duplicates of LG-404-EFF.
4 = Samples DUP-1, and DUP-2, collected on 21 March 2025 are field duplicates of LG-404-EFF.
Bold = sample result was detected
DCE = dichloroethene
EPA = U.S. Environmental Protection Agency
FOG = fats, oils, and grease
GRO = gasoline-range organics

KCIW = King County Industrial Waste
mg/L = milligrams per liter
NTU = nephelometric turbidity unit
NWTPHGX = Northwest Total Petroleum Hydrocarbons as Gasoline

PCE = tetrachloroethene
TCE = trichloroethene
VOCs = volatile organic compounds
-- = sample was not analyzed for the water quality parameter, analyte, and/or chemical of concern

Laboratory Qualifiers:

J = Estimated: The analyte was positively identified; the quantitation is an estimation.

J- = Estimated, Low Bias: The result was an estimated quantity, but the result may be biased low.

J+ = Estimated, High Bias: The result was an estimated quantity, but the result may be biased high.

U = Not detected at the limit of detection.

UJ = Not detected at the limit of detection, but the limit is an estimation.

Table 7. Depth to Groundwater and Elevation – First Quarter 2025

Monitoring Well ID No. ¹	Date of Measurement	Depth to Water (feet bgs)	Top of Casing Elevation (feet amsl)	Groundwater Elevation (feet amsl)
MW-2	1/17/2025	9.68	69.79	60.11
	02/21/2025	9.49	69.79	60.30
	03/28/2025	9.08	69.79	60.71
MW-6	1/17/2025	11.64	63.13	51.49
	02/21/2025	11.70	63.13	51.43
	03/28/2025	11.50	63.13	51.63
MW-7	1/17/2025	7.50	62.66	55.16
	02/21/2025	7.27	62.66	55.39
	03/28/2025	11.24	62.66	51.42
MW-8	1/17/2025	9.13	63.59	54.46
	02/21/2025	9.53	63.59	54.06
	03/28/2025	9.10	63.59	54.49
MW-9	1/17/2025	9.20	64.30	55.10
	02/21/2025	10.12	64.30	54.18
	03/28/2025	10.06	64.30	54.24
MW-11	1/17/2025	2.67	63.59	60.92
	02/21/2025	2.85	63.59	60.74
	03/28/2025	1.54	63.59	62.05
MW-13	1/17/2025	10.21	65.08	54.87
	02/21/2025	11.26	65.08	53.82
	03/28/2025	11.96	65.08	53.12
MW-14	1/17/2025	7.57	63.30	55.73
	02/21/2025	7.51	63.30	55.79
	03/28/2025	6.83	63.30	56.47
MW-15	1/17/2025	6.50	64.18	57.68
	02/21/2025	4.52	64.18	59.66
	03/28/2025	2.53	64.18	61.65
MW-16	1/17/2025	8.11	64.00	55.89
	02/21/2025	8.37	64.00	55.63
	03/28/2025	5.97	64.00	58.03

Table 7. Depth to Groundwater and Elevation – First Quarter 2025 *(continued)*

Monitoring Well ID No. ¹	Date of Measurement	Depth to Water (feet bgs)	Top of Casing Elevation (feet amsl)	Groundwater Elevation (feet amsl)
MW-17	1/17/2025	10.77	65.98	55.21
	02/21/2025	12.23	65.98	53.75
	03/28/2025	12.22	65.98	53.76
MW-18	1/17/2025	11.79	66.73	54.94
	02/21/2025	12.71	66.73	54.02
	03/28/2025	12.98	66.73	53.75
MW-19	1/17/2025	10.74	66.36	55.62
	02/21/2025	13.35	66.36	53.01
	03/28/2025	13.23	66.36	53.13
MW-20	1/17/2025	10.53	66.17	55.64
	02/21/2025	13.29	66.17	52.88
	03/28/2025	13.90	66.17	52.27
MW-21	1/17/2025	9.64	65.89	56.25
	02/21/2025	13.39	65.89	52.20
	03/28/2025	14.17	65.89	51.72
RW-1	1/17/2025	11.14	--	--
	02/21/2025	12.70	--	--
	03/28/2025	13.19	--	--
RW-2	1/17/2025	7.75	--	--
	02/21/2025	11.40	--	--
	03/28/2025	11.92	--	--
RW-3	1/17/2025	6.85	--	--
	02/21/2025	11.65	--	--
	03/28/2025	12.10	--	--
RW-4	1/17/2025	9.83	--	--
	02/21/2025	12.65	--	--
	03/28/2025	12.70	--	--
RW-5	1/17/2025	11.31	--	--
	02/21/2025	12.76	--	--
	03/28/2025	13.81	--	--

Table 7. Depth to Groundwater and Elevation – First Quarter 2025 *(continued)*

Monitoring Well ID No. ¹	Date of Measurement	Depth to Water (feet bgs)	Top of Casing Elevation (feet amsl)	Groundwater Elevation (feet amsl)
RW-6	1/17/2025	8.16	--	--
	02/21/2025	9.30	--	--
	03/28/2025	10.06	--	--
RW-7	1/17/2025	7.71	--	--
	02/21/2025	12.39	--	--
	03/28/2025	12.97	--	--
RW-8	1/17/2025	7.36	--	--
	02/21/2025	12.04	--	--
	03/28/2025	13.21	--	--
RW-9	1/17/2025	10.55	--	--
	02/21/2025	14.17	--	--
	03/28/2025	13.81	--	--
RW-10	1/17/2025	11.36	--	--
	02/21/2025	12.78	--	--
	03/28/2025	13.08	--	--

Notes:

1 = MW-4 excluded from the table because the wellhead is not fitted with a removable well cap to allow for measurements. MW-10 excluded from the table because it has remained obstructed through each January, February, and March 2025 event, rendering it inaccessible.

amsl = above mean sea level

bgs = below ground surface

-- = information not available

Table 8. Groundwater Analytical Results – First Quarter 2025

Monitoring Well ID No.	Sample Date	Chemicals of Concern				
		GRO by Method NWTPHGX	VOCs by EPA Method 8260D			
			GRO	Benzene	Toluene	Ethylbenzene
Cleanup Level ¹ (µg/L):		800	5	1,000	700	1,000
RW-1	1/17/2025	167 J+	1 U	1 U	1 U	3 U
	02/21/2025	223 U	1 U	1 U	1 U	3 U
	03/28/2025	128 J+	1 U	1 U	1 U	3 U
MW-6 ²	1/17/2025	263 J+	46.2	1.67	5.28	3 U
	02/21/2025	109 U	22.7	1 U	1.38	3 U
	03/28/2025	100 U	19.1	1 U	1.22	3 U
	03/28/2025	100 U	10 U	10 U	10 U	30 U
MW-8 ³	1/17/2025	18,300	50 U	188	1,270	4,920
	02/21/2025	23,400	50 U	178	1,070	4,060
	02/21/2025	23,500	10 U	1,140	186	4,210
	03/28/2025	16,200	50 U	72.5	570	2,440
MW-9 ⁴	1/17/2025	3,850	20 U	20 U	156	203
	1/17/2025	5,270	25 U	25 U	198	247
	02/21/2025	9,020	20 U	32.5	351	665
	03/28/2025	5,000	20 U	20.4	271	508
MW-13	1/17/2025	16,100	380	847	712	7,430
	02/21/2025	14,100	352	580	409	5,140
	03/28/2025	8,290	180	138	61.3	1,360
MW-14	1/17/2025	100 U	1 U	1 U	1 U	3 U
	02/21/2025	100 U	1 U	1 U	1 U	3 U
	03/28/2025	100 U	1 U	1 U	1 U	3 U

Table 8. Groundwater Analytical Results – First Quarter 2025 *(continued)*

Monitoring Well ID No.	Sample Date	Chemicals of Concern				
		GRO by Method NWTPHGX	VOCs by EPA Method 8260D			
			GRO	Benzene	Toluene	Ethylbenzene
Cleanup Level ¹ (µg/L):		800	5	1,000	700	1,000
MW-15	1/17/2025	100 U	1 U	1 U	1 U	3 U
	02/21/2025	100 U	1 U	1 U	1 U	3 U
	03/28/2025	100 U	1 U	1 U	1 U	3 U
MW-16	1/17/2025	100 U	1 U	1 U	1 U	3 U
	02/21/2025	112 U	1 U	1 U	1 U	3 U
	03/28/2025	100 U	1 U	1 U	1 U	3 U
MW-17	1/17/2025	300 J+	1 U	1 U	1 U	3 U
	02/21/2025	323	1 U	1 U	1 U	3 U
	03/28/2025	276	1 U	1 U	1 U	3 U
MW-18	1/17/2025	117 J+	1 U	1 U	1 U	3 U
	02/21/2025	110 U	1 U	1 U	1 U	3 U
	03/28/2025	100 U	1 U	1 U	1 U	3 U
MW-19	1/17/2025	14,800	402	669	684	4,490
	02/21/2025	17,100	336	933	718	3,820
	03/28/2025	13,500	122	802	725	3,430
MW-20	1/17/2025	8,950	861	250 U	712	2,880
	02/21/2025	41,600	7,730	7,970	920	4,940
	03/28/2025	25,400	2,420	3,070	886	4,620
MW-21	1/17/2025	12,000	3,130	1,780	500 U	2,820
	02/21/2025	69,000	16,400	14,700	970	6,390
	03/28/2025	47,200	9,270	8,460	1,540	7,400

Table 8. Groundwater Analytical Results – First Quarter 2025 *(continued)*

Notes:

1 = Screening levels are based on MTCA Method A Groundwater CULs (WAC 173-340-720, Table 720-1).

2 = Samples for MW-6 were field duplicated as DUP-1 on 3/28/2025.

3 = Samples for MW-8 were field duplicated as DUP-1 on 02/21/2025.

4 = Samples for MW-9 were field duplicated as DUP-1 on 1/17/2025.

Bold = sample result was detected

Yellow = sample result exceeds the cleanup level

CULs = cleanup levels

EPA = U.S. Environmental Protection Agency

GRO = gasoline-range organics

MTCA = Model Toxics Control Act

NWTPHGX = Northwest Total Petroleum Hydrocarbons as Gasoline

VOCs = volatile organic compounds

WAC = Washington Administrative Code

µg/L = micrograms per liter

Qualifiers:

J+ = Estimated, High Bias: The result was an estimated quantity, but the result may be biased high.

U= Not detected at the limit of detection.

Appendix A.

Field Data During Reporting Period

Name & Company:	Glacier	Chris
Date/time of data collection:	1/3/2025	
Weather:	Rain	

System Hours:

Phase 1: MPE / SVE, all wells in extraction mode.

Barometric pressure (psi): 29.7				Barometric Pressure source: iPhone weather app	
Ambient Temperature (°F): 47				Ambient Temperature source: iPhone weather app	
Noise (dBA): If above 60 dBA, notify KJ personnel				Noise measurement source: hand held instrument	
Moisture Separator Drained? (circle)			Yes	No	Active Alarm Conditions (circle, note affected equipment): 1. No Alarm 2. High Water Level Tank(s): 3. Low Water Level Tank(s): 4. High Pressure Equipment: 5. Low Pressure Equipment: 6. System Shutdown Equipment: 7. Temperature Equipment: 8. Other:
Approximate volume (gal): 13.17					
Catalytic Oxidizer Installed? (circle)		Yes	No		
Effluent Vapor VOC Conc (ppm): 27					
PID Calibration Performed? (circle)		Yes	No		
PID Calibration		Zero Gas	Span Gas		
Calibration Value (ppm):					
Instrument Reading (ppm):					

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):	
Some flows not able to take due to moisture in lines. Fouls sensor	Air: 200 scfm	Water: 3 gpm / 4500 gpd
Noise level collected at property line with traffic	If exceeded, notify Kennedy Jenks personnel.	
FE302 tubing moisture restriction, disconnect and empty out		
T301 has 300 gallons, discharge flow meter 264120		

https://kjcnet.sharepoint.com/sites/EcologyCircleK1461/Shared Documents/General/Operation/SVE/2025-01-03_SVE and Flow Monitoring Form.xlsx

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company: Glacier

System On on Arrival? (circle): **yes** no

Date/time of data collection: 1/6/2025

System Hours:

Weather: Rain

Phase 1: MPE / SVE, all wells in extraction mode.

Barometric pressure (psi):				Barometric Pressure source:			
Ambient Temperature (°F):				Ambient Temperature source:			
Noise (dBA): If above 60 dBA, notify KJ personnel				Noise measurement source:			
Moisture Separator Drained? (circle)		Yes	No	Active Alarm Conditions (circle, note affected equipment): 1. No Alarm 2. High Water Level Tank(s): 3. Low Water Level Tank(s): 4. High Pressure Equipment: 5. Low Pressure Equipment: 6. System Shutdown Equipment: 7. Temperature Equipment: 8. Other:			
Approximate volume (gal):		13.17					
Catalytic Oxidizer Installed? (circle)		Yes	No				
Effluent Vapor VOC Conc (ppm):		27					
PID Calibration Performed? (circle)		Yes	No				
PID Calibration		Zero Gas	Span Gas				
Calibration Value (ppm):							
Instrument Reading (ppm):							

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi)	Flow (cfm/gpm)	PID (ppm)
RW-2					Before MS	VI 210		23.3		
RW-3					After MS	PI 310		23.3		
RW-4					Before Blower	VI 300		24.7		
RW-5					After Blower	PI/FI 302		1.9		
RW-6					At Heat Exchanger	TT-302		2.6		
RW-7					Before Vapor GAC	PI 411		0	0	0
RW-8					Vapor GAC Midpoint**	PI 412		0	0	0
RW-9					After Vapor GAC**	PI 410		0	0	0
RW-10					After Pump P-400	PI 400		0		
SW-1					Before Bag Filter	PI-405		0		
SW-2					After Bag Filter**	FI 400/PI 401		0	0	
SW-3					Midpoint Liquid GAC 1**	PI 403		0		
MW-4					After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1					After Liquid GAC 2	FE-407			0	
SSD-2					After Liquid GAC**	PI-404		0		
SSD-3					Catalytic Oxidizer Temperatures (°F)		T1 Entrance: 626.3 T2 Exit 646.2 T3 Interior 660.5			
VP-1					Catalytic Oxidizer PID (ppm)		Pre:			

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
collected discharge flow meter reading	3 gpm /
collected readings from HMI	Air: 200 scfm Water: 4500 gpd
	If exceeded, notify Kennedy Jenks personnel.

Notes: psi = pounds/square inch; cfm = cubic feet per minute; ppm = parts per million; gal = gallons; MS = vapor liquid separator; GAC = granular activated carbon; O/C= open/closed

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company: Glacier

System On on Arrival? (circle): **yes** no

Date/time of data collection: 1/16/2025

System Hours:

Weather: Rain

Phase 1: MPE / SVE, all wells in extraction mode.

Barometric pressure (psi):				Barometric Pressure source:			
Ambient Temperature (°F):				Ambient Temperature source:			
Noise (dBA): If above 60 dBA, notify KJ personnel				Noise measurement source:			
Moisture Separator Drained? (circle) Yes No				Active Alarm Conditions (circle, note affected equipment): 1. No Alarm 2. High Water Level Tank(s): 3. Low Water Level Tank(s): 4. High Pressure Equipment: 5. Low Pressure Equipment: 6. System Shutdown Equipment: 7. Temperature Equipment: 8. Other:			
Approximate volume (gal): 13.17							
Catalytic Oxidizer Installed? (circle) Yes No							
Effluent Vapor VOC Conc (ppm):							
PID Calibration Performed? (circle) Yes No							
PID Calibration		Zero Gas	Span Gas				
Calibration Value (ppm):							
Instrument Reading (ppm):							

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi)	Flow (cfm/gpm)	PID (ppm)
RW-2					Before MS	VI 210				
RW-3					After MS	PI 310				
RW-4					Before Blower	VI 300		21.6		
RW-5					After Blower	PI/FI 302		2.9	76.4	
RW-6					At Heat Exchanger	TT-302		2.9		
RW-7					Before Vapor GAC	PI 411		0	0	0
RW-8					Vapor GAC Midpoint**	PI 412		0	0	0
RW-9					After Vapor GAC**	PI 410		0	0	0
RW-10					After Pump P-400	PI 400		0		
SW-1					Before Bag Filter	PI-405		0		
SW-2					After Bag Filter**	FI 400/PI 401		0	0	
SW-3					Midpoint Liquid GAC 1**	PI 403		0		
MW-4					After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1					After Liquid GAC 2	FE-407			0	
SSD-2					After Liquid GAC**	PI-404		0		
SSD-3					Catalytic Oxidizer Temperatures (°F)		T1 Entrance: 626.9 T2 Exit 648.6 T3 Interior 662.4			
VP-1					Catalytic Oxidizer PID (ppm)		Pre:		Post	
VP-2					Catalytic Oxidizer Flow Rate (scfm)		Pre: 76.4		Post:	
VP-3					Water Discharge Flow Totalizer		Date	Time	Total Flow (gal)	
VP-4						FT 500				
						FT 500				

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
collected discharge flow meter reading	3 gpm / Air: 200 scfm Water: 4500 gpd
collected readings from HMI	If exceeded, notify Kennedy Jenks personnel.

Notes: psi = pounds/square inch; cfm = cubic feet per minute; ppm = parts per million; gal = gallons; MS = vapor liquid separator; GAC = granular activated carbon; O/C= open/closed

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company: <u>Glacier</u>		System On on Arrival? (circle): yes no								
Date/time of data collection: <u>1/23/2025</u>		System Hours: <u>944.1</u>								
Weather: <u>Clear Cold</u>		Phase 1: MPE / SVE, all wells in extraction mode.								
Barometric pressure (psi):		Barometric Pressure source:								
Ambient Temperature (°F):		Ambient Temperature source:								
Noise (dBA): If above 60 dBA, notify KJ personnel		Noise measurement source:								
Moisture Separator Drained? (circle) Yes No		Active Alarm Conditions (circle, note affected equipment): 1. No Alarm 2. High Water Level Tank(s): 3. Low Water Level Tank(s): 4. High Pressure Equipment: 5. Low Pressure Equipment: 6. System Shutdown Equipment: 7. Temperature Equipment: 8. Other:								
Approximate volume (gal): <u>7.62</u>										
Catalytic Oxidizer Installed? (circle) Yes No										
Effluent Vapor VOC Conc (ppm):										
PID Calibration Performed? (circle) Yes No										
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>PID Calibration</td> <td>Zero Gas</td> <td>Span Gas</td> </tr> <tr> <td>Calibration Value (ppm):</td> <td></td> <td></td> </tr> <tr> <td>Instrument Reading (ppm):</td> <td></td> <td></td> </tr> </table>				PID Calibration	Zero Gas	Span Gas	Calibration Value (ppm):			Instrument Reading (ppm):
PID Calibration	Zero Gas	Span Gas								
Calibration Value (ppm):										
Instrument Reading (ppm):										

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi)	Flow (cfm/gpm)	PID (ppm)
RW-2					Before MS	VI 210				
RW-3					After MS	PI 310				
RW-4					Before Blower	VI 300		20.6		
RW-5					After Blower	PI/FI 302		3.1	79.5	
RW-6					At Heat Exchanger	TT-302				
RW-7					Before Vapor GAC	PI 411		0	0	0
RW-8					Vapor GAC Midpoint**	PI 412		0	0	0
RW-9					After Vapor GAC**	PI 410		0	0	0
RW-10					After Pump P-400	PI 400		0		
SW-1					Before Bag Filter	PI-405		0		
SW-2					After Bag Filter**	FI 400/PI 401		0	0	
SW-3					Midpoint Liquid GAC 1**	PI 403		0		
MW-4					After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1					After Liquid GAC 2	FE-407			0	
SSD-2					After Liquid GAC**	PI-404		0		
SSD-3					Catalytic Oxidizer Temperatures (°F)		T1 Entrance: 626.9 T2 Exit 645.4 T3 Interior 658.9			
VP-1					Catalytic Oxidizer PID (ppm)		Pre:		Post	
VP-2					Catalytic Oxidizer Flow Rate (scfm)		Pre: 76.4		Post:	
VP-3					Water Discharge Flow Totalizer		Date	Time	Total Flow (gal)	
VP-4						FT 500				
						FT 500				

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
collected discharge flow meter reading	3 gpm /
collected readings from HMI	Air: 200 scfm Water: 4500 gpd
Manifold B pressure levels < 5 InHg on all wells, adjust to >5 InHg	If exceeded, notify Kennedy Jenks personnel.
No water discharged since last visit	

Notes: psi = pounds/square inch; cfm = cubic feet per minute; ppm = parts per million; gal = gallons; MS = vapor liquid separator; GAC = granular activated carbon; O/C= open/closed

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company: Glacier System On on Arrival? (circle): **yes** no
 Date/time of data collection: 1/23/2025 System Hours: 965
 Weather: Clear Cold Phase 1: MPE / SVE, all wells in extraction mode.

Barometric pressure (psi):				Barometric Pressure source:			
Ambient Temperature (°F):				Ambient Temperature source:			
Noise (dBA): If above 60 dBA, notify KJ personnel				Noise measurement source:			
Moisture Separator Drained? (circle) Yes No				Active Alarm Conditions (circle, note affected equipment): 1. No Alarm 2. High Water Level Tank(s): 3. Low Water Level Tank(s): 4. High Pressure Equipment: 5. Low Pressure Equipment: 6. System Shutdown Equipment: 7. Temperature Equipment: 8. Other:			
Approximate volume (gal): <u>7.62</u>							
Catalytic Oxidizer Installed? (circle) Yes No							
Effluent Vapor VOC Conc (ppm):							
PID Calibration Performed? (circle) Yes No							
PID Calibration		Zero Gas	Span Gas				
Calibration Value (ppm):							
Instrument Reading (ppm):							

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi)	Flow (cfm/gpm)	PID (ppm)
RW-2					Before MS	VI 210				
RW-3					After MS	PI 310				
RW-4					Before Blower	VI 300		20.6		
RW-5					After Blower	PI/FI 302		3.1	79.5	
RW-6					At Heat Exchanger	TT-302				
RW-7					Before Vapor GAC	PI 411		0	0	0
RW-8					Vapor GAC Midpoint**	PI 412		0	0	0
RW-9					After Vapor GAC**	PI 410		0	0	0
RW-10					After Pump P-400	PI 400		0		
SW-1					Before Bag Filter	PI-405		0		
SW-2					After Bag Filter**	FI 400/PI 401		0	0	
SW-3					Midpoint Liquid GAC 1**	PI 403		0		
MW-4					After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1					After Liquid GAC 2	FE-407			0	
SSD-2					After Liquid GAC**	PI-404		0		
SSD-3					Catalytic Oxidizer Temperatures (°F)		T1 Entrance: 626.9 T2 Exit 645.4 T3 Interior 658.9			
VP-1					Catalytic Oxidizer PID (ppm)		Pre: Post			
VP-2					Catalytic Oxidizer Flow Rate (scfm)		Pre: 76.4 Post:			
VP-3					Water Discharge Flow Totalizer		Date	Time	Total Flow (gal)	
VP-4						FT 500				
						FT 500				

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
collected discharge flow meter reading	3 gpm /
collected readings from HMI	Air: 200 scfm Water: 4500 gpd
called to site to check on alarms, LRP Low vacuum found open sample ports on Manifold B. talked to ERRG, they took some reading on there last visit and may have forgot to close them. Closed sample ports and re adjusted wells to >5 InHg. System Vacuum returned to normal	If exceeded, notify Kennedy Jenks personnel.
adjusted Low vacuum alarm to 14 InHg, Rechecked readings on discharge flow meter and recorded them on Flow Calcs page	

Notes: psi = pounds/square inch; cfm = cubic feet per minute; ppm = parts per million; gal = gallons; MS = vapor liquid separator; GAC = granular activated carbon; O/C= open/closed

Name & Company:	Glacier	Chris
Date/time of data collection:	1/3/2025	
Weather:	Rain	

System Hours:

Phase 1: MPE / SVE, all wells in extraction mode.

Barometric pressure (psi): 29.7				Barometric Pressure source: iPhone weather app	
Ambient Temperature (°F): 47				Ambient Temperature source: iPhone weather app	
Noise (dBA): If above 60 dBA, notify KJ personnel				Noise measurement source: hand held instrument	
Moisture Separator Drained? (circle)			Yes	No	Active Alarm Conditions (circle, note affected equipment): 1. No Alarm 2. High Water Level Tank(s): 3. Low Water Level Tank(s): 4. High Pressure Equipment: 5. Low Pressure Equipment: 6. System Shutdown Equipment: 7. Temperature Equipment: 8. Other:
Approximate volume (gal): 13.17					
Catalytic Oxidizer Installed? (circle)			Yes	No	
Effluent Vapor VOC Conc (ppm): 27					
PID Calibration Performed? (circle)			Yes	No	
PID Calibration		Zero Gas	Span Gas		
Calibration Value (ppm):					
Instrument Reading (ppm):					

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi)	Flow (cfm/gpm)	PID (ppm)
RW-2	8	9.7	2		Before MS	VI 210		24		
RW-3	3.5	7.5	8.1		After MS	PI 310		24.7		
RW-4	6	7.5	8.1		Before Blower	VI 300		24.7		
RW-5	0	0	0		After Blower	PI/FI 302		1.9		
RW-6	6	9.3	1.3		At Heat Exchanger	TT-302		39.8		
RW-7	5	24.7	18.3		Before Vapor GAC	PI 411		0	0	0
RW-8	6.5	27	9.5		Vapor GAC Midpoint**	PI 412		0	0	0
RW-9	2.5	133.1	3.1		After Vapor GAC**	PI 410		0	0	0
RW-10	0	0			After Pump P-400	PI 400		0		
SW-1	7.5	38.7	11.6		Before Bag Filter	PI-405		0		
SW-2	0				After Bag Filter**	FI 400/PI 401		0	0	
SW-3	4	67.8			Midpoint Liquid GAC 1**	PI 403		0		
MW-4	0				After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1					After Liquid GAC 2	FE-407			0	
SSD-2					After Liquid GAC**	PI-404		0		
SSD-3					Catalytic Oxidizer Temperatures (°F)		T1 Entrance: 628 T2 Exit 650 T3 Interior 664			
VP-1	0.001		0.8		Catalytic Oxidizer PID (ppm)		Pre: 119.8		Post 33.4	
VP-2	0.001		0.6		Catalytic Oxidizer Flow Rate (scfm)		Pre: 42		Post:	
VP-3	0.002		3.5		Water Discharge Flow Totalizer		Date	Time	Total Flow (gal)	
VP-4	0.003		38.1			FT 500				
						FT 500				

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):	
Some flows not able to take due to moisture in lines. Fouls sensor	Air: 200 scfm	Water: 3 gpm / 4500 gpd
Noise level collected at property line with traffic	If exceeded, notify Kennedy Jenks personnel.	
FE302 tubing moisture restriction, disconnect and empty out		
T301 has 300 gallons, discharge flow meter 264120		

Notes: psi = pounds/square inch; cfm = cubic feet per minute; ppm = parts per million; gal = gallons; MS = vapor liquid separator; GAC = granular activated carbon; O/C= open/closed

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company: Glacier

System On on Arrival? (circle): **yes** no

Date/time of data collection: 1/6/2025

System Hours:

Weather: Rain

Phase 1: MPE / SVE, all wells in extraction mode.

Barometric pressure (psi):				Barometric Pressure source:			
Ambient Temperature (°F):				Ambient Temperature source:			
Noise (dBA): If above 60 dBA, notify KJ personnel				Noise measurement source:			
Moisture Separator Drained? (circle) Yes No				Active Alarm Conditions (circle, note affected equipment): 1. No Alarm 2. High Water Level Tank(s): 3. Low Water Level Tank(s): 4. High Pressure Equipment: 5. Low Pressure Equipment: 6. System Shutdown Equipment: 7. Temperature Equipment: 8. Other:			
Approximate volume (gal): 13.17							
Catalytic Oxidizer Installed? (circle) Yes No							
Effluent Vapor VOC Conc (ppm): 27							
PID Calibration Performed? (circle) Yes No							
PID Calibration		Zero Gas	Span Gas				
Calibration Value (ppm):							
Instrument Reading (ppm):							

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi)	Flow (cfm/gpm)	PID (ppm)
RW-2					Before MS	VI 210		23.3		
RW-3					After MS	PI 310		23.3		
RW-4					Before Blower	VI 300		24.7		
RW-5					After Blower	PI/FI 302		1.9		
RW-6					At Heat Exchanger	TT-302		2.6		
RW-7					Before Vapor GAC	PI 411		0	0	0
RW-8					Vapor GAC Midpoint**	PI 412		0	0	0
RW-9					After Vapor GAC**	PI 410		0	0	0
RW-10					After Pump P-400	PI 400		0		
SW-1					Before Bag Filter	PI-405		0		
SW-2					After Bag Filter**	FI 400/PI 401		0	0	
SW-3					Midpoint Liquid GAC 1**	PI 403		0		
MW-4					After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1					After Liquid GAC 2	FE-407			0	
SSD-2					After Liquid GAC**	PI-404		0		
SSD-3					Catalytic Oxidizer Temperatures (°F)		T1 Entrance: 626.3 T2 Exit 646.2 T3 Interior 660.5			
VP-1					Catalytic Oxidizer PID (ppm)		Pre: Post			
VP-2					Catalytic Oxidizer Flow Rate (scfm)		Pre: 67.0 Post:			
VP-3					Water Discharge Flow Totalizer		Date	Time	Total Flow (gal)	
VP-4						FT 500				
						FT 500				

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
collected discharge flow meter reading	Air: 200 scfm Water: 3 gpm / 4500 gpd
collected readings from HMI	If exceeded, notify Kennedy Jenks personnel.

Notes: psi = pounds/square inch; cfm = cubic feet per minute; ppm = parts per million; gal = gallons; MS = vapor liquid separator; GAC = granular activated carbon; O/C= open/closed

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company: Glacier

System On on Arrival? (circle): **yes** no

Date/time of data collection: 1/16/2025

System Hours:

Weather: Rain

Phase 1: MPE / SVE, all wells in extraction mode.

Barometric pressure (psi):				Barometric Pressure source:			
Ambient Temperature (°F):				Ambient Temperature source:			
Noise (dBA): If above 60 dBA, notify KJ personnel				Noise measurement source:			
Moisture Separator Drained? (circle) Yes No				Active Alarm Conditions (circle, note affected equipment): 1. No Alarm 2. High Water Level Tank(s): 3. Low Water Level Tank(s): 4. High Pressure Equipment: 5. Low Pressure Equipment: 6. System Shutdown Equipment: 7. Temperature Equipment: 8. Other:			
Approximate volume (gal): 13.17							
Catalytic Oxidizer Installed? (circle) Yes No							
Effluent Vapor VOC Conc (ppm):							
PID Calibration Performed? (circle) Yes No							
PID Calibration		Zero Gas	Span Gas				
Calibration Value (ppm):							
Instrument Reading (ppm):							

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi)	Flow (cfm/gpm)	PID (ppm)
RW-2					Before MS	VI 210				
RW-3					After MS	PI 310				
RW-4					Before Blower	VI 300		21.6		
RW-5					After Blower	PI/FI 302		2.9	76.4	
RW-6					At Heat Exchanger	TT-302		2.9		
RW-7					Before Vapor GAC	PI 411		0	0	0
RW-8					Vapor GAC Midpoint**	PI 412		0	0	0
RW-9					After Vapor GAC**	PI 410		0	0	0
RW-10					After Pump P-400	PI 400		0		
SW-1					Before Bag Filter	PI-405		0		
SW-2					After Bag Filter**	FI 400/PI 401		0	0	
SW-3					Midpoint Liquid GAC 1**	PI 403		0		
MW-4					After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1					After Liquid GAC 2	FE-407			0	
SSD-2					After Liquid GAC**	PI-404		0		
SSD-3					Catalytic Oxidizer Temperatures (°F)					T1 Entrance: 626.9 T2 Exit 648.6 T3 Interior 662.4
VP-1					Catalytic Oxidizer PID (ppm)		Pre: Post			
VP-2					Catalytic Oxidizer Flow Rate (scfm)		Pre: 76.4 Post:			
VP-3					Water Discharge Flow Totalizer		Date	Time	Total Flow (gal)	
VP-4						FT 500				
						FT 500				

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
collected discharge flow meter reading	Air: 200 scfm Water: 3 gpm / 4500 gpd
collected readings from HMI	If exceeded, notify Kennedy Jenks personnel.

Notes: psi = pounds/square inch; cfm = cubic feet per minute; ppm = parts per million; gal = gallons; MS = vapor liquid separator; GAC = granular activated carbon; O/C= open/closed

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company: <u>Glacier</u>		System On on Arrival? (circle): yes no								
Date/time of data collection: <u>1/23/2025</u>		System Hours: <u>944.1</u>								
Weather: <u>Clear Cold</u>		Phase 1: MPE / SVE, all wells in extraction mode.								
Barometric pressure (psi):		Barometric Pressure source:								
Ambient Temperature (°F):		Ambient Temperature source:								
Noise (dBA): If above 60 dBA, notify KJ personnel		Noise measurement source:								
Moisture Separator Drained? (circle) Yes No		Active Alarm Conditions (circle, note affected equipment): 1. No Alarm 2. High Water Level Tank(s): 3. Low Water Level Tank(s): 4. High Pressure Equipment: 5. Low Pressure Equipment: 6. System Shutdown Equipment: 7. Temperature Equipment: 8. Other:								
Approximate volume (gal): <u>7.62</u>										
Catalytic Oxidizer Installed? (circle) Yes No										
Effluent Vapor VOC Conc (ppm):										
PID Calibration Performed? (circle) Yes No										
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>PID Calibration</td> <td>Zero Gas</td> <td>Span Gas</td> </tr> <tr> <td>Calibration Value (ppm):</td> <td></td> <td></td> </tr> <tr> <td>Instrument Reading (ppm):</td> <td></td> <td></td> </tr> </table>				PID Calibration	Zero Gas	Span Gas	Calibration Value (ppm):			Instrument Reading (ppm):
PID Calibration	Zero Gas	Span Gas								
Calibration Value (ppm):										
Instrument Reading (ppm):										

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi)	Flow (cfm/gpm)	PID (ppm)
RW-2					Before MS	VI 210				
RW-3					After MS	PI 310				
RW-4					Before Blower	VI 300		20.6		
RW-5					After Blower	PI/FI 302		3.1	79.5	
RW-6					At Heat Exchanger	TT-302				
RW-7					Before Vapor GAC	PI 411		0	0	0
RW-8					Vapor GAC Midpoint**	PI 412		0	0	0
RW-9					After Vapor GAC**	PI 410		0	0	0
RW-10					After Pump P-400	PI 400		0		
SW-1					Before Bag Filter	PI-405		0		
SW-2					After Bag Filter**	FI 400/PI 401		0	0	
SW-3					Midpoint Liquid GAC 1**	PI 403		0		
MW-4					After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1					After Liquid GAC 2	FE-407			0	
SSD-2					After Liquid GAC**	PI-404		0		
SSD-3					Catalytic Oxidizer Temperatures (°F)		T1 Entrance: 626.9 T2 Exit 645.4 T3 Interior 658.9			
VP-1					Catalytic Oxidizer PID (ppm)		Pre:		Post	
VP-2					Catalytic Oxidizer Flow Rate (scfm)		Pre: 76.4		Post:	
VP-3					Water Discharge Flow Totalizer		Date	Time	Total Flow (gal)	
VP-4						FT 500				
						FT 500				

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
collected discharge flow meter reading	3 gpm /
collected readings from HMI	Air: 200 scfm Water: 4500 gpd
Manifold B pressure levels < 5 InHg on all wells, adjust to >5 InHg	If exceeded, notify Kennedy Jenks personnel.
No water discharged since last visit	

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company: Glacier System On on Arrival? (circle): **yes** no
 Date/time of data collection: 1/23/2025 System Hours: 965
 Weather: Clear Cold Phase 1: MPE / SVE, all wells in extraction mode.

Barometric pressure (psi):			Barometric Pressure source:											
Ambient Temperature (°F):			Ambient Temperature source:											
Noise (dBA): If above 60 dBA, notify KJ personnel			Noise measurement source:											
Moisture Separator Drained? (circle) Yes No			Active Alarm Conditions (circle, note affected equipment):											
Approximate volume (gal): <u>7.62</u>			1. No Alarm											
Catalytic Oxidizer Installed? (circle) Yes No			2. High Water Level Tank(s):											
Effluent Vapor VOC Conc (ppm):			3. Low Water Level Tank(s):											
PID Calibration Performed? (circle) Yes No			4. High Pressure Equipment:											
<table border="1"> <tr> <td>PID Calibration</td> <td>Zero Gas</td> <td>Span Gas</td> </tr> <tr> <td>Calibration Value (ppm):</td> <td></td> <td></td> </tr> <tr> <td>Instrument Reading (ppm):</td> <td></td> <td></td> </tr> </table>			PID Calibration	Zero Gas	Span Gas	Calibration Value (ppm):			Instrument Reading (ppm):			5. Low Pressure Equipment:		
PID Calibration	Zero Gas	Span Gas												
Calibration Value (ppm):														
Instrument Reading (ppm):														
			6. System Shutdown Equipment:											
			7. Temperature Equipment:											
			8. Other:											

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi)	Flow (cfm/gpm)	PID (ppm)
RW-2					Before MS	VI 210				
RW-3					After MS	PI 310				
RW-4					Before Blower	VI 300		20.6		
RW-5					After Blower	PI/FI 302		3.1	79.5	
RW-6					At Heat Exchanger	TT-302				
RW-7					Before Vapor GAC	PI 411		0	0	0
RW-8					Vapor GAC Midpoint**	PI 412		0	0	0
RW-9					After Vapor GAC**	PI 410		0	0	0
RW-10					After Pump P-400	PI 400		0		
SW-1					Before Bag Filter	PI-405		0		
SW-2					After Bag Filter**	FI 400/PI 401		0	0	
SW-3					Midpoint Liquid GAC 1**	PI 403		0		
MW-4					After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1					After Liquid GAC 2	FE-407			0	
SSD-2					After Liquid GAC**	PI-404		0		
SSD-3					Catalytic Oxidizer Temperatures (°F)		T1 Entrance: 626.9 T2 Exit 645.4 T3 Interior 658.9			
VP-1					Catalytic Oxidizer PID (ppm)		Pre: Post			
VP-2					Catalytic Oxidizer Flow Rate (scfm)		Pre: 76.4 Post:			
VP-3					Water Discharge Flow Totalizer		Date	Time	Total Flow (gal)	
VP-4						FT 500				
						FT 500				

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
collected discharge flow meter reading	3 gpm /
collected readings from HMI	Air: 200 scfm Water: 4500 gpd
called to site to check on alarms, LRP Low vacuum found open sample ports on Manifold B. talked to ERRG, they took some reading on there last visit and may have forgot to close them. Closed sample ports and re adjusted wells to >5 InHg. System Vacuum returned to normal	If exceeded, notify Kennedy Jenks personnel.
adjusted Low vacuum alarm to 14 InHg, Rechecked readings on discharge flow meter and recorded them on Flow Calcs page	

Notes: psi = pounds/square inch; cfm = cubic feet per minute; ppm = parts per million; gal = gallons; MS = vapor liquid separator; GAC = granular activated carbon; O/C= open/closed

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company: Glacier System On on Arrival? (circle): **yes** no
 Date/time of data collection: 2/6/2025 System Hours: 965
 Weather: snow, cold Phase 1: MPE / SVE, all wells in extraction mode.

Barometric pressure (psi):				Barometric Pressure source: <u>29</u>												
Ambient Temperature (°F):				Ambient Temperature source: <u>35</u>												
Noise (dBA): If above 60 dBA, notify KJ personnel				Noise measurement source:												
Moisture Separator Drained? (circle) Yes No				Active Alarm Conditions (circle, note affected equipment):												
Approximate volume (gal): <u>7.62</u>				1. No Alarm												
Catalytic Oxidizer Installed? (circle) Yes No				2. High Water Level Tank(s):												
Effluent Vapor VOC Conc (ppm):				3. Low Water Level Tank(s):												
PID Calibration Performed? (circle) Yes No				4. High Pressure Equipment:												
<table border="1"> <tr> <td>PID Calibration</td> <td>Zero Gas</td> <td>Span Gas</td> </tr> <tr> <td>Calibration Value (ppm):</td> <td></td> <td></td> </tr> <tr> <td>Instrument Reading (ppm):</td> <td></td> <td></td> </tr> </table>				PID Calibration	Zero Gas	Span Gas	Calibration Value (ppm):			Instrument Reading (ppm):			5. Low Pressure Equipment:			
PID Calibration	Zero Gas	Span Gas														
Calibration Value (ppm):																
Instrument Reading (ppm):																
				6. System Shutdown Equipment:												
				7. Temperature Equipment:												
				8. Other:												

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi)	Flow (cfm/gpm)	PID (ppm)
RW-2	-8	17.6	0.9		Before MS	VI 210		14.8		
RW-3	off				After MS	PI 310				
RW-4	-8	none	151.3		Before Blower	VI 300		16.3		
RW-5	off				After Blower	PI/FI 302		3.9	112.4	
RW-6	-6	7.55	24.2		At Heat Exchanger	TT-302		3.9		
RW-7	-8	none	56.1		Before Vapor GAC	PI 411		3.9	125.5	254.9
RW-8	-8	3	334		Vapor GAC Midpoint**	PI 412		NA	NA	NA
RW-9	-7	none	27.5		After Vapor GAC**	PI 410		NA	NA	NA
RW-10	off				After Pump P-400	PI 400		0		
SW-1	off				Before Bag Filter	PI-405		0		
SW-2	off				After Bag Filter**	FI 400/PI 401		0	0	
SW-3	12.5	none	1		Midpoint Liquid GAC 1**	PI 403		0		
MW-4	-12	5.46	0		After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (in IWC)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1	-5				After Liquid GAC 2	FE-407			0	
SSD-2	-5				After Liquid GAC**	PI-404		0		
SSD-3	-18				Catalytic Oxidizer Temperatures (°F)		T1 Entrance: 626 T2 Exit 708 T3 Interior 697			
VP-1	-0.14	0	2.6		Catalytic Oxidizer PID (ppm)		Pre: 254.9 Post			
VP-2	-0.1	0	6.6		Catalytic Oxidizer Flow Rate (scfm)		Pre: 125.5 Post:			
VP-3	-0.049	0	6.6		Water Discharge Flow Totalizer		Date	Time	Total Flow (gal)	
VP-4	-0.013	0	137.7			FT 500				
						FT 500				

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
adjust system flows to maximize recovery, closed wells with <50 PPM to increase vacuum	3 gpm /
ground water level is high, collected water levels in wells	Air: 200 scfm Water: 4500 gpd
collect system data.	If exceeded, notify Kennedy Jenks personnel.

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company: Glacier
 Date/time of data collection: 2/17/2025

System On on Arrival? (circle): **yes** no
 System Hours: 1539

Weather: _____ Phase 1: MPE / SVE, all wells in extraction mode.

Barometric pressure (psi):				Barometric Pressure source:			
Ambient Temperature (°F):				Ambient Temperature source:			
Noise (dBA): If above 60 dBA, notify KJ personnel				Noise measurement source:			
Moisture Separator Drained? (circle) Yes No				Active Alarm Conditions (circle, note affected equipment):			
Approximate volume (gal):				1. No Alarm			
Catalytic Oxidizer Installed? (circle) Yes No				2. High Water Level Tank(s):			
Effluent Vapor VOC Conc (ppm):				3. Low Water Level Tank(s):			
PID Calibration Performed? (circle) Yes No				4. High Pressure Equipment:			
PID Calibration		Zero Gas	Span Gas	5. Low Pressure Equipment:			
Calibration Value (ppm):				6. System Shutdown Equipment:			
Instrument Reading (ppm):				7. Temperature Equipment:			
				8. Other:			

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi)	Flow (cfm/gpm)	PID (ppm)
RW-2					Before MS	VI 210		16.9		
RW-3					After MS	PI 310				
RW-4					Before Blower	VI 300		16.3		
RW-5					After Blower	PI/FI 302		3.9	98.2	
RW-6					At Heat Exchanger	TT-302				
RW-7					Before Vapor GAC	PI 411		3.9	98.2	
RW-8					Vapor GAC Midpoint**	PI 412		NA	NA	NA
RW-9					After Vapor GAC**	PI 410		NA	NA	NA
RW-10					After Pump P-400	PI 400		0		
SW-1					Before Bag Filter	PI-405		0		
SW-2					After Bag Filter**	FI 400/PI 401		0	0	
SW-3					Midpoint Liquid GAC 1**	PI 403		0		
MW-4					After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (in IWC)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1					After Liquid GAC 2	FE-407			0	
SSD-2					After Liquid GAC**	PI-404		0		
SSD-3					Catalytic Oxidizer Temperatures (°F)		T1 Entrance: 627.1 T2 Exit 703.8 T3 Interior 700.3			
VP-1					Catalytic Oxidizer PID (ppm)		Pre: Post			
VP-2					Catalytic Oxidizer Flow Rate (scfm)		Pre: Post:			
VP-3					Water Discharge Flow Totalizer		Date	Time	Total Flow (gal)	
VP-4						FT 500				
						FT 500				

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
adjust all recovery wells open	Air: 200 scfm Water: 3 gpm / 4500 gpd
collected water meter readings.	If exceeded, notify Kennedy Jenks personnel.

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company: Glacier TW		System On on Arrival? (circle): yes no										
Date/time of data collection: 2/19/2025		System Hours: 1591.3										
Weather: Partly Cloudy		Phase 1: MPE / SVE, all wells in extraction mode.										
Barometric pressure (psi): 30.1		Barometric Pressure source: Internet										
Ambient Temperature (°F): 51		Ambient Temperature source: Internet										
Noise (dBA): If above 60 dBA, notify KJ personnel		Noise measurement source:										
Moisture Separator Drained? (circle) Yes No		Active Alarm Conditions (circle, note affected equipment): 1. No Alarm 2. High Water Level Tank(s): 3. Low Water Level Tank(s): 4. High Pressure Equipment: 5. Low Pressure Equipment: 6. System Shutdown Equipment: 7. Temperature Equipment: 8. Other:										
Approximate volume (gal):												
Catalytic Oxidizer Installed? (circle) Yes No												
Effluent Vapor VOC Conc (ppm):												
PID Calibration Performed? (circle) Yes No												
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%;">PID Calibration</td> <td style="width:33%;">Zero Gas</td> <td style="width:33%;">Span Gas</td> </tr> <tr> <td>Calibration Value (ppm):</td> <td></td> <td></td> </tr> <tr> <td>Instrument Reading (ppm):</td> <td></td> <td></td> </tr> </table>				PID Calibration	Zero Gas	Span Gas	Calibration Value (ppm):			Instrument Reading (ppm):		
PID Calibration	Zero Gas			Span Gas								
Calibration Value (ppm):												
Instrument Reading (ppm):												

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi)	Flow (cfm/gpm)	PID (ppm)
RW-2	-2		32.8		Before MS	VI 210		15.2		
RW-3	-4.5		14.5		After MS	PI 310				
RW-4	-5		233.5		Before Blower	VI 300		15.2		
RW-5	-4.5		32.7		After Blower	PI/FI 302		3.4	112.8	
RW-6	-5		23.4		At Heat Exchanger	TT-302				
RW-7	-5		698.2		Before Vapor GAC	PI 411		3.4	98.2	
RW-8	-5		559.8		Vapor GAC Midpoint**	PI 412		NA	NA	NA
RW-9	-4.5		39.9		After Vapor GAC**	PI 410		NA	NA	NA
RW-10	-5		39.5		After Pump P-400	PI 400		0		
SW-1	-5		52		Before Bag Filter	PI-405		32		
SW-2	-5		51.5		After Bag Filter**	FI 400/PI 401		31	0	
SW-3	-4.5		20.82		Midpoint Liquid GAC 1**	PI 403		5		
MW-4	-5		25.9		After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (in IWC)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1	-1.5				After Liquid GAC 2	FE-407			0	
SSD-2	-1.5				After Liquid GAC**	PI-404		0		
SSD-3	-4.9				Catalytic Oxidizer Temperatures (°F)		T1 Entrance: 626.8 T2 Exit 672.5 T3 Interior 679.1			
VP-1					Catalytic Oxidizer PID (ppm)		Pre: 160.9 Post 11.4			
VP-2					Catalytic Oxidizer Flow Rate (scfm)		Pre: Post:			
VP-3					Water Discharge Flow Totalizer		Date	Time	Total Flow (gal)	
VP-4	0.05		122			FT 500				
						FT 500				

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
make adjustments to well valves, disconnect some tubing from well caps to assist in	3 gpm /
getting water to move through underground well conveyence piping for recovery.	Air: 200 scfm Water: 4500 gpd
collect PID reading from individule wells at manifold.	If exceeded, notify Kennedy Jenks personnel.

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company:	ERRG	FI	System On on Arrival? (circle):	yes	no									
Date/time of data collection:	3/7/2025		System Hours:	1965.1										
Weather:	Partly Cloudy		Phase 1: MPE / SVE, all active EIWs in extraction mode.											
Barometric pressure (psi):	30.18		Barometric Pressure source:	Anemometer										
Ambient Temperature (°F):	50		Ambient Temperature source:	Internet										
Noise (dBA):	If above 60 dBA, notify KJ personnel		Noise measurement source:											
Moisture Separator Drained? (circle)	Yes	No	Active Alarm Conditions (circle, note affected equipment):											
Approximate volume (gal):	1 cycle while onsite		1. No Alarm											
Catalytic Oxidizer Installed? (circle)	Yes	No	2. High Water Level	Tank(s):										
Effluent Vapor VOC Conc (ppm):	1.6		3. Low Water Level	Tank(s):										
PID Calibration Performed? (circle)	Yes	No	4. High Pressure	Equipment:										
<table border="1"> <tr> <td>PID Calibration</td> <td>Zero Gas</td> <td>Span Gas</td> </tr> <tr> <td>Calibration Value (ppm):</td> <td>0</td> <td>100</td> </tr> <tr> <td>Instrument Reading (ppm):</td> <td>0</td> <td>99.6</td> </tr> </table>			PID Calibration	Zero Gas	Span Gas	Calibration Value (ppm):	0	100	Instrument Reading (ppm):	0	99.6	5. Low Pressure	Equipment:	
PID Calibration	Zero Gas	Span Gas												
Calibration Value (ppm):	0	100												
Instrument Reading (ppm):	0	99.6												
			6. System Shutdown	Equipment:										
			7. Temperature	Equipment:										
			8. Other:											

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi or inHg)	Flow (cfm/gpm)	PID (ppm)
RW-2	-	-	-	C	Before MS	VI 210		14.9		
RW-3	-	-	-	C	After MS	PI 310		32		
RW-4	-12	63	137	O	Before Blower	VI 300		15.2		
RW-5	-	-	-	C	After Blower	PI/FI 302		3.3	98	
RW-6	-	-	-	C	At Heat Exchanger	TT-302	-			
RW-7	-13	40	624	O	Before Vapor GAC	PI 411		NA	NA	NA
RW-8	-12	43	242	O	Vapor GAC Midpoint**	PI 412		NA	NA	NA
RW-9	-	-	-	C	After Vapor GAC**	PI 410		NA	NA	NA
RW-10	-	-	-	C	After Pump P-400	PI 400		32		
SW-1	-	-	-	C	Before Bag Filter	PI-405		32		
SW-2	-	-	-	C	After Bag Filter**	FI 400/PI 401		30	0	
SW-3	-	-	-	C	Midpoint Liquid GAC 1**	PI 403		0		
MW-4	-	-	-	C	After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (inWC)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1	-0.661	4.2	20 ppb	O	After Liquid GAC 2	FE-407			0	
SSD-2	-1.006	6.8	118 ppb	O	After Liquid GAC**	PI-404		0		
SSD-3	-3.308	22.8	2.3	O	Catalytic Oxidizer Temperatures (°F)					T1 Entrance: 626.1 T2 Exit 685.6 T3 Interior 688.4
VP-1	-		-		Catalytic Oxidizer PID (ppm)		Pre: 212 Post 1.6			
VP-2	-		-		Catalytic Oxidizer Flow Rate (scfm)		98			
VP-3	-		-		Water Discharge Flow Totalizer		Date	Time	Total Flow (gal)	
VP-4	-		-			FT 500	3/7/2025	3:30	7345.53	
						FT 500				

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
Collect PID reading from active EIW and SSD wells at manifold and CatOX inf/eff	Air: 200 scfm Water: 3 gpm / 4500 gpd
EIWs with PID measurements <100 ppm were closed off to focus on EIWs with >100ppm	If exceeded, notify Kennedy Jenks personnel.
PID measurements prior to closing wells ranged from 10.8 ppm to 34.5 ppm for EIWs active prior to closing additional wells	

Record totalizer from new permanent flow meter

Collect system readings, Glacier to replace TT-302 sensor

Notes: psi = pounds/square inch; cfm = cubic feet per minute; ppm = parts per million; gal = gallons; MS = vapor liquid separator; GAC = granular activated carbon;
O/C= open/closed

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company:	ERRG	FI	System On on Arrival? (circle):	yes	no
Date/time of data collection:	3/14/2025		System Hours:	2138.5	
Weather:	Clear, Cool		Phase 1: MPE / SVE, all active EIWs in extraction mode.		
Barometric pressure (psi):	29.57	Barometric Pressure source:	Anemometer		
Ambient Temperature (°F):	48	Ambient Temperature source:	Internet		
Noise (dBA):	If above 60 dBA, notify KJ personnel		Noise measurement source:		
Moisture Separator Drained? (circle)	Yes	No	Active Alarm Conditions (circle, note affected equipment):		
Approximate volume (gal):	1 cycle while onsite		1. No Alarm		
Catalytic Oxidizer Installed? (circle)	Yes	No	2. High Water Level Tank(s):		
Effluent Vapor VOC Conc (ppm):	-		3. Low Water Level Tank(s):		
PID Calibration Performed? (circle)	s	Yes	4. High Pressure Equipment:		
PID Calibration	Zero Gas	Span Gas	5. Low Pressure Equipment:		
Calibration Value (ppm):	0	100	6. System Shutdown Equipment:		
Instrument Reading (ppm):	0	100.2	7. Temperature Equipment:		
			8. Other:		

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi or inHg)	Flow (cfm/gpm)	PID (ppm)
RW-2	-	-	-	C	Before MS	VI 210		14.2		
RW-3	-	-	-	C	After MS	PI 310		32		
RW-4	-11.5		137	O	Before Blower	VI 300		14.2		
RW-5	-	-	-	C	After Blower	PI/FI 302		3.4	102	
RW-6	-	-	-	C	At Heat Exchanger	TT-302				
RW-7	-13.5		732	O	Before Vapor GAC	PI 411		NA	NA	NA
RW-8	-11.5		242	O	Vapor GAC Midpoint**	PI 412		NA	NA	NA
RW-9	-	-	-	C	After Vapor GAC**	PI 410		NA	NA	NA
RW-10	-	-	-	C	After Pump P-400	PI 400		32		
SW-1	-	-	-	C	Before Bag Filter	PI-405		30		
SW-2	-	-	-	C	After Bag Filter**	FI 400/PI 401		30	0	
SW-3	-	-	-	C	Midpoint Liquid GAC 1**	PI 403		0		
MW-4	-	-	-	C	After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (inWC)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1	-0.661		-	O	After Liquid GAC 2	FE-407			0	
SSD-2	-0.692		-	O	After Liquid GAC**	PI-404		0		
SSD-3	-3.512		-	O	Catalytic Oxidizer Temperatures (°F) T1 Entrance: 626.5 T2 Exit 752.1 T3 Interior 734.9					
VP-1	-		-		Catalytic Oxidizer PID (ppm)		Pre: - Post -			
VP-2	-		-		Catalytic Oxidizer Flow Rate (scfm)		102			
VP-3	-		-		Water Discharge Flow Totalizer		Date	Time	Total Flow (gal)	
VP-4	-		-			FT 500	3/14/2025	9:00	14487.34	
						FT 500				

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
Record totalizer from flow meter	Air: 200 scfm Water: 3 gpm / 4500 gpd
Collect system readings	If exceeded, notify Kennedy Jenks personnel.
Collect weekly BTEX midpoint sample	

Notes: psi = pounds/square inch; cfm = cubic feet per minute; ppm = parts per million; gal = gallons; MS = vapor liquid separator; GAC = granular activated carbon; O/C= open/closed; inHg = inches of mercury; inWC = inches of water column; PID = photoionization device; gpd = gallons per day

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company:	ERRG	FI	System On on Arrival? (circle):	yes	no
Date/time of data collection:	3/16/2025		System Hours:	2173.6	
Weather:	Clear, Cool		Phase 1: MPE / SVE, all active EIWs in extraction mode.		
Barometric pressure (psi):	29.57		Barometric Pressure source:	Anemometer	
Ambient Temperature (°F):	48		Ambient Temperature source:	Internet	
Noise (dBA):	If above 60 dBA, notify KJ personnel		Noise measurement source:		
Moisture Separator Drained? (circle)	Yes	No	Active Alarm Conditions (circle, note affected equipment):		
Approximate volume (gal):	1 cycle while onsite		1. No Alarm		
Catalytic Oxidizer Installed? (circle)	Yes	No	2. High Water Level	Tank(s): Moisture Separator	
Effluent Vapor VOC Conc (ppm):	-		3. Low Water Level	Tank(s):	
PID Calibration Performed? (circle)	Yes	No	4. High Pressure	Equipment:	
PID Calibration	Zero Gas	Span Gas	5. Low Pressure	Equipment: Liquid Ring Pump	
Calibration Value (ppm):	-	-	6. System Shutdown	Equipment:	
Instrument Reading (ppm):	-	-	7. Temperature	Equipment:	
			8. Other:		

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi or inHg)	Flow (cfm/gpm)	PID (ppm)
RW-2	-	-	-	C	Before MS	VI 210		17		
RW-3	-	-	-	C	After MS	PI 310		24		
RW-4	-	-	-	O	Before Blower	VI 300		18		
RW-5	-	-	-	C	After Blower	PI/FI 302		1.8	87.5	
RW-6	-	-	-	C	At Heat Exchanger	TT-302	-			
RW-7	-	-	-	C	Before Vapor GAC	PI 411		NA	NA	NA
RW-8	-	-	-	O	Vapor GAC Midpoint**	PI 412		NA	NA	NA
RW-9	-	-	-	C	After Vapor GAC**	PI 410		NA	NA	NA
RW-10	-	-	-	C	After Pump P-400	PI 400		34		
SW-1	-	-	-	C	Before Bag Filter	PI-405		30		
SW-2	-	-	-	C	After Bag Filter**	FI 400/PI 401		26	0	
SW-3	-	-	-	C	Midpoint Liquid GAC 1**	PI 403		0		
MW-4	-	-	-	C	After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (inWC)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1	-	-	-	O	After Liquid GAC 2	FE-407			0	
SSD-2	-	-	-	O	After Liquid GAC**	PI-404		0		
SSD-3	-	-	-	O	Catalytic Oxidizer Temperatures (°F)					T1 Entrance: 623.4 T2 Exit 717.0 T3 Interior 733.2
VP-1	-	-	-	-	Catalytic Oxidizer PID (ppm)		Pre: - Post: -			
VP-2	-	-	-	-	Catalytic Oxidizer Flow Rate (scfm)		87.5			
VP-3	-	-	-	-	Water Discharge Flow Totalizer		Date	Time	Total Flow (gal)	
VP-4	-	-	-	-		FT 500	3/16/2025	14:30	15330.02	
						FT 500				

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
Responding to system alarms, low vacuum, high level in tank.	Air: 200 scfm Water: 3 gpm / 4500 gpd
Flow at 2.1 scfm, Vacuum at 5.0 psi, shut wells off, transfer water to discharge tank.	If exceeded, notify Kennedy Jenks personnel.
Restart system, unable to open up bank 4 with RW-7. run system with only RW-4 and RW-8.	

Record totalizer from flow meter.

Notes: psi = pounds/square inch; cfm = cubic feet per minute; ppm = parts per million; gal = gallons; MS = vapor liquid separator; GAC = granular activated carbon;
O/C= open/closed

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company:	ERRG	FI	System On on Arrival? (circle):	yes	no
Date/time of data collection:	3/21/2025		System Hours:	2291.4	
Weather:	Cloudy, Cool		Phase 1: MPE / SVE, all active EIWs in extraction mode.		
Barometric pressure (psi):	29.89	Barometric Pressure source:	Anemometer		
Ambient Temperature (°F):	48	Ambient Temperature source:	Internet		
Noise (dBA):	If above 60 dBA, notify KJ personnel		Noise measurement source:		
Moisture Separator Drained? (circle)	Yes	No	Active Alarm Conditions (circle, note affected equipment):		
Approximate volume (gal):	3 cycles while onsite		1. No Alarm		
Catalytic Oxidizer Installed? (circle)	Yes	No	2. High Water Level Tank(s):		
Effluent Vapor VOC Conc (ppm):	-		3. Low Water Level Tank(s):		
PID Calibration Performed? (circle)	Yes	No	4. High Pressure Equipment:		
PID Calibration	Zero Gas	Span Gas	5. Low Pressure Equipment:		
Calibration Value (ppm):	-	-	6. System Shutdown Equipment:		
Instrument Reading (ppm):	-	-	7. Temperature Equipment:		
			8. Other:		

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi or inHg)	Flow (cfm/gpm)	PID (ppm)
RW-2	-	-	-	C	Before MS	VI 210		16.5		
RW-3	-	-	-	C	After MS	PI 310		25		
RW-4	-	-	-	O	Before Blower	VI 300		17.6		
RW-5	-	-	-	C	After Blower	PI/FI 302		2.7	83.8	
RW-6	-	-	-	C	At Heat Exchanger	TT-302	-			
RW-7	-	-	-	C	Before Vapor GAC	PI 411		NA	NA	NA
RW-8	-	-	-	O	Vapor GAC Midpoint**	PI 412		NA	NA	NA
RW-9	-	-	-	C	After Vapor GAC**	PI 410		NA	NA	NA
RW-10	-	-	-	C	After Pump P-400	PI 400		32		
SW-1	-	-	-	C	Before Bag Filter	PI-405		30		
SW-2	-	-	-	C	After Bag Filter**	FI 400/PI 401		26	0	
SW-3	-	-	-	C	Midpoint Liquid GAC 1**	PI 403		0		
MW-4	-	-	-	C	After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (inWC)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1	-	-	-	O	After Liquid GAC 2	FE-407			0	
SSD-2	-	-	-	O	After Liquid GAC**	PI-404		0		
SSD-3	-	-	-	O	Catalytic Oxidizer Temperatures (°F) T1 Entrance: 626.7 T2 Exit 672.7 T3 Interior 682.3					
VP-1	-		-		Catalytic Oxidizer PID (ppm)		Pre: - Post -			
VP-2	-		-		Catalytic Oxidizer Flow Rate (scfm)		83.8			
VP-3	-		-		Water Discharge Flow Totalizer		Date	Time	Total Flow (gal)	
VP-4	-		-			FT 500	3/21/2025	11:30	18168.87	
						FT 500				

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
Collect system readings	Air: 200 scfm Water: 3 gpm / 4500 gpd
Record totalizer from flow meter	If exceeded, notify Kennedy Jenks personnel.
Collect monthly system water samples and weekly BTEX midpoint sample	

Glacier replaced filter on 3/18 to resolve high level alarms, switch liquid GAC vessel banks.

Notes: psi = pounds/square inch; cfm = cubic feet per minute; ppm = parts per million; gal = gallons; MS = vapor liquid separator; GAC = granular activated carbon; O/C= open/closed

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company:	ERRG	FI	System On on Arrival? (circle):	yes	no
Date/time of data collection:	3/24/2025		System Hours:	2364.4	
Weather:	Clear, Cool		Phase 1: MPE / SVE, all active EIWs in extraction mode.		
Barometric pressure (psi):	30.2		Barometric Pressure source:	Anemometer	
Ambient Temperature (°F):	57		Ambient Temperature source:	Internet	
Noise (dBA):	If above 60 dBA, notify KJ personnel		Noise measurement source:		
Moisture Separator Drained? (circle)	Yes	No	Active Alarm Conditions (circle, note affected equipment):		
Approximate volume (gal):	1 cycle while onsite		1. No Alarm		
Catalytic Oxidizer Installed? (circle)	Yes	No	2. High Water Level	Tank(s):	
Effluent Vapor VOC Conc (ppm):	0.9		3. Low Water Level	Tank(s):	
PID Calibration Performed? (circle)	Yes	No	4. High Pressure	Equipment:	
	PID Calibration	Zero Gas	5. Low Pressure	Equipment:	
	Calibration Value (ppm):	0	6. System Shutdown	Equipment:	
	Instrument Reading (ppm):	0	7. Temperature	Equipment:	
			8. Other:		

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi or inHg)	Flow (cfm/gpm)	PID (ppm)
RW-2	-	-	-	C	Before MS	VI 210		16.5		
RW-3	-	-	-	C	After MS	PI 310		26		
RW-4	-	-	-	O	Before Blower	VI 300		17.6		
RW-5	-	-	-	C	After Blower	PI/FI 302		2.6	82.9	
RW-6	-	-	-	C	At Heat Exchanger	TT-302	-			
RW-7	-	-	-	C	Before Vapor GAC	PI 411		NA	NA	NA
RW-8	-	-	-	O	Vapor GAC Midpoint**	PI 412		NA	NA	NA
RW-9	-	-	-	C	After Vapor GAC**	PI 410		NA	NA	NA
RW-10	-	-	-	C	After Pump P-400	PI 400		32		
SW-1	-	-	-	C	Before Bag Filter	PI-405		30		
SW-2	-	-	-	C	After Bag Filter**	FI 400/PI 401		26	0	
SW-3	-	-	-	C	Midpoint Liquid GAC 1**	PI 403		0		
MW-4	-	-	-	C	After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (inWC)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1	-	-	-	O	After Liquid GAC 2	FE-407			0	
SSD-2	-	-	-	O	After Liquid GAC**	PI-404		0		
SSD-3	-	-	-	O	Catalytic Oxidizer Temperatures (°F)					T1 Entrance: 626.7 T2 Exit : 668.9 T3 Interior: 679.2
VP-1	-		-		Catalytic Oxidizer PID (ppm)		Pre: 153 Post 0.9			
VP-2	-		-		Catalytic Oxidizer Flow Rate (scfm)		82.9			
VP-3	-		-		Water Discharge Flow Totalizer		Date	Time	Total Flow (gal)	
VP-4	-		-			FT 500	3/24/2025	14:30	20210.4	
						FT 500				

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
Collect system readings.	Air: 200 scfm Water: 3 gpm / 4500 gpd
Record totalizer from flow meter .	If exceeded, notify Kennedy Jenks personnel.
Collect monthly system vapor influent and effluent samples.	

Collect PID readings from CatOx inf/eff

Notes: psi = pounds/square inch; cfm = cubic feet per minute; ppm = parts per million; gal = gallons; MS = vapor liquid separator; GAC = granular activated carbon;
O/C= open/closed

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company:	ERRG	FI	System On on Arrival? (circle):	yes	no
Date/time of data collection:	3/28/2025		System Hours:	2457.9	
Weather:	Overcast, Light Showers		Phase 1: MPE / SVE, all active EIWs in extraction mode.		
Barometric pressure (psi):	29.57		Barometric Pressure source:	Anemometer	
Ambient Temperature (°F):	45		Ambient Temperature source:	Internet	
Noise (dBA):	If above 60 dBA, notify KJ personnel		Noise measurement source:		
Moisture Separator Drained? (circle)	Yes	No	Active Alarm Conditions (circle, note affected equipment):		
Approximate volume (gal):	3 cycles while onsite		1. No Alarm		
Catalytic Oxidizer Installed? (circle)	Yes	No	2. High Water Level	Tank(s):	
Effluent Vapor VOC Conc (ppm):	-		3. Low Water Level	Tank(s):	
PID Calibration Performed? (circle)	Yes	No	4. High Pressure	Equipment:	
PID Calibration	Zero Gas	Span Gas	5. Low Pressure	Equipment:	
Calibration Value (ppm):	-	-	6. System Shutdown	Equipment:	
Instrument Reading (ppm):	-	-	7. Temperature	Equipment:	
			8. Other:		

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi or inHg)	Flow (cfm/gpm)	PID (ppm)
RW-2	-	-	-	C	Before MS	VI 210		15.5		
RW-3	-	-	-	C	After MS	PI 310		24		
RW-4	-	-	-	O	Before Blower	VI 300		16.5		
RW-5	-	-	-	C	After Blower	PI/VI 302		2.8	86.4	
RW-6	-	-	-	C	At Heat Exchanger	TT-302	-			
RW-7	-	-	-	C	Before Vapor GAC	PI 411		NA	NA	NA
RW-8	-	-	-	O	Vapor GAC Midpoint**	PI 412		NA	NA	NA
RW-9	-	-	-	C	After Vapor GAC**	PI 410		NA	NA	NA
RW-10	-	-	-	C	After Pump P-400	PI 400		32		
SW-1	-	-	-	C	Before Bag Filter	PI-405		30		
SW-2	-	-	-	C	After Bag Filter**	FI 400/PI 401		26	0	
SW-3	-	-	-	C	Midpoint Liquid GAC 1**	PI 403		0		
MW-4	-	-	-	C	After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (inWC)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1	-	-	-	O	After Liquid GAC 2	FE-407			0	
SSD-2	-	-	-	O	After Liquid GAC**	PI-404		0		
SSD-3	-	-	-	O	Catalytic Oxidizer Temperatures (°F)	T1 Entrance: 626.9 T2 Exit 660.2 T3 Interior 671.5				
VP-1	-		-		Catalytic Oxidizer PID (ppm)	Pre: - Post -				
VP-2	-		-		Catalytic Oxidizer Flow Rate (scfm)	86.4				
VP-3	-		-		Water Discharge Flow Totalizer	Date	Time	Total Flow (gal)		
VP-4	-		-		FT 500	3/28/2025	12:30	22578.66		
					FT 500					

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
Collect system readings	Air: 200 scfm Water: 3 gpm / 4500 gpd
Record totalizer from flow meter	If exceeded, notify Kennedy Jenks personnel.
Collect weekly BTEX midpoint sample and monthly system water samples.	

Blaine Tech onsite to collect monthly groundwater samples, duplicate sample collected at MW-6.

Measure pH and conductivity at influent, midpoint, and effluent (turbidity: 4.51, 2.89, 2.63, pH: 7.23, 7.22, 7.23, respectively)

Notes: psi = pounds/square inch; cfm = cubic feet per minute; ppm = parts per million; gal = gallons; MS = vapor liquid separator; GAC = granular activated carbon; O/C= open/closed

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company:	ERRG	FI	System On on Arrival? (circle):	yes	no
Date/time of data collection:	3/7/2025		System Hours:	1965.1	
Weather:	Partly Cloudy		Phase 1: MPE / SVE, all active EIWs in extraction mode.		
Barometric pressure (psi):	30.18		Barometric Pressure source:	Anemometer	
Ambient Temperature (°F):	50		Ambient Temperature source:	Internet	
Noise (dBA):	If above 60 dBA, notify KJ personnel		Noise measurement source:		
Moisture Separator Drained? (circle)	Yes	No	Active Alarm Conditions (circle, note affected equipment):		
Approximate volume (gal):	1 cycle while onsite		1. No Alarm		
Catalytic Oxidizer Installed? (circle)	Yes	No	2. High Water Level	Tank(s):	
Effluent Vapor VOC Conc (ppm):	1.6		3. Low Water Level	Tank(s):	
PID Calibration Performed? (circle)	Yes	No	4. High Pressure	Equipment:	
	PID Calibration	Zero Gas	5. Low Pressure	Equipment:	
	Calibration Value (ppm):	0	6. System Shutdown	Equipment:	
	Instrument Reading (ppm):	0	7. Temperature	Equipment:	
			8. Other:		

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi or inHg)	Flow (cfm/gpm)	PID (ppm)
RW-2	-	-	-	C	Before MS	VI 210		14.9		
RW-3	-	-	-	C	After MS	PI 310		32		
RW-4	-12	63	137	O	Before Blower	VI 300		15.2		
RW-5	-	-	-	C	After Blower	PI/FI 302		3.3	98	
RW-6	-	-	-	C	At Heat Exchanger	TT-302	-			
RW-7	-13	40	624	O	Before Vapor GAC	PI 411		NA	NA	NA
RW-8	-12	43	242	O	Vapor GAC Midpoint**	PI 412		NA	NA	NA
RW-9	-	-	-	C	After Vapor GAC**	PI 410		NA	NA	NA
RW-10	-	-	-	C	After Pump P-400	PI 400		32		
SW-1	-	-	-	C	Before Bag Filter	PI-405		32		
SW-2	-	-	-	C	After Bag Filter**	FI 400/PI 401		30	0	
SW-3	-	-	-	C	Midpoint Liquid GAC 1**	PI 403		0		
MW-4	-	-	-	C	After Liquid GAC 1	FE-404			0	
					Midpoint Liquid GAC 2**	PI 406		0		
SSD-1	-0.661	4.2	20 ppb	O	After Liquid GAC 2	FE-407			0	
SSD-2	-1.006	6.8	118 ppb	O	After Liquid GAC**	PI-404		0		
SSD-3	-3.308	22.8	2.3	O	Catalytic Oxidizer Temperatures (°F)					T1 Entrance: 626.1 T2 Exit 685.6 T3 Interior 688.4
VP-1	-		-		Catalytic Oxidizer PID (ppm)		Pre: 212 Post 1.6			
VP-2	-		-		Catalytic Oxidizer Flow Rate (scfm)		98			
VP-3	-		-		Water Discharge Flow Totalizer		Date	Time	Total Flow (gal)	
VP-4	-		-		FT 500		3/7/2025	3:30	7345.53	
					FT 500					

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
Collect PID reading from active EIW and SSD wells at manifold and CatOX inf/eff	Air: 200 scfm Water: 3 gpm / 4500 gpd
EIWs with PID measurements <100 ppm were closed off to focus on EIWs with >100ppm	If exceeded, notify Kennedy Jenks personnel.
PID measurements prior to closing wells ranged from 10.8 ppm to 34.5 ppm for EIWs active prior to closing additional wells	
Record totalizer from new permanent flow meter	
Collect system readings, Glacier to replace TT-302 sensor	

Notes: psi = pounds/square inch; cfm = cubic feet per minute; ppm = parts per million; gal = gallons; MS = vapor liquid separator; GAC = granular activated carbon;

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company:	ERRG	FI	System On on Arrival? (circle):	yes	no
Date/time of data collection:	3/14/2025		System Hours:	2138.5	
Weather:	Clear, Cool		Phase 1: MPE / SVE, all active EIWs in extraction mode.		
Barometric pressure (psi):	29.57		Barometric Pressure source:	Anemometer	
Ambient Temperature (°F):	48		Ambient Temperature source:	Internet	
Noise (dBA):	If above 60 dBA, notify KJ personnel		Noise measurement source:		
Moisture Separator Drained? (circle)	Yes	No	Active Alarm Conditions (circle, note affected equipment):		
Approximate volume (gal):	1 cycle while onsite		1. No Alarm		
Catalytic Oxidizer Installed? (circle)	Yes	No	2. High Water Level	Tank(s):	
Effluent Vapor VOC Conc (ppm):	-		3. Low Water Level	Tank(s):	
PID Calibration Performed? (circle)	Yes	No	4. High Pressure	Equipment:	
	PID Calibration	Zero Gas	5. Low Pressure	Equipment:	
	Calibration Value (ppm):	0	6. System Shutdown	Equipment:	
	Instrument Reading (ppm):	0	7. Temperature	Equipment:	
		100.2	8. Other:		

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi or inHg)	Flow (cfm/gpm)	PID (ppm)
RW-2	-	-	-	C	Before MS	VI 210		14.2		
RW-3	-	-	-	C	After MS	PI 310		32		
RW-4	-	-	-	O	Before Blower	VI 300		14.2		
RW-5	-	-	-	C	After Blower	PI/FI 302		3.4	102	
RW-6	-	-	-	C	At Heat Exchanger	TT-302				
RW-7	-	-	-	O	Before Vapor GAC	PI 411		NA	NA	NA
RW-8	-	-	-	O	Vapor GAC Midpoint**	PI 412		NA	NA	NA
RW-9	-	-	-	C	After Vapor GAC**	PI 410		NA	NA	NA
RW-10	-	-	-	C	After Pump P-400	PI 400		32		
SW-1	-	-	-	C	Before Bag Filter	PI-405		30		
SW-2	-	-	-	C	After Bag Filter**	FI 400/PI 401		30	0	
SW-3	-	-	-	C	Midpoint Liquid GAC 1**	PI 403		0		
MW-4	-	-	-	C	After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (inWC)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1	-		-	O	After Liquid GAC 2	FE-407			0	
SSD-2	-		-	O	After Liquid GAC**	PI-404		0		
SSD-3	-		-	O	Catalytic Oxidizer Temperatures (°F) T1 Entrance: 626.5 T2 Exit 752.1 T3 Interior 734.9					
VP-1	-		-		Catalytic Oxidizer PID (ppm)		Pre: - Post -			
VP-2	-		-		Catalytic Oxidizer Flow Rate (scfm)		102			
VP-3	-		-		Water Discharge Flow Totalizer		Date	Time	Total Flow (gal)	
VP-4	-		-		FT 500		3/14/2025	9:00	14487.34	
					FT 500					

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
Record totalizer from flow meter	Air: 200 scfm Water: 3 gpm / 4500 gpd
Collect system readings	If exceeded, notify Kennedy Jenks personnel.
Collect weekly BTEX midpoint sample	

Notes: psi = pounds/square inch; cfm = cubic feet per minute; ppm = parts per million; gal = gallons; MS = vapor liquid separator; GAC = granular activated carbon; O/C= open/closed; inHg = inches of mercury; inWC = inches of water column; PID = photoionization device; gpd = gallons per day

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company:	ERRG	FI	System On on Arrival? (circle):	yes	no
Date/time of data collection:	3/16/2025		System Hours:	2173.6	
Weather:	Clear, Cool		Phase 1: MPE / SVE, all active EIWs in extraction mode.		
Barometric pressure (psi):	29.57		Barometric Pressure source:	Anemometer	
Ambient Temperature (°F):	48		Ambient Temperature source:	Internet	
Noise (dBA):	If above 60 dBA, notify KJ personnel		Noise measurement source:		
Moisture Separator Drained? (circle)	Yes	No	Active Alarm Conditions (circle, note affected equipment):		
Approximate volume (gal):	1 cycle while onsite		1. No Alarm		
Catalytic Oxidizer Installed? (circle)	Yes	No	2. High Water Level	Tank(s): Moisture Separator	
Effluent Vapor VOC Conc (ppm):	-		3. Low Water Level	Tank(s):	
PID Calibration Performed? (circle)	Yes	No	4. High Pressure	Equipment:	
PID Calibration	Zero Gas	Span Gas	5. Low Pressure	Equipment: Liquid Ring Pump	
Calibration Value (ppm):	-	-	6. System Shutdown	Equipment:	
Instrument Reading (ppm):	-	-	7. Temperature	Equipment:	
			8. Other:		

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi or inHg)	Flow (cfm/gpm)	PID (ppm)
RW-2	-	-	-	C	Before MS	VI 210		17		
RW-3	-	-	-	C	After MS	PI 310		24		
RW-4	-	-	-	O	Before Blower	VI 300		18		
RW-5	-	-	-	C	After Blower	PI/FI 302		1.8	87.5	
RW-6	-	-	-	C	At Heat Exchanger	TT-302	-			
RW-7	-	-	-	C	Before Vapor GAC	PI 411		NA	NA	NA
RW-8	-	-	-	O	Vapor GAC Midpoint**	PI 412		NA	NA	NA
RW-9	-	-	-	C	After Vapor GAC**	PI 410		NA	NA	NA
RW-10	-	-	-	C	After Pump P-400	PI 400		34		
SW-1	-	-	-	C	Before Bag Filter	PI-405		30		
SW-2	-	-	-	C	After Bag Filter**	FI 400/PI 401		26	0	
SW-3	-	-	-	C	Midpoint Liquid GAC 1**	PI 403		0		
MW-4	-	-	-	C	After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (inWC)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1	-	-	-	O	After Liquid GAC 2	FE-407			0	
SSD-2	-	-	-	O	After Liquid GAC**	PI-404		0		
SSD-3	-	-	-	O	Catalytic Oxidizer Temperatures (°F)	T1 Entrance: 623.4 T2 Exit 717.0 T3 Interior 733.2				
VP-1	-		-		Catalytic Oxidizer PID (ppm)	Pre: - Post: -				
VP-2	-		-		Catalytic Oxidizer Flow Rate (scfm)	87.5				
VP-3	-		-		Water Discharge Flow Totalizer	Date	Time	Total Flow (gal)		
VP-4	-		-		FT 500	3/16/2025	14:30	15330.02		
					FT 500					

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
Responding to system alarms, low vacuum, high level in tank.	Air: 200 scfm Water: 3 gpm / 4500 gpd
Flow at 2.1 scfm, Vacuum at 5.0 psi, shut wells off, transfer water to discharge tank.	If exceeded, notify Kennedy Jenks personnel.
Restart system, unable to open up bank 4 with RW-7. run system with only RW-4 and RW-8.	
Record totalizer from flow meter.	

Notes: psi = pounds/square inch; cfm = cubic feet per minute; ppm = parts per million; gal = gallons; MS = vapor liquid separator; GAC = granular activated carbon; O/C= open/closed

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company:	ERRG	FI	System On on Arrival? (circle):	yes	no
Date/time of data collection:	3/21/2025		System Hours:	2291.4	
Weather:	Cloudy, Cool		Phase 1: MPE / SVE, all active EIWs in extraction mode.		
Barometric pressure (psi):	29.89		Barometric Pressure source:	Anemometer	
Ambient Temperature (°F):	48		Ambient Temperature source:	Internet	
Noise (dBA):	If above 60 dBA, notify KJ personnel		Noise measurement source:		
Moisture Separator Drained? (circle)	Yes	No	Active Alarm Conditions (circle, note affected equipment):		
Approximate volume (gal):	3 cycles while onsite		1. No Alarm		
Catalytic Oxidizer Installed? (circle)	Yes	No	2. High Water Level	Tank(s):	
Effluent Vapor VOC Conc (ppm):	-		3. Low Water Level	Tank(s):	
PID Calibration Performed? (circle)	Yes	No	4. High Pressure	Equipment:	
	PID Calibration	Zero Gas	5. Low Pressure	Equipment:	
	Calibration Value (ppm):	-	6. System Shutdown	Equipment:	
	Instrument Reading (ppm):	-	7. Temperature	Equipment:	
			8. Other:		

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi or inHg)	Flow (cfm/gpm)	PID (ppm)
RW-2	-	-	-	C	Before MS	VI 210		16.5		
RW-3	-	-	-	C	After MS	PI 310		25		
RW-4	-	-	-	O	Before Blower	VI 300		17.6		
RW-5	-	-	-	C	After Blower	PI/FI 302		2.7	83.8	
RW-6	-	-	-	C	At Heat Exchanger	TT-302	-			
RW-7	-	-	-	C	Before Vapor GAC	PI 411		NA	NA	NA
RW-8	-	-	-	O	Vapor GAC Midpoint**	PI 412		NA	NA	NA
RW-9	-	-	-	C	After Vapor GAC**	PI 410		NA	NA	NA
RW-10	-	-	-	C	After Pump P-400	PI 400		32		
SW-1	-	-	-	C	Before Bag Filter	PI-405		30		
SW-2	-	-	-	C	After Bag Filter**	FI 400/PI 401		26	0	
SW-3	-	-	-	C	Midpoint Liquid GAC 1**	PI 403		0		
MW-4	-	-	-	C	After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (inWC)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1	-	-	-	O	After Liquid GAC 2	FE-407			0	
SSD-2	-	-	-	O	After Liquid GAC**	PI-404		0		
SSD-3	-	-	-	O	Catalytic Oxidizer Temperatures (°F)					T1 Entrance: 626.7 T2 Exit 672.7 T3 Interior 682.3
VP-1	-		-		Catalytic Oxidizer PID (ppm)		Pre: - Post -			
VP-2	-		-		Catalytic Oxidizer Flow Rate (scfm)		83.8			
VP-3	-		-		Water Discharge Flow Totalizer		Date	Time	Total Flow (gal)	
VP-4	-		-		FT 500		3/21/2025	11:30	18168.87	
					FT 500					

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
Collect system readings	Air: 200 scfm Water: 3 gpm / 4500 gpd
Record totalizer from flow meter	If exceeded, notify Kennedy Jenks personnel.
Collect monthly system water samples and weekly BTEX midpoint sample	
Glacier replaced filter on 3/18 to resolve high level alarms, switch liquid GAC vessel banks.	

Notes: psi = pounds/square inch; cfm = cubic feet per minute; ppm = parts per million; gal = gallons; MS = vapor liquid separator; GAC = granular activated carbon; O/C= open/closed

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company:	ERRG	FI	System On on Arrival? (circle):	yes	no
Date/time of data collection:	3/24/2025		System Hours:	2364.4	
Weather:	Clear, Cool		Phase 1: MPE / SVE, all active EIWs in extraction mode.		
Barometric pressure (psi):	30.2		Barometric Pressure source:	Anemometer	
Ambient Temperature (°F):	57		Ambient Temperature source:	Internet	
Noise (dBA):	If above 60 dBA, notify KJ personnel		Noise measurement source:		
Moisture Separator Drained? (circle)	Yes	No	Active Alarm Conditions (circle, note affected equipment):		
Approximate volume (gal):	1 cycle while onsite		1. No Alarm		
Catalytic Oxidizer Installed? (circle)	Yes	No	2. High Water Level	Tank(s):	
Effluent Vapor VOC Conc (ppm):	0.9		3. Low Water Level	Tank(s):	
PID Calibration Performed? (circle)	Yes	No	4. High Pressure	Equipment:	
	PID Calibration	Zero Gas	5. Low Pressure	Equipment:	
	Calibration Value (ppm):	0	6. System Shutdown	Equipment:	
	Instrument Reading (ppm):	0	7. Temperature	Equipment:	
		99.8	8. Other:		

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi or inHg)	Flow (cfm/gpm)	PID (ppm)
RW-2	-	-	-	C	Before MS	VI 210		16.5		
RW-3	-	-	-	C	After MS	PI 310		26		
RW-4	-	-	-	O	Before Blower	VI 300		17.6		
RW-5	-	-	-	C	After Blower	PI/FI 302		2.6	82.9	
RW-6	-	-	-	C	At Heat Exchanger	TT-302	-			
RW-7	-	-	-	C	Before Vapor GAC	PI 411		NA	NA	NA
RW-8	-	-	-	O	Vapor GAC Midpoint**	PI 412		NA	NA	NA
RW-9	-	-	-	C	After Vapor GAC**	PI 410		NA	NA	NA
RW-10	-	-	-	C	After Pump P-400	PI 400		32		
SW-1	-	-	-	C	Before Bag Filter	PI-405		30		
SW-2	-	-	-	C	After Bag Filter**	FI 400/PI 401		26	0	
SW-3	-	-	-	C	Midpoint Liquid GAC 1**	PI 403		0		
MW-4	-	-	-	C	After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (inWC)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1	-	-	-	O	After Liquid GAC 2	FE-407			0	
SSD-2	-	-	-	O	After Liquid GAC**	PI-404		0		
SSD-3	-	-	-	O	Catalytic Oxidizer Temperatures (°F)					T1 Entrance: 626.7 T2 Exit : 668.9 T3 Interior: 679.2
VP-1	-		-		Catalytic Oxidizer PID (ppm)		Pre: 153 Post 0.9			
VP-2	-		-		Catalytic Oxidizer Flow Rate (scfm)		82.9			
VP-3	-		-		Water Discharge Flow Totalizer		Date	Time	Total Flow (gal)	
VP-4	-		-		FT 500		3/24/2025	14:30	20210.4	
					FT 500					

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
Collect system readings.	Air: 200 scfm Water: 3 gpm / 4500 gpd
Record totalizer from flow meter .	If exceeded, notify Kennedy Jenks personnel.
Collect monthly system vapor influent and effluent samples.	
Collect PID readings from CatOx inf/eff	

Notes: psi = pounds/square inch; cfm = cubic feet per minute; ppm = parts per million; gal = gallons; MS = vapor liquid separator; GAC = granular activated carbon; O/C= open/closed

SYSTEM MONITORING FORM
CIRCLE K - PHASE 1: MULTI-PHASE EXTRACTION (MPE) / SOIL VAPOR EXTRACTION (SVE)

Name & Company:	ERRG	FI	System On on Arrival? (circle):	yes	no
Date/time of data collection:	3/28/2025		System Hours:	2457.9	
Weather:	Overcast, Light Showers		Phase 1: MPE / SVE, all active EIWs in extraction mode.		
Barometric pressure (psi):	29.57		Barometric Pressure source:	Anemometer	
Ambient Temperature (°F):	45		Ambient Temperature source:	Internet	
Noise (dBA):	If above 60 dBA, notify KJ personnel		Noise measurement source:		
Moisture Separator Drained? (circle)	Yes	No	Active Alarm Conditions (circle, note affected equipment):		
Approximate volume (gal):	3 cycles while onsite		1. No Alarm		
Catalytic Oxidizer Installed? (circle)	Yes	No	2. High Water Level	Tank(s):	
Effluent Vapor VOC Conc (ppm):	-		3. Low Water Level	Tank(s):	
PID Calibration Performed? (circle)	Yes	No	4. High Pressure	Equipment:	
	PID Calibration	Zero Gas	Span Gas	5. Low Pressure	
	Calibration Value (ppm):	-	-	6. System Shutdown	
	Instrument Reading (ppm):	-	-	7. Temperature	
				8. Other:	

Wells - Injection/Extraction (At Manifold)					Treatment System					
Well ID	Pres/Vac (in Hg)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Location	ID	Temp (°F)	Pres/Vac (psi or inHg)	Flow (cfm/gpm)	PID (ppm)
RW-2	-	-	-	C	Before MS	VI 210		15.5		
RW-3	-	-	-	C	After MS	PI 310		24		
RW-4	-	-	-	O	Before Blower	VI 300		16.5		
RW-5	-	-	-	C	After Blower	PI/FI 302		2.8	86.4	
RW-6	-	-	-	C	At Heat Exchanger	TT-302	-			
RW-7	-	-	-	C	Before Vapor GAC	PI 411		NA	NA	NA
RW-8	-	-	-	O	Vapor GAC Midpoint**	PI 412		NA	NA	NA
RW-9	-	-	-	C	After Vapor GAC**	PI 410		NA	NA	NA
RW-10	-	-	-	C	After Pump P-400	PI 400		32		
SW-1	-	-	-	C	Before Bag Filter	PI-405		30		
SW-2	-	-	-	C	After Bag Filter**	FI 400/PI 401		26	0	
SW-3	-	-	-	C	Midpoint Liquid GAC 1**	PI 403		0		
MW-4	-	-	-	C	After Liquid GAC 1	FE-404			0	
Well ID	Pres/Vac (inWC)	Flow (cfm)	PID (ppm)	Valve (O/C, fraction)	Midpoint Liquid GAC 2**	PI 406		0		
SSD-1	-	-	-	O	After Liquid GAC 2	FE-407			0	
SSD-2	-	-	-	O	After Liquid GAC**	PI-404		0		
SSD-3	-	-	-	O	Catalytic Oxidizer Temperatures (°F)					T1 Entrance: 626.9 T2 Exit 660.2 T3 Interior 671.5
VP-1	-		-		Catalytic Oxidizer PID (ppm)		Pre: - Post -			
VP-2	-		-		Catalytic Oxidizer Flow Rate (scfm)		86.4			
VP-3	-		-		Water Discharge Flow Totalizer		Date	Time	Total Flow (gal)	
VP-4	-		-		FT 500		3/28/2025	12:30	22578.66	
					FT 500					

** Location for collection of air or water sample for laboratory analysis.

Comments/Maintenance Activities:	Permit Discharge Limits (see permits):
Collect system readings	Air: 200 scfm Water: 3 gpm / 4500 gpd
Record totalizer from flow meter	If exceeded, notify Kennedy Jenks personnel.
Collect weekly BTEX midpoint sample and monthly system water samples.	
Blaine Tech onsite to collect monthly groundwater samples, duplicate sample collected at MW-6.	
Measure pH and conductivity at influent, midpoint, and effluent (turbidity: 4.51, 2.89, 2.63, ph: 7.23, 7.22, 7.23, respectively)	

Notes: psi = pounds/square inch; cfm = cubic feet per minute; ppm = parts per million; gal = gallons; MS = vapor liquid separator; GAC = granular activated carbon; O/C= open/closed

WELL GAUGING DATA

Project # 250117-KC1 Date 1-17-25 Client ERRC

Site 2350 24th Ave E Seattle WA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Water/SPH Meter	PID (PPM)
MW-2	0804	2	—	—	—	—	9.48	16.45		0.0
MW-4	—	—	—	Unable to Access						0.0
MW-6	1034	2	—	—	—	—	11.64	20.32		0.0
MW-7	0823	2	—	—	—	—	7.50 70.5	20.30		0.0
MW-8	0950	2	odor	—	—	—	9.13	19.38		0.0
MW-9	0918	2	odor	—	—	—	9.20	20.24		0.0
MW-10	1018	2	Obstruction @ 9.90'							0.0 0.0
MW-11	0809	2	—	—	—	—	2.67	19.85		0.0
MW-13	0806	2	—	—	—	—	10.21	18.66		0.0
MW-14	0813	2	—	—	—	—	7.57	18.80		0.0
MW-15	0819	2	—	—	—	—	6.50	17.11		0.0
MW-16	0817	2	—	—	—	—	8.11	17.54		0.0
MW-17	0816	2	—	—	—	—	10.77	19.70		0.0
MW-18	0824	2	—	—	—	—	11.79	14.90		0.0
MW-19	0823	2	—	—	—	—	10.74	20.10	↓	0.0

Instruments Used: Durham Geoslope Water Level Indicator* GeoTech Oil/Water Interface Probe** Other: _____

Survey Point - Top of casing at all wells

WELL GAUGING DATA

Project # 250117-KC1 Date 1-17-25 Client EKR67

Site 2350 24th Ave E Seattle WA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Water/SPH Meter	PID (PPM)
MW-20	0837	4	odor	—	—	—	10.53	19.59		0.0
MW-21	0825	2	odor	—	—	—	9.64	19.02		0.0
RW-1	0834	4	—	—	—	—	11.14	19.95		0.0
RW-2	0808	4	—	—	—	—	7.75	19.32		0.0
RW-3	0811	4	—	—	—	—	6.85	19.80		0.0
RW-4	0817	4	—	—	—	—	9.83	19.85		0.0
RW-5	0824	4	—	—	—	—	11.31	19.55		0.0
RW-6	0831	4	—	—	—	—	8.16	19.49		0.0
RW-7	0827	4	—	—	—	—	7.71	20.71 18.84	15	0.0
RW-8	0821	4	—	—	—	—	7.36	20.20		0.0
RW-9	0836	4	—	—	—	—	10.55	21.46		0.0
RW-10	0832	4	—	—	—	—	11.36	30.45	↓	0.0

Instruments Used: Durham Geoslope Water Level Indicator* GeoTech Oil/Water Interface Probe** Other: _____

Survey Point - Top of casing at all wells

LOW FLOW WELL MONITORING DATA SHEET

Project #: 250117-KC1	Client: ERRG
Sampler: MH	Gauging Date: 01/17/25
Well I.D.: MW-6	Well Diameter (in.): ② 3 4 6 8 ____
Total Well Depth (ft.): 20.32	Depth to Water (ft.): 11.64
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: <u>FG</u> Grade	Flow Cell Type: <u>HANNA</u>

Bladder Pump

Other_

Pump Depth: 16'

[illegible]

Duplicate I.D.: —

Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (408) 573-0555

LOW FLOW WELL MONITORING DATA SHEET

Project #: 250117-KL2	Client: ERG
Sampler: YC	Gauging Date: 1 / 17 / 25
Well I.D.: MW-8	Well Diameter (in.): ② 3 4 6 8
Total Well Depth (ft.): 19.38	Depth to Water (ft.): 9.13
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: EVO Grade	Flow Cell Type: HANNA

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other
 Start Purge Time: 0952 Flow Rate: 200 mL/min Pump Depth: 15'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0955	12.02	6.30	370	61	1.13	47.4	6000	9.28
0958	12.51	6.45	372	53	1.07	34.8	1200	9.33
1001	12.89	6.44	372	51	1.05	30.8	1800	9.39
1004	12.95	6.43	371	54	1.05	31.5	2400	9.44
1007	12.80	6.41	371	53	1.05	30.6	3000	9.48

Did well dewater? Yes <input checked="" type="radio"/> No	Amount actually evacuated:
Sampling Time: 1010	Sampling Date: 1 / 17 / 25
Sample I.D.: MW-8	Laboratory: TRACE
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: see CDC
Equipment Blank I.D.: @ Time	Duplicate I.D.: —

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>250117-KC2</u>	Client: <u>ERRC</u>
Sampler: <u>KC</u>	Gauging Date: <u>1 / 17 / 25</u>
Well I.D.: <u>MW-9</u>	Well Diameter (in.): <u>(2) 3 4 6 8</u>
Total Well Depth (ft.): <u>20.24</u>	Depth to Water (ft.): <u>9.20</u>
Depth to Free Product: <u>—</u>	Thickness of Free Product (feet): <u>—</u>
Referenced to: <u>EC</u> Grade	Flow Cell Type: <u>HANNA</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 0915 Flow Rate: 200 mL/min Pump Depth: 15'

Time	Temp. (° or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)	PID
0921	12.43	6.85	558	48	1.12	26.2	600	9.50	0.0
0924	13.01	6.93	537	162	1.09	19.7	1200	9.50	
0927	12.76	6.90	532	126	1.07	13.9	1800	9.50	
0930	13.08	6.87	524	121	1.06	13.3	2400	9.53	
0933	13.04	6.84	524	118	1.05	13.0	3000	9.55	
0936	13.13	6.80	521	115	1.05	14.1	3600	9.53	

Did well dewater? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Amount actually evacuated: <u>3600 mL</u>
Sampling Time: <u>0939</u>	Sampling Date: <u>1 / 17 / 25</u>
Sample I.D.: <u>MW-9</u>	Laboratory: <u>PACE</u>
Analyzed for: <u>TPH-G BTEX MTBE TPH-D</u>	Other: <u>SEE COC</u>
Equipment Blank I.D.: <u>@</u> Time	Duplicate I.D.: <u>DVP-1</u>

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>250117-KCZ</u>	Client: <u>ERRG</u>
Sampler: <u>KC</u>	Gauging Date: <u>1/17/25</u>
Well I.D.: <u>MW-13</u>	Well Diameter (in.): <u>2</u> 3 4 6 8
Total Well Depth (ft.): <u>18.86</u>	Depth to Water (ft.): <u>10.21</u>
Depth to Free Product: <u>—</u>	Thickness of Free Product (feet): <u>—</u>
Referenced to: <u>PVE</u> Grade	Flow Cell Type: <u>HANNA</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other —
 Start Purge Time: 1022 Flow Rate: 200 mL/min Pump Depth: 15'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1025	11.28	5.47	677	42	1.14	87.9	600	10.81
1028	11.72	5.67	712	39	1.09	77.6	1200	11.01
1031	11.67	5.83	721	38	1.06	66.3	1800	11.15
1034	11.71	5.87	725	40	1.05	62.9	2400	11.21
1037	11.85	5.89	726	39	1.05	62.5	3000	11.29

Did well dewater? Yes <input checked="" type="radio"/> No	Amount actually evacuated: <u>3000 mL</u>
Sampling Time: <u>1040</u>	Sampling Date: <u>1/17/25</u>
Sample I.D.: <u>MW-13</u>	Laboratory: <u>PALE</u>
Analyzed for: <u>TPH-G BTEX MTBE TPH-D</u>	Other: <u>see CDC</u>
Equipment Blank I.D.: <u>@</u>	Duplicate I.D.: <u>—</u>

Project #: 250117-KC1	Client: ERRG
Sampler: LJ	Gauging Date: 1-17-25
Well I.D.: MW-14	Well Diameter (in.): ② 3 4 6 8
Total Well Depth (ft.): 18.80	Depth to Water (ft.): 7.57
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVC Grade	Flow Cell Type: Hanna

Other

Pump Depth: 13.5'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)	P/D
0856	11.70	8.07	395	22	2.69	76.8	600	7.95	0.0
0859	12.07	7.89	401	22	2.63	79.9	1200	8.11	0.0
0902	11.72	7.74	407	20	2.63	82.1	1800	8.23	0.0
0905	11.65	7.70	407	19	2.61	84.1	2400	8.29	0.0
0908	11.80	7.68	406	19	2.59	85.5	3000	8.33	0.0

Duplicate I.D.:

Project #: 250117-KC1	Client: ERLG
Sampler: L3	Gauging Date: 1-17-25
Well I.D.: MW-15	Well Diameter (in.): (2) 3 4 6 8
Total Well Depth (ft.): 17.11	Depth to Water (ft.): 6.50
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	Flow Cell Type:

Purge Method: 2" Grundfos Pump

Peristaltic Pump

Bladder Pump

Sampling Method: Dedicated Tubing

New Tubing

Other

Start Purge Time: 0946

Flow Rate: 200 mL/min

Pump Depth: 12'

[illegible]

Did well dewater? Yes ☐ No ☒

Amount actually evacuated: 3000ml

Sampling Time: 1002

Sampling Date: 1-17-25

Sample I.D.: MW-15

Laboratory: PACE

Analyzed for:	TPH-G	BTEX	MTBE	TPH-D
---------------	-------	------	------	-------

Other: See COL

Equipment Blank I.D.:

a

Time

Duplicate I.D.:

Project #: 250117- 4 C1	Client: EPRG
Sampler: LJ	Gauging Date: 1-17-25
Well I.D.: MW-16	Well Diameter (in.): ② 3 4 6 8
Total Well Depth (ft.): 17.54	Depth to Water (ft.): 8.11
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: EVO Grade	Flow Cell Type: Hanna

Pump Depth: 13'

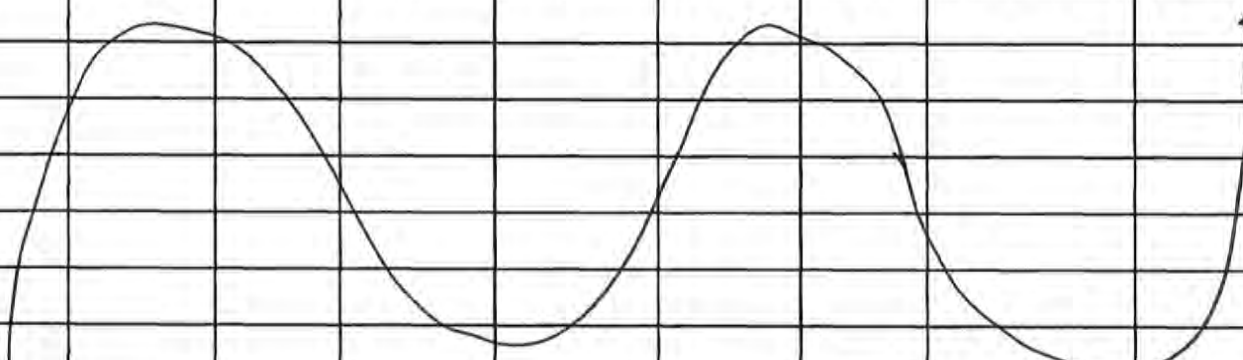
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Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 250117-KC1	Client: ERRC
Sampler: LJ	Gauging Date: 1-17-25
Well I.D.: MW-17	Well Diameter (in.): (2) 3 4 6 8
Total Well Depth (ft.): 19.70	Depth to Water (ft.): 10.77
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: RVE Grade	Flow Cell Type: Hanna

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other
 Start Purge Time: 1019 Flow Rate: 200 mL/min Pump Depth: 15.5

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1022	9.54	6.52	113	17	2.97	85.4	600	11.02
1025	9.86	6.61	112	14	2.93	83.4	1200	11.02
1028	9.97	6.63	113	13	2.92	83.2	1800	11.02
1031	10.10	6.64	113	13	2.90	82.9	2400	11.02
1034	10.21	6.64	111	12	2.89	83.2	3000	11.02
								

PID
0-0
0-0
0-0
0-0
0-0

Did well dewater? Yes <input checked="" type="checkbox"/> No	Amount actually evacuated: 3000 L
Sampling Time: 1035	Sampling Date: 1-17-25
Sample I.D.: MW-17	Laboratory: PACE
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: Se Col
Equipment Blank I.D.: @	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 250117-KC1	Client: ERRL
Sampler: L3	Gauging Date: 1-17-25
Well I.D.: MW-18	Well Diameter (in.): 6 3 4 6 8
Total Well Depth (ft.): 14.90	Depth to Water (ft.): 11.79
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVO Grade	Flow Cell Type: Hanna

Bladder Pump

New Tubing

Other

Pump Depth: 13.5'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)	
1057	10.76	6.58	302	17	2.76	78.1	600	12.42	P10 0.0
1100	10.92	6.67	310	18	2.72	76.8	1200	12.52	0.0
1103	10.91	6.70	314	18	2.69	77.7	1800	12.69	0.0
1106	10.85	6.72	315	17	2.68	78.6	2400	12.78	0.0
1109	10.77	6.72	315	18	2.67	79.0	3000	12.85	0.0

Amount actually evacuated: 3000 mL

Sampling Date: 1-17-25

Laboratory: PACF

Other: See SOC

Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 250117-KC1	Client: ERRC
Sampler: MH	Gauging Date: 01/17/25
Well I.D.: MW-19	Well Diameter (in.): ② 3 4 6 8
Total Well Depth (ft.): 20.10	Depth to Water (ft.): 10.74
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: RVO Grade	Flow Cell Type: HANNA

Bladder Pump

New Tubing

Other

Pump Depth: 15.5'

[illegible]

Duplicate I.D.: 1

Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (408) 573-0555

LOW FLOW WELL MONITORING DATA SHEET

Project #: 250117-KC7	Client: ERRA
Sampler: KC	Gauging Date: 1/17/25
Well I.D.: MW-20	Well Diameter (in.): 2 3 4 6 8
Total Well Depth (ft.): 19.59	Depth to Water (ft.): 10.53
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVO Grade	Flow Cell Type: HAWA

[illegible]

Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (408) 573-0555

LOW FLOW WELL MONITORING DATA SHEET

Project #: 250117-KC1	Client: ERRC
Sampler: KC	Gauging Date: 1 / 17 / 25
Well I.D.: MW-21	Well Diameter (in.): 2 3 4 6 8
Total Well Depth (ft.): 19.02	Depth to Water (ft.): 9.64
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVC Grade	Flow Cell Type: HANNA

Sampling Method: ~~Dedicated Tubing~~

New Tubing

Other

Flow Rate: 200 mL/min

Pump Depth: 15'

[illegible]

No

Amount actually evacuated: 3000 mL

Sampling Date: 1 / 17 / 25

Laboratory: PAGE

Other: See CDC

©

Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 250117-1001	Client: ERG
Sampler: L	Gauging Date: 1-17-25
Well I.D.: RW-1	Well Diameter (in.): 2 3 4 6 8
Total Well Depth (ft.): 19.95	Depth to Water (ft.): 11.14
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: eye Grade	Flow Cell Type: Hanna

Bladder Pump

New Tubing

Other

Flow Rate: 200 mL/min

Pump Depth: 15.5'

[illegible]

Amount actually evacuated: 3000ml

Sampling Date: 1-17-25

Laboratory: PACE

Other: See COC

Duplicate I.D.:

WELLHEAD INSPECTION FORM

Client: EPRG Site: 2350 24th Ave E Seattle WA Date: 1-17-25
 Job #: 250117-KC1 Technician: KC Page 1 of 2

Well ID	Well Inspected - No Corrective Action Required	Check indicates deficiency										Well Not Inspected (explain in notes)	Notes (list if cap or lick replaced, if there are access issues associated with repairs, if traffic control is required, if stand pipe damaged, or any specific details not covered by checklist)	
		Cap non-functional	Lock non-functional	Lock missing	Bolts missing (list qty)	Tabs stripped (list qty)	Tabs broken (list qty)	Annular seal incomplete	Apron damaged	Rim / Lid broken	Trip Hazard			Below Grade
MW-2	✓													
MW-4	✓													
MW-6	✓													
MW-7	✓													
MW-8	✓													
MW-9	✓													
MW-10	✓													
MW-11	✓													
MW-13	✓													
MW-14	~													
MW-15	✓													
MW-16	✓													
MW-17	✓													
MW-18	✓													
MW-19	✓													
MW-20	✓													
MW-21	✓													

NOTES: _____

WELLHEAD INSPECTION FORM

Client: EPRL Site: 2350 24th Ave E Seattle WA Date: 1-17-25
 Job #: 250117-KC1 Technician: ICC Page 2 of 2

Well ID	Well Inspected - No Corrective Action Required	Check indicates deficiency											Well Not Inspected (explain in notes)	Notes (list if cap or lick replaced, if there are access issues associated with repairs, if traffic control is required, if stand pipe damaged, or any specific details not covered by checklist)	
		Cap non-functional	Lock non-functional	Lock missing	Bolts missing (list qty)	Tabs stripped (list qty)	Tabs broken (list qty)	Annular seal incomplete	Apron damaged	Rim / Lid broken	Trip Hazard	Below Grade			Other (explain in notes)
RW-1	✓														
RW-2	✓														
RW-3	✓														
RW-4	✓														
RW-5	✓														
RW-6	✓														
RW-7	✓														
RW-8	✓														
RW-9	✓														
RW-10	✓														

NOTES: _____

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME 2350 24 TH AVE E, SEATTLE				PROJECT NUMBER 25017-KC1			
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
HANNA	07460003101	1-17-25 @ 0645	PH 4 7 10 COND 3900 ORP 257.5 DO 100	3.96 7.08 10.03 3887 240.3 103.7	✓	17.9	LJ
HACH 2100Q	AL94857	1-17-25 @ 0645	100 NTU 0 NTU	98 NTU 0 NTU	✓	—	LJ
MULTI PNE	095-518431	1-17-25 @ 0650	ISOBUTYLENE 100 ppm NO ₂ 20.9	98.6 ppm 20.8	✓	—	LJ
HANNA	074600011001	1-17-25 @ 0640	PH 4 7 10 COND 3900 ORP 257.5 DO 100	3.92 6.94 10.01 3891 238.2 98.0	✓	17.8	MH
HACH 2100Q	AL81239	1-17-25 @ 0640	100 NTU 0 NTU	101 1	✓	—	MH
MULTI PNE	095-521444	1-17-25 @ 0655	ISO 100 ppm O ₂ 20.9	100.1 ppm 20.9	✓	—	MH

PURGE DRUM INVENTORY LOG

CLIENT ERRC

SITE ADDRESS 2350 24th Ave E, Seattle, WA

STATUS OF DRUM(S)

UPON ARRIVAL

Number of drum(s) empty:	0	0					
Number of drum(s) 1/4 full:	0	1					
Number of drum(s) 1/2 full:	0	0					
Number of drum(s) 3/4 full:	0	0					
Number of drum(s) full:	3	0					
Total drum(s) on site:	3	1					

STATUS OF DRUM(S)

UPON DEPARTURE

Number of drum(s) empty:	0	0					
Number of drum(s) 1/4 full:	1	0					
Number of drum(s) 1/2 full:	0	1					
Number of drum(s) 3/4 full:	0	0					
Number of drum(s) full:	3	0					
Total drum(s) on site:	4	1					

LOCATION OF DRUM(S)

Is/Are drum(s) at wellhead(s)?	Yes	Yes					
Describe location if drum(s) is/are located elsewhere:	Drum located next to MW-17 in fenced area						
Label drum(s) properly:	Yes	Yes					

FINAL STATUS

Number of new drum(s) left on site this event:	1	0					
Date of inspection:	10/11/24	1/17/25					
Logged by BTS Field Technician:	AK	KC					
Office reviewed by:							

WELL GAUGING DATA

1/2

Project # 250221-MH1

Date 2-21-25

Client ERRG

Site 2350 24th Ave E Seattle WA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Water/SPH Meter	PID (PPM)
MW-2	0816	2	-	-	-	-	9.49	16.38		0.0
MW-4		UNABLE TO ACCESS								
MW-6	0947	2	-	-	-	-	11.70	20.30		0.0
MW-7	0814	2	-	-	-	-	7.27	20.26		0.0
MW-8	0944	2	-	-	-	-	9.53	19.37		0.0
MW-9	0940	2	-	-	-	-	10.12	20.24		0.0
MW-10	0817	2	OBSTRUCTED @			9.87				0.0
MW-11	0820	2	-	-	-	-	2.85	19.81		0.0
MW-13	0825	2	-	-	-	-	11.26	18.71		0.0
MW-14	0827	2	-	-	-	-	7.51	19.03		0.0
MW-15	0824	2	-	-	-	-	4.52	17.11		0.0
MW-16	0943	2	-	-	-	-	8.37	17.40		0.0
MW-17	0832	2	-	-	-	-	12.23	19.81		0.0
MW-18	0812	2	-	-	-	-	12.71	15.93		0.0
MW-19	0829	2	-	-	-	-	13.35	20.60		0.0

Instruments Used: Durham Geoslope Water Level Indicator* GeoTech Oil/Water Interface Probe** Other: _____

Survey Point - Top of casing at all wells

WELL GAUGING DATA

Project # 250221-MH1 Date 2-21-25 Client Ekrr (s)Site 2350 24th Ave E Seattle WA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Water/SPD Meter	PID (PPM)
MW-20	0823	4	-	-	-	-	13.29	19.51		0.1
MW-21	0907	4	-	-	-	-	13.39	19.02		0.0
RW-1	0816	4	-	-	-	-	12.70	20.18		0.0
RW-2	0828	4	-	-	-	-	11.40	19.29		0.0
RW-3	0832	4	-	-	-	-	11.65	19.84		0.2
RW-4	0835	4	-	-	-	-	12.65	19.81		0.0
RW-5	0839	4	-	-	-	-	12.76	19.57		0.0
RW-6	0821	4	-	-	-	-	9.30	19.52		0.0
RW-7	0826	4	-	-	-	-	12.39	18.70		0.0
RW-8	0903	4	-	-	-	-	12.04	20.15		0.0
RW-9	0820	4	-	-	-	-	14.17	20.94		0.0
RW-10	0854	4	-	-	-	-	12.78	30.11	↓	0.0

Instruments Used: Durham Geoslope Water Level Indicator* GeoTech Oil/Water Interface Probe** Other: _____

Survey Point - Top of casing at all wells

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>250221-KC1</u>	Client: <u>ERPG</u>
Sampler: <u>KC</u>	Gauging Date: <u>2/21/25</u>
Well I.D.: <u>MW-6</u>	Well Diameter (in.): <u>2</u> 3 4 6 8
Total Well Depth (ft.): <u>20.30</u>	Depth to Water (ft.): <u>11.70</u>
Depth to Free Product: <u> </u>	Thickness of Free Product (feet): <u> </u>
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>HANNA</u>

Purge Method: 2" Grundfos Pump ~~Peristaltic Pump~~ Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other
 Start Purge Time: 1021 Flow Rate: 200 mL/min Pump Depth: 10'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or ml)	Depth to Water (ft.)
1024	12.29	6.33	516	309	1.61	28.4	600	11.91
1027	12.41	6.40	545	180	1.48	21.7	1200	12.01
1030	12.36	6.48	550	93	1.49	21.2	1800	12.05
1033	12.38	6.48	550	86	1.49	21.1	2400	12.08
1036	12.32	6.49	551	91	1.49	20.8	3000	12.10

Did well dewater? Yes <u>No</u>	Amount actually evacuated: <u>~3000 mL</u>
Sampling Time: <u>1039</u>	Sampling Date: <u>2/21/25</u>
Sample I.D.: <u>MW-6</u>	Laboratory: <u>PACE</u>
Analyzed for: <u>TPH-G BTEX MTBE TPH-D</u>	Other: <u>see CDC</u>
Equipment Blank I.D.: <u>@</u> Time	Duplicate I.D.: <u> </u>

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>250221-MH2</u>	Client: <u>ERRG</u>
Sampler: <u>KC</u>	Gauging Date: <u>2/21/25</u>
Well I.D.: <u>MW-8</u>	Well Diameter (in.): <u>2</u> 3 4 6 8
Total Well Depth (ft.): <u>19.37</u>	Depth to Water (ft.): <u>9.53</u>
Depth to Free Product: <u> </u>	Thickness of Free Product (feet): <u> </u>
Referenced to: <u>ve</u> Grade	Flow Cell Type: <u>HANNA</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 0951 Flow Rate: 200 ml/min Pump Depth: 15'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or ml)	Depth to Water (ft.)
0954	12.40	6.68	350	74	0.29	6.2	600	9.98
0957	12.24	6.68	349	47	0.25	3.3	1200	10.04
1000	12.24	6.64	349	42	0.27	4.1	1800	10.06
1003	12.34	6.66	348	43	0.27	3.0	2400	10.11
1006	12.43	6.65	347	40	0.27	3.0	3000	10.11

Did well dewater? Yes <u>No</u>	Amount actually evacuated: <u>3000ml</u>
Sampling Time: <u>1009</u>	Sampling Date: <u>2/21/25</u>
Sample I.D.: <u>MW-8</u>	Laboratory: <u>DALE</u>
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: <u>see COC</u>
Equipment Blank I.D.: <u>@</u> Time	Duplicate I.D.: <u>DUP-1</u>

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>250221-MH2</u>	Client: <u>ERRG</u>
Sampler: <u>KC</u>	Gauging Date: <u>2/21/25</u>
Well I.D.: <u>MW-a</u>	Well Diameter (in.): <u>2</u> 3 4 6 8
Total Well Depth (ft.): <u>20.24</u>	Depth to Water (ft.): <u>10.12</u>
Depth to Free Product: <u>—</u>	Thickness of Free Product (feet): <u>—</u>
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>HANNA</u>

Purge Method: 2" Grundfos Pump ~~Peristaltic Pump~~ Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 0923 Flow Rate: 200 mL/min Pump Depth: 16'

Time	Temp. (<u>C</u> or °F)	pH	Cond. (mS/cm or <u>µS/cm</u>)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or <u>ml</u>)	Depth to Water (ft.)
0926	12.77	6.85	517	36	0.41	11.6	600	10.31
0929	12.88	6.89	512	36	0.33	4.3	1200	10.35
0932	12.95	6.92	509	32	0.29	-2.2	1800	10.39
0935	13.09	6.93	507	33	0.29	-6.0	2400	10.42
0938	13.12	6.93	505	33	0.30	-8.4	3000	10.45

Did well dewater? Yes <u>No</u>	Amount actually evacuated: <u>3000 mL</u>
Sampling Time: <u>0941</u>	Sampling Date: <u>2/21/25</u>
Sample I.D.: <u>MW-a</u>	Laboratory: <u>PACE</u>
Analyzed for: TPH-G BTEX MTBE TPH-D Other: <u>SEC COC</u>	
Equipment Blank I.D.: <u>@</u> Time	Duplicate I.D.: <u>—</u>

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>250221-MH1</u>	Client: <u>EEL ERG</u>
Sampler: <u>KL</u>	Gauging Date: <u>2/21/25</u>
Well I.D.: <u>MW-13</u>	Well Diameter (in.): 2 3 4 6 8 <u> </u>
Total Well Depth (ft.): <u>18.68</u>	Depth to Water (ft.): <u>11.26</u>
Depth to Free Product: <u> </u>	Thickness of Free Product (feet): <u> </u>
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>HANNA</u>

Purge Method: 2" Grundfos Pump ~~Peristaltic Pump~~ Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other
 Start Purge Time: 0855 Flow Rate: 200 mL/min Pump Depth: 15.5

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or ml)	Depth to Water (ft.)	<u>f.d</u>
0858	11.59	6.31	751	31	0.55	50.1	600	11.51	0.0
0901	11.89	6.34	760	28	0.42	48.3	1200	11.74	0.0
0904	12.10	6.41	765	26	0.30	41.7	1800	11.93	0.0
0907	12.13	6.42	767	25	0.29	39.2	2400	12.04	0.0
0910	12.18	6.44	768	25	0.28	36.4	3000	12.13	0.0

Did well dewater? Yes <input checked="" type="checkbox"/>	Amount actually evacuated: <u>3000 mL</u>
Sampling Time: <u>0913</u>	Sampling Date: <u>2/21/25</u>
Sample I.D.: <u>MW-13</u>	Laboratory: <u>PACE</u>
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: <u>see COC</u>
Equipment Blank I.D.: <u>@</u>	Duplicate I.D.: <u> </u>

LOW FLOW WELL MONITORING DATA SHEET

Project #: 250221-MH1	Client: ERRL
Sampler: LJ	Gauging Date: 2-24-25
Well I.D.: MW-15	Well Diameter (in.): 2 3 4 6 8
Total Well Depth (ft.): 17.11	Depth to Water (ft.): 4.52
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVE) Grade	Flow Cell Type: Hanna

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
Sampling Method: Dedicated Tubing New Tubing Other _____
Start Purge Time: 1038 Flow Rate: 200 mL/min Pump Depth: 11'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1041	10.03	6.85	101	27	3.33	101.4	600	5.10
1044	10.17	6.65	98	26	3.27	100.7	1200	5.28
1047	10.15	6.55	96	26	3.24	99.9	1600	5.45
1050	10.16	6.52	96	26	3.23	100.3	2400	5.62
1053	10.19	6.47	95	27	3.21	101.2	3000	5.79

Did well dewater? Yes <input checked="" type="radio"/> No <input type="radio"/>	Amount actually evacuated: 3000ML
Sampling Time: 1055	Sampling Date: 2-21-25
Sample I.D.: MW-15	Laboratory: PACE
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: See col
Equipment Blank I.D.: @ Time	Duplicate I.D.:

Project #: 250221-MM1	Client: ERRC
Sampler: L3	Gauging Date: 2-21-25
Well I.D.: MW-17	Well Diameter (in.): (2) 3 4 6 8 ____
Total Well Depth (ft.): 19.81	Depth to Water (ft.): 12.23
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVC Grade	Flow Cell Type: Hannan

Bladder Pump

New Tubing

Other

Flow Rate: 700 mL/min

Pump Depth: 16'

P113
0.0
0.0
0.0
0.0
0.0

Amount actually evacuated: 3000 mL

Sampling Date: 2-21-25

Laboratory: PACE

Other: See WOC

Duplicate I.D.:

Project #: 250221-MH1	Client: ERRC
Sampler: LJ	Gauging Date: 2-21-25
Well I.D.: MW-12	Well Diameter (in.): 2 3 4 6 8
Total Well Depth (ft.): 15.93	Depth to Water (ft.): 12.71
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVC Grade	Flow Cell Type: Hanny

Bladder Pump

New Tubing

Other_

Pump Depth: 14.51

Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>250221-MH1</u>	Client: <u>ERG</u>
Sampler: <u>KC</u>	Gauging Date: <u>2 / 21 / 25</u>
Well I.D.: <u>MW-20</u>	Well Diameter (in.): 2 3 <u>4</u> 6 8
Total Well Depth (ft.): <u>19.51</u>	Depth to Water (ft.): <u>13.29</u>
Depth to Free Product: <u>—</u>	Thickness of Free Product (feet): <u>—</u>
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>HANN A</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1129 Flow Rate: 200 ml / min Pump Depth: 17'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or <u>µS/cm</u>)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or <u>ml</u>)	Depth to Water (ft.)
1132	12.36	6.00	751	128	0.69	50.3	600	13.25
1135	12.43	6.12	779	88	0.47	43.2	1200	13.28
1138	12.58	6.26	793	67	0.36	35.5	1800	13.30
1141	12.78	6.30	789	63	0.34	29.4	2400	13.32
1144	12.83	6.35	788	61	0.35	26.3	3000	13.35

Did well dewater? Yes <u>No</u>	Amount actually evacuated: <u>3000 ml</u>
Sampling Time: <u>1147</u>	Sampling Date: <u>2 / 21 / 25</u>
Sample I.D.: <u>MW-20</u>	Laboratory: <u>PALE</u>
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: <u>see COC</u>
Equipment Blank I.D.: <u>@</u> Time	Duplicate I.D.: <u>—</u>

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>250221-MH1</u>	Client: <u>ERRG</u>
Sampler: <u>KC</u>	Gauging Date: <u>2/21/25</u>
Well I.D.: <u>MW-21</u>	Well Diameter (in.): <u>FLY</u> 3 <u>4</u> 6 8
Total Well Depth (ft.): <u>19.02</u>	Depth to Water (ft.): <u>13.39</u>
Depth to Free Product: <u>—</u>	Thickness of Free Product (feet): <u>—</u>
Referenced to: <u>PVO</u> Grade	Flow Cell Type: <u>HANNA</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1054 Flow Rate: 200 mL/min Pump Depth: 16.5

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or ml)	Depth to Water (ft.)
1057	13.56	6.19	616	94	0.46	45.8	600	13.68
1100	13.80	6.25	621	66	0.29	40.9	1200	13.75
1103	13.87	6.37	621	55	0.28	37.9	1800	13.79
1106	13.74	6.47	621	48	0.29	35.8	2400	13.85
1109	13.73	6.50	622	51	0.30	32.9	3000	13.92
1112	13.71	6.50	622	50	0.30	31.4	3600	13.96

Did well dewater? Yes <u>NO</u>	Amount actually evacuated: <u>3600 ml</u>
Sampling Time: <u>1115</u>	Sampling Date: <u>2/21/25</u>
Sample I.D.: <u>MW-21</u>	Laboratory: <u>PAGE</u>
Analyzed for: TPH-G BTEX MTBE TPH-D Other: <u>see COC</u>	
Equipment Blank I.D.: <u>@</u> Time	Duplicate I.D.: <u>—</u>

Project #: 250221-MH1	Client: EPRG
Sampler: LJ	Gauging Date: 2-21-25
Well I.D.: PW-1	Well Diameter (in.): 2 3 4 6 8
Total Well Depth (ft.): 20.18	Depth to Water (ft.): 12.70
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVC Grade	Flow Cell Type: Hanging

Pump Depth: 16.5'

Did well dewater? Yes <input checked="" type="radio"/> No <input type="radio"/>	Amount actually evacuated: 3000 mL
Sampling Time: 0912	Sampling Date: 2-21-25
Sample I.D.: RW-1	Laboratory: PACE
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: See COC
Equipment Blank I.D.: @ Time	Duplicate I.D.:

WELLHEAD INSPECTION FORM

Client: ERRG Site: 2350 24th Ave E San HIR WA Date: 2-21-25
 Job #: 250221-MH1 Technician: MH, CJ, KC Page 1 of 2

Well ID	Well Inspected - No Corrective Action Required	Check indicates deficiency											Well Not Inspected (explain in notes)	Notes (list if cap or lick replaced, if there are access issues associated with repairs, if traffic control is required, if stand pipe damaged, or any specific details not covered by checklist)	
		Cap non-functional	Lock non-functional	Lock missing	Bolts missing (list qty)	Tabs stripped (list qty)	Tabs broken (list qty)	Annular seal incomplete	Apron damaged	Rim / Lid broken	Trip Hazard	Below Grade			Other (explain in notes)
MW-2	X														
MW-4	X														UNABLE TO GAUGE B/C NO OPENING FOR PROBE
MW-6	X														
MW-7	X														
MW-8	X														
MW-9	X														
MW-10	X														WELL IS OBSTRUCTED
MW-11	X														
MW-13	X														
MW-14	X														
MW-15	X														
MW-16	X														
MW-17	X														
MW-18	X														
MW-19	X														
MW-20	X														
MW-21	X														

NOTES: _____

WELLHEAD INSPECTION FORM

Client: EPRC Site: 2350 24th Ave E Seattle WA Date: 2-21-25
 Job #: 250221-MHI Technician: MH, KC, CJ Page 2 of 2

Well ID	Well Inspected - No Corrective Action Required	Check indicates deficiency										Well Not Inspected (explain in notes)	Notes (list if cap or lick replaced, if there are access issues associated with repairs, if traffic control is required, if stand pipe damaged, or any specific details not covered by checklist)	
		Cap non-functional	Lock non-functional	Lock missing	Bolts missing (list qty)	Tabs stripped (list qty)	Tabs broken (list qty)	Annular seal incomplete	Apron damaged	Rim / Lid broken	Trip Hazard			Below Grade
RW-1	X													
RW-2	X													
RW-3	X													
RW-4	X													
RW-5	X													
RW-6	X													
RW-7	X													
RW-8	X													
RW-9	X													
RW-10	X													

NOTES: _____

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME 2350 24TH AVE E, SEATTLE			PROJECT NUMBER 250221-141				
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
HANNA	0746003101	2-21-25 @ 0645	PH 4 7 10	3.96 7.03 10.02	✓	18.9	LJ
			COND 3900 ORP 2375 DO 100	5912 239.4 98.6	✓	18.9	LJ
HACH 7100 Q	A194857	2-21-25 @ 0645	100 NTU 0 NTU	99 NTU 0 NTU	✓	—	LJ
MULTI RAE	095-518431	2-21-25 @ 0650	ISO 100 PPM 100 20.9	101 PPM 20.9	✓	—	LJ
HANNA	0746001109	2/21/25 @ 0648	PH 4.0 7.0 10.0	3.92 7.04 9.98	✓	18.9	KC
HACH 7100 Q	A194857	2/21/25 @ 0650	COND 3900 ORP 2375 DO 100	3891 226.2 91	✓	18.9	KC
HACH 7100 Q	A281235	2/21/25 @ 0650	100 NTU 0 NTU	100 0	✓	—	KC
MULTI RAE	095-521444	2/21/25 @ 0650	ISO 100 PPM 02 20.9	99.8 PPM 20.9	✓	—	KC

PURGE DRUM INVENTORY LOG

CLIENT ERRC

SITE ADDRESS 2350 24th Ave E, Seattle, WA

STATUS OF DRUM(S) UPON ARRIVAL

Number of drum(s) empty:	0	0	0				
Number of drum(s) 1/4 full:	0	1	0				
Number of drum(s) 1/2 full:	0	0	1				
Number of drum(s) 3/4 full:	0	0	0				
Number of drum(s) full:	3	0	0				
Total drum(s) on site:	3	1	1				

STATUS OF DRUM(S) UPON DEPARTURE

Number of drum(s) empty:	0	0	0				
Number of drum(s) 1/4 full:	1	0	0				
Number of drum(s) 1/2 full:	0	1	1				
Number of drum(s) 3/4 full:	0	0	0				
Number of drum(s) full:	3	0	0				
Total drum(s) on site:	4	1	1				

LOCATION OF DRUM(S)

Is/Are drum(s) at wellhead(s)?	Yes	Yes	Yes				
Describe location if drum(s) is/are located elsewhere:	Drum located next to MW-17 in fenced area						
Label drum(s) properly:	Yes	Yes	Yes				

FINAL STATUS

Number of new drum(s) left on site this event:	1	0	0				
Date of inspection:	10/11/24	1/17/25	02/21/25				
Logged by BTS Field Technician:	AK	KC	ML				
Office reviewed by:							

WELL GAUGING DATA

Project # 250328-KCI Date 3/28/25 Client ERRG

Site 2350 24th Ave E, Seattle, WA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
MW-2	0825	2	—	—	—	—	9.08	16.40		
MW-4	0818	2	—	—	—	—	31.10	88.23		INCORRECT WELL MEASURED AS MW-4
MW-6	1017	2	odor	—	—	—	11.50	20.30		
MW-7	1040	2	—	—	—	—	11.24	20.32		
MW-8	0952	2	—	—	—	—	9.11	19.33		
MW-9	0923	2	—	—	—	—	10.06	20.20		
MW-10	1042	—	obstructed @				9.22 ft	—		
MW-11	0821	2	—	—	—	—	1.54	19.87		
MW-13	0833	2	—	—	—	—	11.96	18.73		
MW-14	0817	2	—	—	—	—	6.83	18.76		
MW-15	0819	2	—	—	—	—	2.53	17.06		
MW-16	0948	2	—	—	—	—	5.97	17.44		
MW-17	0815	2	—	—	—	—	12.22	19.75		
MW-18	0810	2	—	—	—	—	12.98	14.95		
MW-19	0815	2	—	—	—	—	13.23	14.85		
MW-20	0823	4	—	—	—	—	13.90	19.39		
MW-21	0828	4	—	—	—	—	14.17	18.82	✓	

WELL GAUGING DATA

Project # 250328-KCI Date 3/28/25 Client ERRG

Site 2350 24th Ave E, Seattle, WA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
RW-1	0813	4	—	—	—	—	13.19	20.02		
RW-2	0830	4	—	—	—	—	11.92	19.30		
RW-3	0833	4	—	—	—	—	12.10	19.77		
RW-4	0830	4	—	—	—	—	12.20	19.78		
RW-5	0825	4	—	—	—	—	13.81	19.41		
RW-6	0822	4	—	—	—	—	10.06	19.57		
RW-7	0812	4	—	—	—	—	12.97	18.70		
RW-8	0832	4	—	—	—	—	13.21	20.00		
RW-9	⁰⁸²¹ 0834	4	—	—	—	—	13.81	20.15		
RW-10	0817	4	—	—	—	—	13.08	30.27	↓	

LOW FLOW WELL MONITORING DATA SHEET

Project #: 250328-K01	Client: ERG
Sampler: <u>KL</u>	Gauging Date: 3/28/25
Well I.D.: MW-6	Well Diameter (in.): <u>2</u> 3 4 6 8
Total Well Depth (ft.): 20.30	Depth to Water (ft.): 11.50
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>HANNA</u>

Purge Method: 2" Grundfos Pump ~~Peristaltic Pump~~ Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1020 Flow Rate: 200 mL/min Pump Depth: 16'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1023	12.00	5.93	611	65	0.70	-7.8	600	11.69
1026	12.13	6.11	620	58	0.68	-15.3	1200	11.77
1029	12.13	6.21	626	61	0.70	-17.7	1800	11.90
1032	12.14	6.23	625	58	0.72	-17.0	2400	12.00
1035	12.10	6.20	628	57	0.71	-19.2	3000	12.11

Did well dewater? Yes <u>NO</u>	Amount actually evacuated: 3000 mL
Sampling Time: 1038	Sampling Date: 3/28/25
Sample I.D.: MW-6	Laboratory: <u>PACE</u>
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: <u>SEC COC</u>
Equipment Blank I.D.: @	Duplicate I.D.: <u>Dup-1</u>

LOW FLOW WELL MONITORING DATA SHEET

Project #: 250328-Kel	Client: ERKG
Sampler: KC	Gauging Date: 3/28/25
Well I.D.: MN-8	Well Diameter (in.): ② 3 4 6 8
Total Well Depth (ft.): 14.33	Depth to Water (ft.): 9.11
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVC Grade	Flow Cell Type: HANNA

Purge Method: 2" Grundfos Pump

Peristaltic Pump

Bladder Pump

Sampling Method: Dedicated Tubing

New Tubing

Other

Start Purge Time: 0954

Flow Rate: 200 mL / min

Pump Depth: 15'

[illegible]

Did well dewater? Yes ☒ No

Amount actually evacuated: 3000 mL

Sampling Time: 1012

Sampling Date: 3/28/25

Sample I.D.: MW-8

Laboratory: *PALF*

Analyzed for:	TPH-G	BTEX	MTBE	TPH-D
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Other: *sec COX*

Equipment Blank I.D.: _____ @ _____ Time

Duplicate I.D.: _____

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>250328-KC1</u>	Client: <u>ERFG</u>
Sampler: <u>KC</u>	Gauging Date: <u>3/28/25</u>
Well I.D.: <u>MW-9</u>	Well Diameter (in.): <u>(2)</u> 3 4 6 8
Total Well Depth (ft.): <u>20.20</u>	Depth to Water (ft.): <u>10.00</u>
Depth to Free Product: <u> </u>	Thickness of Free Product (feet): <u> </u>
Referenced to: <u>PVE</u> Grade	Flow Cell Type: <u>HANNA</u>

Purge Method: 2" Grundfos Pump ~~Peristaltic Pump~~ Bladder Pump
 Sampling Method: ~~Dedicated Tubing~~ New Tubing Other _____
 Start Purge Time: 0920 Flow Rate: 200 mL/min Pump Depth: 15'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0929	11.99	7.15	588	4	0.60	-65.5	600	10.22
0932	11.94	7.40	570	3	0.36	-70.1	1200	10.28
0935	11.88	7.35	546	3	0.24	-68.7	1400	10.31
0938	11.89	7.29	539	3	0.23	-62.3	2400	10.34
0941	11.90	7.26	542	3	0.23	-61.4	3000	10.38

Did well dewater? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Amount actually evacuated: <u>3000 mL</u>
Sampling Time: <u>0944</u>	Sampling Date: <u>3/28/25</u>
Sample I.D.: <u>MW-9</u>	Laboratory: <u>PACE</u>
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: <u>See CCL</u>
Equipment Blank I.D.: <u>@</u> Time	Duplicate I.D.: <u> </u>

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>250328-KC1</u>	Client: <u>ERRG</u>
Sampler: <u>KA</u>	Gauging Date: <u>3/28/25</u>
Well I.D.: <u>MW-13</u>	Well Diameter (in.): <u>0</u> 3 4 6 8
Total Well Depth (ft.): <u>18.72</u>	Depth to Water (ft.): <u>12.05</u>
Depth to Free Product: <u> </u>	Thickness of Free Product (feet): <u> </u>
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>HANNA</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1053 Flow Rate: 200 ml/min Pump Depth: 15.5'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or <u>µS/cm</u>)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or <u>ml</u>)	Depth to Water (ft.)
1056	12.58	5.79	770	53	0.60	28.0	600	12.11
1059	12.39	5.66	790	64	0.39	23.8	1200	12.20
1102	12.26	5.83	796	63	0.38	18.3	1800	12.31
1105	12.43	5.79	797	63	0.33	11.5	2400	12.43
1108	12.39	5.75	800	60	0.33	10.5	3000	12.49

Did well dewater? Yes <u>No</u>	Amount actually evacuated: <u>3000ml</u>
Sampling Time: <u>3/2</u> <u>1111</u>	Sampling Date: <u>3/28/25</u>
Sample I.D.: <u>MW-13</u>	Laboratory: <u>PALC</u>
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: <u>see COC</u>
Equipment Blank I.D.: <u>@</u> Time	Duplicate I.D.: <u> </u>

Project #: 250328-KC1	Client: EPR6
Sampler: LJ	Gauging Date: 3-28-25
Well I.D.: MW-14	Well Diameter (in.): 2 3 4 6 8
Total Well Depth (ft.): 18.76	Depth to Water (ft.): 6.83
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVC Grade	Flow Cell Type: Hanna

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
Sampling Method: Dedicated Tubing New Tubing Other _____
Start Purge Time: 1040 Flow Rate: 200 ml/min Pump Depth: 13'

[illegible]

Did well dewater? Yes <input checked="" type="radio"/> No <input type="radio"/>	Amount actually evacuated: 3000mL
Sampling Time: 1056	Sampling Date: 3-28-25
Sample I.D.: MW-14	Laboratory: PACB
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: See COC
Equipment Blank I.D.: @ Time	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 250328-KC1	Client: EPRG
Sampler: LJ	Gauging Date: 3-28-25
Well I.D.: MW-15	Well Diameter (in.): (2) 3 4 6 8
Total Well Depth (ft.): 17.06	Depth to Water (ft.): 2.53
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVE) Grade	Flow Cell Type: Hanging

Purge Method: 2" Grundfos Pump

Peristaltic Pump

Bladder Pump

Sampling Method: Dedicated Tubing

New Tubing

Other

Start Purge Time: 1012

Flow Rate: 200 ml/min

Pump Depth: 10'

[illegible]

Did well dewater? Yes ☒ No ☐

Amount actually evacuated: 3600 mL

Sampling Time: 1031

Sampling Date: 3-23-25

Sample I.D.: MW-15

Laboratory: PACE

Analyzed for:	TPH-G	BTEX	MTBE	TPH-D
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Other: See CR

Equipment Blank I.D.: _____ @ _____ Time

Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 250328-KC1	Client: ER&B
Sampler: LJ	Gauging Date: 3-28-25
Well I.D.: MW-16	Well Diameter (in.): 8 3 4 6 8
Total Well Depth (ft.): 17.44	Depth to Water (ft.): 5.97
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVC) Grade	Flow Cell Type: Hanna

Purge Method: 2" Grundfos Pump

Peristaltic Pump

Bladder Pump

Sampling Method: Dedicated Tubing

New Tubing

Other

Start Purge Time: 0950

Flow Rate: 200 mL/min

Pump Depth: 12.5

[illegible]

Did well dewater? Yes ☒ No ☐

Amount actually evacuated: 3000mL

Sampling Time: 1006

Sampling Date: 3-28-25

Sample I.D.: MW-16

Laboratory: PACE

Analyzed for:	TPH-G	BTEX	MTBE	TPH-D
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Other: Sep 2006

Equipment Blank I.D.: _____ @ _____ Time

Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 250328-KC2	Client: ERCA
Sampler: KL	Gauging Date: 3/28
Well I.D.: MW-17	Well Diameter (in.): 2 3 4 6 8
Total Well Depth (ft.): 19.75	Depth to Water (ft.): 12.22
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVE Grade	Flow Cell Type: HANNA

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other
 Start Purge Time: 1148 Flow Rate: 200 mL/min Pump Depth: 16.5'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1151	12.07	6.16	194	20	2.34	-32.2	600	12.45
1154	12.21	5.84	185	20	2.27	-28.4	1200	12.51
1157	12.37	5.79	178	27	2.24	-31.9	1800	12.51
1200	12.54	5.82	177	29	2.23	-34.6	2400	12.51
1203	12.53	5.76	177	28	2.24	-36.1	3000	12.51

Did well dewater? Yes <input checked="" type="checkbox"/> No	Amount actually evacuated: 3000 mL
Sampling Time: 1206	Sampling Date: 3/28/25
Sample I.D.: MW-17	Laboratory: PALE
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: see COU
Equipment Blank I.D.: @ Time	Duplicate I.D.: —

LOW FLOW WELL MONITORING DATA SHEET

Project #: 250328-KC1	Client: ERKG
Sampler: LJ	Gauging Date: 3-28-25
Well I.D.: MW-18	Well Diameter (in.): (2) 3 4 6 8
Total Well Depth (ft.): 12.98	Depth to Water (ft.): 14.93
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVC) Grade	Flow Cell Type: Hann

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
Sampling Method: Dedicated Tubing New Tubing Other _____
Start Purge Time: 0850 Flow Rate: 200 mL/min Pump Depth: 14'

[illegible]

Did well dewater? Yes <input checked="" type="radio"/> No <input type="radio"/>	Amount actually evacuated: 3000 mL
Sampling Time: 0907	Sampling Date: 3-28-25
Sample I.D.: MW-19	Laboratory: PACE
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: See Col
Equipment Blank I.D.: @ Time	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 250328- 1 KCI	Client: EPRG
Sampler: LJ	Gauging Date: 3-28-25
Well I.D.: NW-19	Well Diameter (in.): 2 3 4 6 8
Total Well Depth (ft.): 19.85	Depth to Water (ft.): 13.23
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVC Grade	Flow Cell Type: Hana

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
Sampling Method: Dedicated Tubing New Tubing Other
Start Purge Time: 1118 Flow Rate: 2000 GPM Pump Depth: 16-5'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or $\mu\text{S/cm}$)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1121	13.76	7.51	167	49	2.15	88.8	600	13.32
1124	13.70	7.73	159	31	2.71	84.0	1200	13.32
1127	13.84	7.78	155	21	2.68	81.9	1800	13.32
1130	13.91	7.81	154	22	2.66	79.5	2400	13.32
1133	13.95	7.87	155	21	2.65	78.5	3000	13.22

Did well dewater? Yes ☒ No ☐ Amount actually evacuated: 3000ml

Sampling Time: 1134 Sampling Date: 3-28-25

Sample I.D.: MW-19 Laboratory: PACE

Analyzed for:	TPH-G	BTEX	MTBE	TPH-D	Other:	See Col
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Equipment Blank I.D.: _____ @ _____ Time Duplicate I.D.: _____

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>2803 250328-KC1</u>	Client: <u>ERRG</u>
Sampler: <u>KC</u>	Gauging Date: <u>3/28/25</u>
Well I.D.: <u>MW-21</u>	Well Diameter (in.): <u>3</u> <u>4</u> 6 8
Total Well Depth (ft.): <u>18.82</u>	Depth to Water (ft.): <u>14.17</u>
Depth to Free Product: <u>—</u>	Thickness of Free Product (feet): <u>—</u>
Referenced to: <u>VE</u> Grade	Flow Cell Type: <u>HANNA</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1121 Flow Rate: 200 ml/min Pump Depth: 16.5'

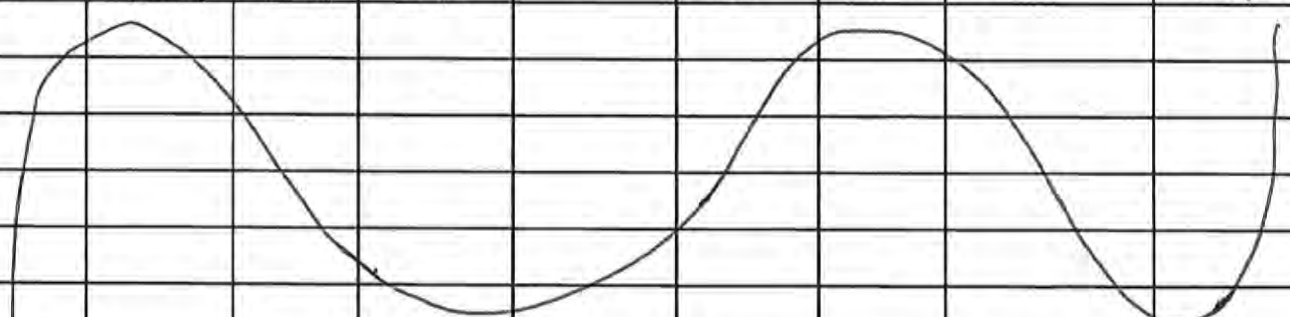
Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or ml)	Depth to Water (ft.)
1124	13.09	5.63	737	36	0.51	-7.5	600	14.63
1127	12.98	5.56	745	19	0.36	-14.5	1200	14.70
1130	12.94	5.57	745	14	0.33	-16.4	1800	14.72
1133	13.07	5.57	744	13	0.32	-18.3	2400	14.77
1136	13.11	5.57	744	14	0.33	-20.1	3000	14.82

Did well dewater? Yes <u>No</u>	Amount actually evacuated: <u>3000ml</u>
Sampling Time: <u>1139</u>	Sampling Date: <u>3/28/25</u>
Sample I.D.: <u>MW-21</u>	Laboratory: <u>PACE</u>
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: <u>See CEX</u>
Equipment Blank I.D.: <u>@</u> Time	Duplicate I.D.: <u>—</u>

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>250328-KU</u>	Client: <u>ERRG</u>
Sampler: <u>LJ</u>	Gauging Date: <u>3-28-25</u>
Well I.D.: <u>RW-1</u>	Well Diameter (in.): 2 3 <u>(4)</u> 6 8
Total Well Depth (ft.): <u>20.02</u>	Depth to Water (ft.): <u>13.19</u>
Depth to Free Product: <u>—</u>	Thickness of Free Product (feet): <u>—</u>
Referenced to: <u>RVD</u> Grade	Flow Cell Type: <u>Manne</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated () Tubing New Tubing Other _____
 Start Purge Time: 0914 Flow Rate: 200mL/min Pump Depth: 16.5'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)	PID
0917	11.86	8.18	343	42	2.96	105.9	600	13.28	0.0
0920	11.89	8.14	343	37	2.94	106.4	1200	13.32	0.0
0923	12.01	8.09	343	24	2.91	106.6	1800	13.35	0.0
0926	12.11	8.02	344	21	2.91	106.7	2400	13.37	0.0
0929	12.05	7.99	344	20	2.91	106.9	3000	13.40	0.0
0932	12.16	7.95	343	20	2.89	107.1	3600	13.42	0.0
									

Did well dewater? Yes <u>()</u> No <u>(X)</u>	Amount actually evacuated: <u>3600 mL</u>
Sampling Time: <u>0933</u>	Sampling Date: <u>3-28-25</u>
Sample I.D.: <u>RW-1</u>	Laboratory: <u>PAGE</u>
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: <u>Seeco</u>
Equipment Blank I.D.: <u>@</u> Time	Duplicate I.D.:

WELLHEAD INSPECTION FORM

Client: ELR267 Site: 2350328-KC1 Date: 3/28/25
 Job #: 250328-KC1 Technician: KC, LT, DO Page 1 of 2

Well ID	Well Inspected - No Corrective Action Required	Check indicates deficiency											Well Not Inspected (explain in notes)	Notes (list if cap or lick replaced, if there are access issues associated with repairs, if traffic control is required, if stand pipe damaged, or any specific details not covered by checklist)	
		Cap non-functional	Lock non-functional	Lock missing	Bolts missing (list qty)	Tabs stripped (list qty)	Tabs broken (list qty)	Annular seal incomplete	Apron damaged	Rim / Lid broken	Trip Hazard	Below Grade			Other (explain in notes)
MW-2	✓														
MW-4	✓														
MW-6	✓														
MW-7	✓														
MW-8	✓														
MW-9	✓														
MW-10	✓														
MW-11	✓														
MW-13	✓														
MW-14	✓														
MW-15	✓														
MW-16	✓														
MW-17	✓														
MW-18	✓														
MW-19	✓														
MW-20	✓														
MW-21	✓														

NOTES: _____

WELLHEAD INSPECTION FORM

Client: ERRL Site: 2350 24th Ave E, Seattle Date: 3/28/25
 Job #: 250328-KC1 Technician: KC, LJ, DO Page 2 of 2

Well ID	Well Inspected - No Corrective Action Required	Check indicates deficiency										Well Not Inspected (explain in notes)	Notes (list if cap or lick replaced, if there are access issues associated with repairs, if traffic control is required, if stand pipe damaged, or any specific details not covered by checklist)	
		Cap non-functional	Lock non-functional	Lock missing	Bolts missing (list qty)	Tabs stripped (list qty)	Tabs broken (list qty)	Annular seal incomplete	Apron damaged	Rim / Lid broken	Trip Hazard			Below Grade
RW-1	✓													
RW-2	✓													
RW-3	✓													
RW-4	✓													
RW-5	✓													
RW-6	✓													
RW-7	✓													
RW-8	✓													
RW-9	✓													
RW-10	✓													

NOTES: _____

[illegible]

Appendix B.

Laboratory Reports During Reporting Period

Engineering/Remediation Resources Group

Sample Delivery Group: L1818502
Samples Received: 01/18/2025
Project Number:
Description: System Vapor

Report To: Fernando Idiarte
15333 NE 90th Street
Ste 100
Redmond, WA 98052

Entire Report Reviewed By:



Jennifer Gambill
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 National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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

SAMPLE SUMMARY

FALCO-300-INF-20250117 L1818502-01 Air

Collected by
Fernando Idiarte

Collected date/time
01/17/25 08:15

Received date/time
01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2435947	1	01/19/25 12:02	01/19/25 12:02	DAH	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG2437137	20	01/21/25 23:33	01/21/25 23:33	DBB	Mt. Juliet, TN

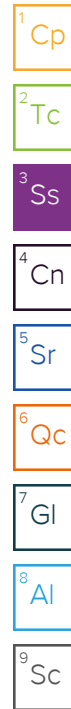
FALCO-300-EFF-20250117 L1818502-02 Air

Collected by
Fernando Idiarte

Collected date/time
01/17/25 08:25

Received date/time
01/18/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2435947	1	01/19/25 12:30	01/19/25 12:30	DAH	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG2437137	1	01/21/25 16:17	01/21/25 16:17	DBB	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.



Jennifer Gambill
Project Manager



Volatile Organic Compounds (MS) by Method TO-15

	CAS #	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	Batch
Analyte		ug/m3		ug/m3	ug/m3	ug/m3		date / time	
Acetone	67-64-1	1.50	UU	1.24	1.50	2.97	1	01/19/2025 12:02	WG2435947
Allyl Chloride	107-05-1	0.595	UU	0.582	0.595	0.626	1	01/19/2025 12:02	WG2435947
Benzene	71-43-2	399		7.03	12.1	12.8	20	01/21/2025 23:33	WG2437137
Benzyl Chloride	100-44-7	0.987	UU	0.461	0.987	1.04	1	01/19/2025 12:02	WG2435947
Bromodichloromethane	75-27-4	1.27	UU	0.466	1.27	1.34	1	01/19/2025 12:02	WG2435947
Bromoform	75-25-2	3.21	UU	0.781	3.21	6.52	1	01/19/2025 12:02	WG2435947
Bromomethane	74-83-9	0.737	UU	0.364	0.737	0.776	1	01/19/2025 12:02	WG2435947
1,3-Butadiene	106-99-0	1.39	UU	0.350	1.39	4.43	1	01/19/2025 12:02	WG2435947
Carbon disulfide	75-15-0	0.591	UU	0.498	0.591	1.24	1	01/19/2025 12:02	WG2435947
Carbon tetrachloride	56-23-5	1.20	UU	0.470	1.20	1.26	1	01/19/2025 12:02	WG2435947
Chlorobenzene	108-90-7	0.878	UU	0.545	0.878	0.924	1	01/19/2025 12:02	WG2435947
Chloroethane	75-00-3	0.501	UU	0.290	0.501	0.528	1	01/19/2025 12:02	WG2435947
Chloroform	67-66-3	0.925	UU	0.506	0.925	0.973	1	01/19/2025 12:02	WG2435947
Chloromethane	74-87-3	0.392	UU	0.227	0.392	0.413	1	01/19/2025 12:02	WG2435947
2-Chlorotoluene	95-49-8	0.979	UU	0.406	0.979	1.03	1	01/19/2025 12:02	WG2435947
Cyclohexane	110-82-7	1660		11.7	13.1	13.8	20	01/21/2025 23:33	WG2437137
Dibromochloromethane	124-48-1	1.62	UU	0.592	1.62	1.70	1	01/19/2025 12:02	WG2435947
1,2-Dibromoethane	106-93-4	1.46	UU	0.531	1.46	1.54	1	01/19/2025 12:02	WG2435947
1,2-Dichlorobenzene	95-50-1	1.14	UU	0.441	1.14	1.20	1	01/19/2025 12:02	WG2435947
1,3-Dichlorobenzene	541-73-1	1.14	UU	0.453	1.14	1.20	1	01/19/2025 12:02	WG2435947
1,4-Dichlorobenzene	106-46-7	1.14	UU	0.462	1.14	1.20	1	01/19/2025 12:02	WG2435947
1,2-Dichloroethane	107-06-2	0.769	UU	0.296	0.769	0.810	1	01/19/2025 12:02	WG2435947
1,1-Dichloroethane	75-34-3	0.762	UU	0.285	0.762	0.802	1	01/19/2025 12:02	WG2435947
1,1-Dichloroethene	75-35-4	0.753	UU	0.296	0.753	0.793	1	01/19/2025 12:02	WG2435947
cis-1,2-Dichloroethene	156-59-2	22.6		0.315	0.753	0.793	1	01/19/2025 12:02	WG2435947
trans-1,2-Dichloroethene	156-60-5	0.753	UU	0.291	0.753	0.793	1	01/19/2025 12:02	WG2435947
1,2-Dichloropropane	78-87-5	0.878	UU	0.348	0.878	0.924	1	01/19/2025 12:02	WG2435947
cis-1,3-Dichloropropene	10061-01-5	0.863	UU	0.337	0.863	0.908	1	01/19/2025 12:02	WG2435947
trans-1,3-Dichloropropene	10061-02-6	0.863	UU	0.361	0.863	0.908	1	01/19/2025 12:02	WG2435947
1,4-Dioxane	123-91-1	1.12	UU	0.591	1.12	2.27	1	01/19/2025 12:02	WG2435947
Ethanol	64-17-5	4.53	UU	4.47	4.53	4.71	1	01/19/2025 12:02	WG2435947
Ethylbenzene	100-41-4	1040		6.76	16.5	17.3	20	01/21/2025 23:33	WG2437137
4-Ethyltoluene	622-96-8	1130		8.69	18.7	19.6	20	01/21/2025 23:33	WG2437137
Trichlorofluoromethane	75-69-4	1.07	UU	0.433	1.07	1.12	1	01/19/2025 12:02	WG2435947
Dichlorodifluoromethane	75-71-8	6.28		0.399	0.940	0.989	1	01/19/2025 12:02	WG2435947
1,1,2-Trichlorotrifluoroethane	76-13-1	1.46	UU	0.576	1.46	1.53	1	01/19/2025 12:02	WG2435947
1,2-Dichlorotetrafluoroethane	76-14-2	1.33	UU	0.529	1.33	1.40	1	01/19/2025 12:02	WG2435947
Heptane	142-82-5	4250		9.33	15.5	16.4	20	01/21/2025 23:33	WG2437137
Hexachloro-1,3-butadiene	87-68-3	3.31	UU	0.854	3.31	6.73	1	01/19/2025 12:02	WG2435947
n-Hexane	110-54-3	2560		10.1	21.9	44.4	20	01/21/2025 23:33	WG2437137
Isopropylbenzene	98-82-8	190		0.355	0.934	0.983	1	01/19/2025 12:02	WG2435947
Methylene Chloride	75-09-2	0.660	UU	0.587	0.660	0.694	1	01/19/2025 12:02	WG2435947
Methyl Butyl Ketone	591-78-6	2.58	UU	0.544	2.58	5.11	1	01/19/2025 12:02	WG2435947
2-Butanone (MEK)	78-93-3	7.22		0.342	1.86	3.69	1	01/19/2025 12:02	WG2435947
4-Methyl-2-pentanone (MIBK)	108-10-1	2.58	UU	0.434	2.58	5.12	1	01/19/2025 12:02	WG2435947
Methyl Methacrylate	80-62-6	0.778	UU	0.692	0.778	0.819	1	01/19/2025 12:02	WG2435947
MTBE	1634-04-4	0.685	UU	0.293	0.685	0.721	1	01/19/2025 12:02	WG2435947
Naphthalene	91-20-3	155		3.23	3.25	3.30	1	01/19/2025 12:02	WG2435947
2-Propanol	67-63-0	77.7		1.67	2.46	3.07	1	01/19/2025 12:02	WG2435947
Propene	115-07-1	1.08	UU	0.368	1.08	2.15	1	01/19/2025 12:02	WG2435947
Styrene	100-42-5	0.808	UU	0.341	0.808	1.70	1	01/19/2025 12:02	WG2435947
1,1,2,2-Tetrachloroethane	79-34-5	1.31	UU	0.478	1.31	1.37	1	01/19/2025 12:02	WG2435947
Tetrachloroethylene	127-18-4	1.29	UU	0.754	1.29	1.36	1	01/19/2025 12:02	WG2435947
Tetrahydrofuran	109-99-9	0.560	UU	0.484	0.560	0.590	1	01/19/2025 12:02	WG2435947
Toluene	108-88-3	618		9.79	23.4	37.7	20	01/21/2025 23:33	WG2437137
1,2,4-Trichlorobenzene	120-82-1	3.70	UU	3.42	3.70	4.66	1	01/19/2025 12:02	WG2435947

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Result ug/m3	Qualifier	DL ug/m3	LOD ug/m3	LOQ ug/m3	Dilution	Analysis date / time	Batch
1,1,1-Trichloroethane	71-55-6	1.03	U	0.391	1.03	1.09	1	01/19/2025 12:02	WG2435947
1,1,2-Trichloroethane	79-00-5	1.03	U	0.372	1.03	1.09	1	01/19/2025 12:02	WG2435947
Trichloroethylene	79-01-6	1.02	U	0.364	1.02	1.07	1	01/19/2025 12:02	WG2435947
1,2,4-Trimethylbenzene	95-63-6	3390		9.08	18.7	19.6	20	01/21/2025 23:33	WG2437137
1,3,5-Trimethylbenzene	108-67-8	1400		8.39	18.7	19.6	20	01/21/2025 23:33	WG2437137
2,2,4-Trimethylpentane	540-84-1	4860		8.41	17.8	18.7	20	01/21/2025 23:33	WG2437137
Vinyl chloride	75-01-4	1.33		0.211	0.486	0.511	1	01/19/2025 12:02	WG2435947
Vinyl Bromide	593-60-2	0.831	U	0.328	0.831	0.875	1	01/19/2025 12:02	WG2435947
Vinyl acetate	108-05-4	1.09	U	0.341	1.09	2.22	1	01/19/2025 12:02	WG2435947
m&p-Xylene	179601-23-1	6590		15.1	26.9	34.7	20	01/21/2025 23:33	WG2437137
o-Xylene	95-47-6	2150		7.67	16.5	17.3	20	01/21/2025 23:33	WG2437137
Xylenes, Total	1330-20-7	8770		7.69	16.5	52.1	20	01/21/2025 23:33	WG2437137
TPH (GC/MS) Low Fraction	8006-61-9	107000		5660	15.7	16500	20	01/21/2025 23:33	WG2437137
(S) 1,4-Bromofluorobenzene	460-00-4	345	J1				60.0-140	01/19/2025 12:02	WG2435947
(S) 1,4-Bromofluorobenzene	460-00-4	105					60.0-140	01/21/2025 23:33	WG2437137

Sample Narrative:

L1818502-01 WG2435947: Surrogate failure due to matrix interference

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (MS) by Method TO-15

	CAS #	Result	Qualifier	DL	LOD	LOQ	Dilution	Analysis	Batch
Analyte		ug/m3		ug/m3	ug/m3	ug/m3		date / time	
Acetone	67-64-1	1.50	UU	1.24	1.50	2.97	1	01/19/2025 12:30	WG2435947
Allyl Chloride	107-05-1	0.595	UU	0.582	0.595	0.626	1	01/19/2025 12:30	WG2435947
Benzene	71-43-2	9.14		0.351	0.607	0.639	1	01/19/2025 12:30	WG2435947
Benzyl Chloride	100-44-7	0.987	UU	0.461	0.987	1.04	1	01/19/2025 12:30	WG2435947
Bromodichloromethane	75-27-4	1.27	UU	0.466	1.27	1.34	1	01/19/2025 12:30	WG2435947
Bromoform	75-25-2	3.21	UU	0.781	3.21	6.52	1	01/19/2025 12:30	WG2435947
Bromomethane	74-83-9	0.737	UU	0.364	0.737	0.776	1	01/19/2025 12:30	WG2435947
1,3-Butadiene	106-99-0	1.39	UU	0.350	1.39	4.43	1	01/19/2025 12:30	WG2435947
Carbon disulfide	75-15-0	0.591	UU	0.498	0.591	1.24	1	01/19/2025 12:30	WG2435947
Carbon tetrachloride	56-23-5	1.20	UU	0.470	1.20	1.26	1	01/19/2025 12:30	WG2435947
Chlorobenzene	108-90-7	8.18		0.545	0.878	0.924	1	01/19/2025 12:30	WG2435947
Chloroethane	75-00-3	0.427	UJ	0.290	0.501	0.528	1	01/19/2025 12:30	WG2435947
Chloroform	67-66-3	0.925	UU	0.506	0.925	0.973	1	01/19/2025 12:30	WG2435947
Chloromethane	74-87-3	10.1		0.227	0.392	0.413	1	01/19/2025 12:30	WG2435947
2-Chlorotoluene	95-49-8	0.979	UU	0.406	0.979	1.03	1	01/19/2025 12:30	WG2435947
Cyclohexane	110-82-7	33.2		0.585	0.654	0.689	1	01/21/2025 16:17	WG2437137
Dibromochloromethane	124-48-1	1.62	UU	0.592	1.62	1.70	1	01/19/2025 12:30	WG2435947
1,2-Dibromoethane	106-93-4	1.46	UU	0.531	1.46	1.54	1	01/19/2025 12:30	WG2435947
1,2-Dichlorobenzene	95-50-1	2.23		0.441	1.14	1.20	1	01/19/2025 12:30	WG2435947
1,3-Dichlorobenzene	541-73-1	1.14	UU	0.453	1.14	1.20	1	01/19/2025 12:30	WG2435947
1,4-Dichlorobenzene	106-46-7	1.61		0.462	1.14	1.20	1	01/19/2025 12:30	WG2435947
1,2-Dichloroethane	107-06-2	0.769	UU	0.296	0.769	0.810	1	01/19/2025 12:30	WG2435947
1,1-Dichloroethane	75-34-3	0.762	UU	0.285	0.762	0.802	1	01/19/2025 12:30	WG2435947
1,1-Dichloroethene	75-35-4	0.753	UU	0.296	0.753	0.793	1	01/19/2025 12:30	WG2435947
cis-1,2-Dichloroethene	156-59-2	0.753	UU	0.315	0.753	0.793	1	01/19/2025 12:30	WG2435947
trans-1,2-Dichloroethene	156-60-5	0.753	UU	0.291	0.753	0.793	1	01/19/2025 12:30	WG2435947
1,2-Dichloropropane	78-87-5	0.878	UU	0.348	0.878	0.924	1	01/19/2025 12:30	WG2435947
cis-1,3-Dichloropropene	10061-01-5	0.863	UU	0.337	0.863	0.908	1	01/19/2025 12:30	WG2435947
trans-1,3-Dichloropropene	10061-02-6	0.863	UU	0.361	0.863	0.908	1	01/19/2025 12:30	WG2435947
1,4-Dioxane	123-91-1	1.12	UU	0.591	1.12	2.27	1	01/19/2025 12:30	WG2435947
Ethanol	64-17-5	4.53	UU	4.47	4.53	4.71	1	01/19/2025 12:30	WG2435947
Ethylbenzene	100-41-4	0.542	UJ	0.337	0.824	0.867	1	01/19/2025 12:30	WG2435947
4-Ethyltoluene	622-96-8	1.22		0.435	0.933	0.982	1	01/19/2025 12:30	WG2435947
Trichlorofluoromethane	75-69-4	1.07	UU	0.433	1.07	1.12	1	01/19/2025 12:30	WG2435947
Dichlorodifluoromethane	75-71-8	1.05		0.399	0.940	0.989	1	01/19/2025 12:30	WG2435947
1,1,2-Trichlorotrifluoroethane	76-13-1	1.46	UU	0.576	1.46	1.53	1	01/19/2025 12:30	WG2435947
1,2-Dichlorotetrafluoroethane	76-14-2	1.33	UU	0.529	1.33	1.40	1	01/19/2025 12:30	WG2435947
Heptane	142-82-5	67.1		0.466	0.777	0.818	1	01/21/2025 16:17	WG2437137
Hexachloro-1,3-butadiene	87-68-3	3.31	UU	0.854	3.31	6.73	1	01/19/2025 12:30	WG2435947
n-Hexane	110-54-3	146		0.504	1.09	2.22	1	01/21/2025 16:17	WG2437137
Isopropylbenzene	98-82-8	0.934	UU	0.355	0.934	0.983	1	01/19/2025 12:30	WG2435947
Methylene Chloride	75-09-2	3.58		0.587	0.660	0.694	1	01/19/2025 12:30	WG2435947
Methyl Butyl Ketone	591-78-6	2.58	UU	0.544	2.58	5.11	1	01/19/2025 12:30	WG2435947
2-Butanone (MEK)	78-93-3	1.86	UU	0.342	1.86	3.69	1	01/19/2025 12:30	WG2435947
4-Methyl-2-pentanone (MIBK)	108-10-1	2.58	UU	0.434	2.58	5.12	1	01/19/2025 12:30	WG2435947
Methyl Methacrylate	80-62-6	0.778	UU	0.692	0.778	0.819	1	01/19/2025 12:30	WG2435947
MTBE	1634-04-4	0.685	UU	0.293	0.685	0.721	1	01/19/2025 12:30	WG2435947
Naphthalene	91-20-3	3.25	UU	3.23	3.25	3.30	1	01/19/2025 12:30	WG2435947
2-Propanol	67-63-0	2.46	UU	1.67	2.46	3.07	1	01/19/2025 12:30	WG2435947
Propene	115-07-1	1.08	UU	0.368	1.08	2.15	1	01/19/2025 12:30	WG2435947
Styrene	100-42-5	0.808	UU	0.341	0.808	1.70	1	01/19/2025 12:30	WG2435947
1,1,2,2-Tetrachloroethane	79-34-5	1.31	UU	0.478	1.31	1.37	1	01/19/2025 12:30	WG2435947
Tetrachloroethylene	127-18-4	66.2		0.754	1.29	1.36	1	01/19/2025 12:30	WG2435947
Tetrahydrofuran	109-99-9	0.560	UU	0.484	0.560	0.590	1	01/19/2025 12:30	WG2435947
Toluene	108-88-3	1.17	UU	0.490	1.17	1.88	1	01/19/2025 12:30	WG2435947
1,2,4-Trichlorobenzene	120-82-1	3.70	UU	3.42	3.70	4.66	1	01/19/2025 12:30	WG2435947

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Result ug/m3	Qualifier	DL ug/m3	LOD ug/m3	LOQ ug/m3	Dilution	Analysis date / time	Batch
1,1,1-Trichloroethane	71-55-6	1.03	U	0.391	1.03	1.09	1	01/19/2025 12:30	WG2435947
1,1,2-Trichloroethane	79-00-5	1.03	U	0.372	1.03	1.09	1	01/19/2025 12:30	WG2435947
Trichloroethylene	79-01-6	1.02	U	0.364	1.02	1.07	1	01/19/2025 12:30	WG2435947
1,2,4-Trimethylbenzene	95-63-6	0.933	U	0.455	0.933	0.982	1	01/21/2025 16:17	WG2437137
1,3,5-Trimethylbenzene	108-67-8	1.71		0.419	0.933	0.982	1	01/19/2025 12:30	WG2435947
2,2,4-Trimethylpentane	540-84-1	218		0.420	0.888	0.934	1	01/19/2025 12:30	WG2435947
Vinyl chloride	75-01-4	0.486	U	0.211	0.486	0.511	1	01/19/2025 12:30	WG2435947
Vinyl Bromide	593-60-2	0.831	U	0.328	0.831	0.875	1	01/19/2025 12:30	WG2435947
Vinyl acetate	108-05-4	1.09	U	0.341	1.09	2.22	1	01/19/2025 12:30	WG2435947
m&p-Xylene	179601-23-1	0.806	J	0.754	1.34	1.73	1	01/21/2025 16:17	WG2437137
o-Xylene	95-47-6	0.824	U	0.385	0.824	0.867	1	01/21/2025 16:17	WG2437137
Xylenes, Total	1330-20-7	0.808	J	0.385	0.825	2.61	1	01/21/2025 16:17	WG2437137
TPH (GC/MS) Low Fraction	8006-61-9	1020		282	0.785	826	1	01/21/2025 16:17	WG2437137
(S) 1,4-Bromofluorobenzene	460-00-4	94.7					60.0-140	01/19/2025 12:30	WG2435947
(S) 1,4-Bromofluorobenzene	460-00-4	97.3					60.0-140	01/21/2025 16:17	WG2437137

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4168842-3 01/19/25 10:00

Analyte	MB Result ug/m3	MB Qualifier	MB MDL ug/m3	MB LOD ug/m3	MB RDL ug/m3
Acetone	1.50	IC	1.24	1.50	2.97
Allyl Chloride	0.595	IC	0.582	0.595	0.626
Benzene	0.607	IC	0.351	0.607	0.639
Benzyl Chloride	0.987	IC	0.461	0.987	1.04
Bromodichloromethane	1.27	IC	0.466	1.27	1.34
Bromoform	3.21	IC	0.781	3.21	6.52
Bromomethane	0.737	IC	0.364	0.737	0.776
1,3-Butadiene	1.39	IC	0.350	1.39	4.43
Carbon disulfide	0.591	IC	0.498	0.591	1.24
Carbon tetrachloride	1.20	IC	0.470	1.20	1.26
Chlorobenzene	0.878	IC	0.545	0.878	0.924
Chloroethane	0.501	IC	0.290	0.501	0.528
Chloroform	0.925	IC	0.506	0.925	0.973
Chloromethane	0.392	IC	0.227	0.392	0.413
2-Chlorotoluene	0.979	IC	0.406	0.979	1.03
Dibromochloromethane	1.62	IC	0.592	1.62	1.70
1,2-Dibromoethane	1.46	IC	0.531	1.46	1.54
1,2-Dichlorobenzene	1.14	IC	0.441	1.14	1.20
1,3-Dichlorobenzene	1.14	IC	0.453	1.14	1.20
1,4-Dichlorobenzene	1.14	IC	0.462	1.14	1.20
1,2-Dichloroethane	0.769	IC	0.296	0.769	0.810
1,1-Dichloroethane	0.762	IC	0.285	0.762	0.802
1,1-Dichloroethene	0.753	IC	0.296	0.753	0.793
cis-1,2-Dichloroethene	0.753	IC	0.315	0.753	0.793
trans-1,2-Dichloroethene	0.753	IC	0.291	0.753	0.793
1,2-Dichloropropane	0.878	IC	0.348	0.878	0.924
cis-1,3-Dichloropropene	0.863	IC	0.337	0.863	0.908
trans-1,3-Dichloropropene	0.863	IC	0.361	0.863	0.908
1,4-Dioxane	1.12	IC	0.591	1.12	2.27
Ethanol	4.53	IC	4.47	4.53	4.71
Ethylbenzene	0.824	IC	0.337	0.824	0.867
4-Ethyltoluene	0.933	IC	0.435	0.933	0.982
Trichlorofluoromethane	1.07	IC	0.433	1.07	1.12
Dichlorodifluoromethane	0.940	IC	0.399	0.940	0.989
1,1,2-Trichlorotrifluoroethane	1.46	IC	0.576	1.46	1.53
1,2-Dichlorotetrafluoroethane	1.33	IC	0.529	1.33	1.40
Hexachloro-1,3-butadiene	3.31	IC	0.854	3.31	6.73
Isopropylbenzene	0.934	IC	0.355	0.934	0.983
Methylene Chloride	0.660	IC	0.587	0.660	0.694
Methyl Butyl Ketone	2.58	IC	0.544	2.58	5.11

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4168842-3 01/19/25 10:00

Analyte	MB Result ug/m3	MB Qualifier	MB MDL ug/m3	MB LOD ug/m3	MB RDL ug/m3
2-Butanone (MEK)	1.86	IC	0.342	1.86	3.69
4-Methyl-2-pentanone (MIBK)	2.58	IC	0.434	2.58	5.12
Methyl Methacrylate	0.778	IC	0.692	0.778	0.819
MTBE	0.685	IC	0.293	0.685	0.721
Naphthalene	3.25	IC	3.23	3.25	3.30
2-Propanol	2.46	IC	1.67	2.46	3.07
Propene	1.08	IC	0.368	1.08	2.15
Styrene	0.808	IC	0.341	0.808	1.70
1,1,2,2-Tetrachloroethane	1.31	IC	0.478	1.31	1.37
Tetrachloroethylene	1.29	IC	0.754	1.29	1.36
Tetrahydrofuran	0.560	IC	0.484	0.560	0.590
Toluene	1.17	IC	0.490	1.17	1.88
1,2,4-Trichlorobenzene	3.70	IC	3.42	3.70	4.66
1,1,1-Trichloroethane	1.03	IC	0.391	1.03	1.09
1,1,2-Trichloroethane	1.03	IC	0.372	1.03	1.09
Trichloroethylene	1.02	IC	0.364	1.02	1.07
1,3,5-Trimethylbenzene	0.933	IC	0.419	0.933	0.982
2,2,4-Trimethylpentane	0.888	IC	0.420	0.888	0.934
Vinyl chloride	0.486	IC	0.211	0.486	0.511
Vinyl Bromide	0.831	IC	0.328	0.831	0.875
Vinyl acetate	1.09	IC	0.341	1.09	2.22
(S) 1,4-Bromofluorobenzene	93.1				60.0-140

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R4168842-1 01/19/25 09:04 • (LCSD) R4168842-2 01/19/25 09:33

Analyte	Spike Amount ug/m3	LCS Result ug/m3	LCSD Result ug/m3	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	8.91	8.27	7.91	92.8	88.8	58.0-128			4.41	20
Allyl Chloride	11.7	12.3	12.0	105	102	71.0-131			2.84	20
Benzene	12.0	11.3	11.1	94.7	93.1	69.0-119			1.70	20
Benzyl Chloride	19.5	18.2	18.0	93.3	92.3	50.0-147			1.15	20
Bromodichloromethane	25.2	25.8	24.7	103	98.1	72.0-128			4.52	20
Bromoform	38.8	32.6	32.2	84.0	82.9	66.0-139			1.28	20
Bromomethane	14.6	14.4	13.9	99.2	95.7	63.0-134			3.56	20
1,3-Butadiene	8.30	7.83	7.94	94.4	95.7	66.0-134			1.40	20
Carbon disulfide	23.3	23.1	22.6	99.1	96.9	57.0-134			2.18	20
Carbon tetrachloride	23.6	24.4	23.2	103	98.1	68.0-132			5.03	20
Chlorobenzene	17.3	18.2	18.0	105	104	70.0-119			1.28	20

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

(LCS) R4168842-1 01/19/25 09:04 • (LCSD) R4168842-2 01/19/25 09:33

Analyte	Spike Amount ug/m3	LCS Result ug/m3	LCSD Result ug/m3	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloroethane	9.89	9.60	9.55	97.1	96.5	63.0-127			0.551	20
Chloroform	18.3	18.7	18.2	103	99.5	68.0-123			3.17	20
Chloromethane	7.75	7.27	7.19	93.9	92.8	59.0-132			1.14	20
2-Chlorotoluene	19.3	19.3	18.8	100	97.1	74.0-130			2.98	20
Dibromochloromethane	31.9	32.9	31.4	103	98.4	70.0-130			4.76	20
1,2-Dibromoethane	28.8	30.5	29.8	106	103	74.0-122			2.55	20
1,2-Dichlorobenzene	22.5	24.1	23.7	107	105	63.0-129			1.51	20
1,3-Dichlorobenzene	22.5	24.4	23.8	108	106	65.0-130			2.49	20
1,4-Dichlorobenzene	22.5	23.7	23.5	105	104	60.0-131			1.02	20
1,2-Dichloroethane	15.2	16.4	15.9	108	105	65.0-128			3.26	20
1,1-Dichloroethane	15.0	15.1	14.8	101	98.1	68.0-126			2.42	20
1,1-Dichloroethene	14.9	14.9	14.5	100	97.3	61.0-133			2.97	20
cis-1,2-Dichloroethene	14.9	14.6	14.5	98.4	97.3	70.0-121			1.09	20
trans-1,2-Dichloroethene	14.9	14.9	14.4	100	97.1	67.0-124			3.24	20
1,2-Dichloropropane	17.3	18.5	17.6	107	102	69.0-123			5.12	20
cis-1,3-Dichloropropene	17.0	16.8	17.4	98.9	102	70.0-128			3.18	20
trans-1,3-Dichloropropene	17.0	17.1	16.7	100	97.9	75.0-133			2.42	20
1,4-Dioxane	13.5	14.5	13.7	107	101	71.0-122			5.87	20
Ethanol	7.07	6.20	6.09	87.7	86.1	59.0-125			1.84	20
Ethylbenzene	16.3	15.9	15.7	97.9	96.8	70.0-124			1.10	20
4-Ethyltoluene	18.4	19.8	19.4	107	106	67.0-129			1.75	20
Trichlorofluoromethane	21.1	21.6	20.9	103	99.2	62.0-126			3.43	20
Dichlorodifluoromethane	18.5	18.9	18.3	102	98.9	59.0-128			3.18	20
1,1,2-Trichlorotrifluoroethane	28.7	28.4	27.7	98.7	96.5	66.0-126			2.19	20
1,2-Dichlorotetrafluoroethane	26.2	26.4	25.5	101	97.1	63.0-121			3.51	20
Hexachloro-1,3-butadiene	40.0	41.7	40.8	104	102	56.0-138			2.33	20
Isopropylbenzene	18.4	18.8	18.4	102	99.7	68.0-124			2.38	20
Methylene Chloride	13.0	12.6	12.1	96.8	92.8	62.0-115			4.22	20
Methyl Butyl Ketone	15.3	15.7	15.3	102	99.7	62.0-128			2.38	20
2-Butanone (MEK)	11.1	11.2	10.5	101	94.9	67.0-130			6.52	20
4-Methyl-2-pentanone (MIBK)	15.4	16.1	15.5	105	101	67.0-130			3.89	20
Methyl Methacrylate	15.4	15.4	15.1	100	98.4	70.0-128			1.61	20
MTBE	13.5	13.2	12.8	97.3	94.4	66.0-126			3.06	20
Naphthalene	19.6	19.3	18.7	98.4	95.2	57.0-138			3.31	20
2-Propanol	9.22	8.87	8.50	96.3	92.3	52.0-125			4.24	20
Propene	6.46	6.35	6.25	98.4	96.8	57.0-136			1.64	20
Styrene	31.9	34.9	33.6	109	105	73.0-127			3.98	20
1,1,2,2-Tetrachloroethane	25.8	26.9	26.4	104	102	65.0-127			1.81	20
Tetrachloroethylene	25.5	27.2	26.2	107	103	66.0-124			3.56	20
Tetrahydrofuran	11.1	10.7	10.4	96.5	93.9	64.0-123			2.80	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

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

(LCS) R4168842-1 01/19/25 09:04 • (LCSD) R4168842-2 01/19/25 09:33

Analyte	Spike Amount ug/m3	LCS Result ug/m3	LCSD Result ug/m3	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Toluene	14.1	14.5	13.9	102	98.7	66.0-119			3.71	20
1,2,4-Trichlorobenzene	27.8	26.4	25.8	95.2	92.8	55.0-142			2.55	20
1,1,1-Trichloroethane	20.4	20.6	20.2	101	99.2	68.0-125			1.60	20
1,1,2-Trichloroethane	20.4	21.8	20.9	107	103	73.0-119			4.07	20
Trichloroethylene	20.1	20.8	20.3	104	101	71.0-123			2.60	20
1,3,5-Trimethylbenzene	18.4	20.2	19.6	110	107	67.0-130			2.96	20
2,2,4-Trimethylpentane	17.5	17.5	17.1	100	97.3	68.0-121			2.70	20
Vinyl chloride	9.59	9.36	9.30	97.6	97.1	64.0-127			0.548	20
Vinyl Bromide	16.4	16.4	15.9	99.7	96.8	71.0-126			2.99	20
Vinyl acetate	13.2	10.4	9.51	78.9	72.0	56.0-139			9.19	20
(S) 1,4-Bromofluorobenzene				102	101	60.0-140				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4169161-3 01/21/25 09:57

Analyte	MB Result ug/m3	MB Qualifier	MB MDL ug/m3	MB LOD ug/m3	MB RDL ug/m3
Benzene	0.607	⌋	0.351	0.607	0.639
Cyclohexane	0.654	⌋	0.585	0.654	0.689
Ethylbenzene	0.824	⌋	0.337	0.824	0.867
4-Ethyltoluene	0.933	⌋	0.435	0.933	0.982
Heptane	0.777	⌋	0.466	0.777	0.818
n-Hexane	1.09	⌋	0.504	1.09	2.22
Toluene	1.17	⌋	0.490	1.17	1.88
1,2,4-Trimethylbenzene	0.933	⌋	0.455	0.933	0.982
1,3,5-Trimethylbenzene	0.933	⌋	0.419	0.933	0.982
2,2,4-Trimethylpentane	0.888	⌋	0.420	0.888	0.934
m&p-Xylene	1.34	⌋	0.754	1.34	1.73
o-Xylene	0.824	⌋	0.385	0.824	0.867
Xylenes, Total	0.825	⌋	0.385	0.825	2.61
TPH (GC/MS) Low Fraction	0.785	⌋	282	0.785	826
(S) 1,4-Bromofluorobenzene	93.0				60.0-140

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

(LCS) R4169161-1 01/21/25 08:55 • (LCSD) R4169161-2 01/21/25 09:27

Analyte	Spike Amount ug/m3	LCS Result ug/m3	LCSD Result ug/m3	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	12.0	11.7	11.7	97.6	97.6	69.0-119			0.000	20
Cyclohexane	12.9	12.2	12.0	94.4	93.1	70.0-117			1.42	20
Ethylbenzene	16.3	15.8	16.0	97.1	98.4	70.0-124			1.36	20
4-Ethyltoluene	18.4	19.3	19.4	105	105	67.0-129			0.253	20
Heptane	15.3	13.9	13.5	90.9	88.0	69.0-123			3.28	20
n-Hexane	13.2	11.8	12.3	89.6	93.1	63.0-120			3.80	20
Toluene	14.1	14.1	14.0	100	99.2	66.0-119			0.803	20
1,2,4-Trimethylbenzene	18.4	20.3	20.5	110	111	66.0-132			0.964	20
1,3,5-Trimethylbenzene	18.4	19.5	19.6	106	106	67.0-130			0.251	20
2,2,4-Trimethylpentane	17.5	16.6	16.2	94.7	92.5	68.0-121			2.28	20
m&p-Xylene	32.5	33.4	33.4	103	103	61.0-134			0.000	20
o-Xylene	16.3	17.1	17.0	105	105	67.0-125			0.254	20
TPH (GC/MS) Low Fraction	777	731	723	94.1	93.1	70.0-130	⌋	⌋	1.14	20
(S) 1,4-Bromofluorobenzene				100	102	60.0-140				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

DL	Detection Limit.
LOD	Limit of Detection.
LOQ	Limit of Quantitation.
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.
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.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
U	Below Detectable Limits: Indicates that the analyte was not detected.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

ACCREDITATIONS & LOCATIONS

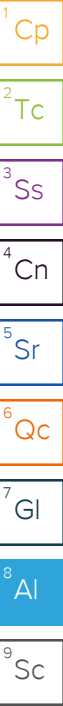
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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.



[illegible]

January 27, 2025

Engineering/Remediation Resources Group

Sample Delivery Group: L1818655
Samples Received: 01/18/2025
Project Number: 20230065
Description: Former Circle K

Report To: Jennifer Sonnichsen
15333 NE 90th Street
Ste 100
Redmond, WA 98052

Entire Report Reviewed By:



Jennifer Gambill
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 mydata.pacelabs.com

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

SAMPLE SUMMARY

LG-404-EFF-20250117 L1818655-01 GW

Collected by
FL

Collected date/time
01/17/25 11:00

Received date/time
01/18/25 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG2438724	1	01/24/25 15:18	01/24/25 20:43	DAL	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2436679	1	01/21/25 11:27	01/21/25 11:27	JBE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2436674	1	01/21/25 06:00	01/21/25 06:00	DYW	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2438079	1	01/23/25 06:33	01/23/25 06:33	ACG	Mt. Juliet, TN

LG-403-MID-20250117 L1818655-02 GW

Collected by
FL

Collected date/time
01/17/25 11:30

Received date/time
01/18/25 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG2438724	1	01/24/25 15:18	01/24/25 20:43	DAL	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2436679	1	01/21/25 11:49	01/21/25 11:49	JBE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2436674	1	01/21/25 06:22	01/21/25 06:22	DYW	Mt. Juliet, TN

LG-401-INF-20250117 L1818655-03 GW

Collected by
FL

Collected date/time
01/17/25 11:50

Received date/time
01/18/25 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG2438724	1	01/24/25 15:18	01/24/25 20:43	DAL	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2436679	1	01/21/25 12:11	01/21/25 12:11	JBE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2436674	1	01/21/25 06:43	01/21/25 06:43	DYW	Mt. Juliet, TN

DUP-3-20250117 L1818655-04 GW

Collected by
FL

Collected date/time
01/17/25 12:00

Received date/time
01/18/25 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG2438724	1	01/24/25 15:18	01/24/25 20:43	DAL	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2436679	1	01/21/25 12:33	01/21/25 12:33	JBE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2436674	1	01/21/25 07:05	01/21/25 07:05	DYW	Mt. Juliet, TN

DUP-1-20250117 L1818655-05 GW

Collected by
FL

Collected date/time
01/17/25 11:05

Received date/time
01/18/25 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG2438724	1	01/24/25 15:18	01/24/25 20:43	DAL	Mt. Juliet, TN

DUP-2-20250117 L1818655-06 GW

Collected by
FL

Collected date/time
01/17/25 11:10

Received date/time
01/18/25 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG2438724	1	01/24/25 15:18	01/24/25 20:43	DAL	Mt. Juliet, TN

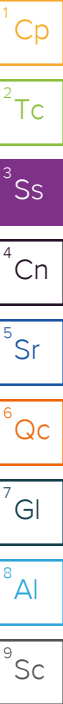
TB-01-20250117 L1818655-07 GW

Collected by
FL

Collected date/time
01/17/25 14:00

Received date/time
01/18/25 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2436679	1	01/21/25 10:01	01/21/25 10:01	JBE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2436674	1	01/21/25 01:42	01/21/25 01:42	DYW	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.

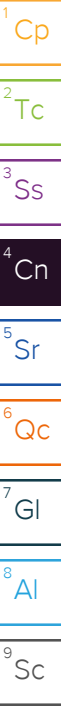


Jennifer Gambill
Project Manager

Sample Delivery Group (SDG) Narrative

The following analysis were performed from an unpreserved, insufficiently or inadequately preserved sample.

<u>Lab Sample ID</u>	<u>Project Sample ID</u>	<u>Method</u>
L1818655-04	DUP-3-20250117	1664B



Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.49	1	01/24/2025 20:43	WG2438724

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Gasoline Range Organics-NWTPH	ND		0.100	1	01/21/2025 11:27	WG2436679
(S) a,a,a-Trifluorotoluene(FID)	104		78.0-120		01/21/2025 11:27	WG2436679

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	01/21/2025 06:00	WG2436674
cis-1,2-Dichloroethene	ND		0.00100	1	01/23/2025 06:33	WG2438079
trans-1,2-Dichloroethene	ND		0.00100	1	01/21/2025 06:00	WG2436674
Ethylbenzene	ND		0.00100	1	01/21/2025 06:00	WG2436674
Tetrachloroethene	ND		0.00100	1	01/21/2025 06:00	WG2436674
Toluene	ND		0.00100	1	01/21/2025 06:00	WG2436674
Trichloroethene	ND		0.00100	1	01/21/2025 06:00	WG2436674
Vinyl chloride	ND	C3	0.00100	1	01/21/2025 06:00	WG2436674
Xylenes, Total	ND		0.00300	1	01/21/2025 06:00	WG2436674
(S) Toluene-d8	105		80.0-120		01/21/2025 06:00	WG2436674
(S) Toluene-d8	100		80.0-120		01/23/2025 06:33	WG2438079
(S) 4-Bromofluorobenzene	105		77.0-126		01/21/2025 06:00	WG2436674
(S) 4-Bromofluorobenzene	94.2		77.0-126		01/23/2025 06:33	WG2438079
(S) 1,2-Dichloroethane-d4	94.8		70.0-130		01/21/2025 06:00	WG2436674
(S) 1,2-Dichloroethane-d4	93.8		70.0-130		01/23/2025 06:33	WG2438079

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.88	1	01/24/2025 20:43	WG2438724

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Gasoline Range Organics-NWTPH	ND		0.100	1	01/21/2025 11:49	WG2436679
(S) a,a,a-Trifluorotoluene(FID)	104		78.0-120		01/21/2025 11:49	WG2436679

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	01/21/2025 06:22	WG2436674
Ethylbenzene	ND		0.00100	1	01/21/2025 06:22	WG2436674
Toluene	ND		0.00100	1	01/21/2025 06:22	WG2436674
Xylenes, Total	ND		0.00300	1	01/21/2025 06:22	WG2436674
(S) Toluene-d8	102		80.0-120		01/21/2025 06:22	WG2436674
(S) 4-Bromofluorobenzene	103		77.0-126		01/21/2025 06:22	WG2436674
(S) 1,2-Dichloroethane-d4	93.9		70.0-130		01/21/2025 06:22	WG2436674

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.88	1	01/24/2025 20:43	WG2438724

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Gasoline Range Organics-NWTPH	0.109		0.100	1	01/21/2025 12:11	WG2436679
(S) a,a,a-Trifluorotoluene(FID)	104		78.0-120		01/21/2025 12:11	WG2436679

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	01/21/2025 06:43	WG2436674
Ethylbenzene	ND		0.00100	1	01/21/2025 06:43	WG2436674
Toluene	ND		0.00100	1	01/21/2025 06:43	WG2436674
Xylenes, Total	ND		0.00300	1	01/21/2025 06:43	WG2436674
(S) Toluene-d8	100		80.0-120		01/21/2025 06:43	WG2436674
(S) 4-Bromofluorobenzene	104		77.0-126		01/21/2025 06:43	WG2436674
(S) 1,2-Dichloroethane-d4	97.1		70.0-130		01/21/2025 06:43	WG2436674

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.75	1	01/24/2025 20:43	WG2438724

¹ Cp

² Tc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Gasoline Range Organics-NWTPH	0.119		0.100	1	01/21/2025 12:33	WG2436679
(S) a,a,a-Trifluorotoluene(FID)	104		78.0-120		01/21/2025 12:33	WG2436679

³ Ss

⁴ Cn

⁵ Sr

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	01/21/2025 07:05	WG2436674
Ethylbenzene	ND		0.00100	1	01/21/2025 07:05	WG2436674
Toluene	ND		0.00100	1	01/21/2025 07:05	WG2436674
Xylenes, Total	ND		0.00300	1	01/21/2025 07:05	WG2436674
(S) Toluene-d8	99.2		80.0-120		01/21/2025 07:05	WG2436674
(S) 4-Bromofluorobenzene	105		77.0-126		01/21/2025 07:05	WG2436674
(S) 1,2-Dichloroethane-d4	93.0		70.0-130		01/21/2025 07:05	WG2436674

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.95	1	01/24/2025 20:43	WG2438724

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.81	1	01/24/2025 20:43	WG2438724

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		0.100	1	01/21/2025 10:01	WG2436679
(S) a,a,a-Trifluorotoluene(FID)	104		78.0-120		01/21/2025 10:01	WG2436679

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	01/21/2025 01:42	WG2436674
cis-1,2-Dichloroethene	ND		0.00100	1	01/21/2025 01:42	WG2436674
trans-1,2-Dichloroethene	ND		0.00100	1	01/21/2025 01:42	WG2436674
Ethylbenzene	ND		0.00100	1	01/21/2025 01:42	WG2436674
Tetrachloroethene	ND		0.00100	1	01/21/2025 01:42	WG2436674
Toluene	ND		0.00100	1	01/21/2025 01:42	WG2436674
Trichloroethene	ND		0.00100	1	01/21/2025 01:42	WG2436674
Vinyl chloride	ND	C3	0.00100	1	01/21/2025 01:42	WG2436674
Xylenes, Total	ND		0.00300	1	01/21/2025 01:42	WG2436674
(S) Toluene-d8	102		80.0-120		01/21/2025 01:42	WG2436674
(S) 4-Bromofluorobenzene	104		77.0-126		01/21/2025 01:42	WG2436674
(S) 1,2-Dichloroethane-d4	93.6		70.0-130		01/21/2025 01:42	WG2436674

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Method Blank (MB)

(MB) R4170243-1 01/24/25 20:43

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Oil & Grease (Hexane Extr)	U		1.40	5.00

¹Cp

²Tc

³Ss

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

(LCS) R4170243-2 01/24/25 20:43 • (LCSD) R4170243-3 01/24/25 20:43

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Oil & Grease (Hexane Extr)	40.0	37.8	33.1	94.5	82.8	78.0-114			13.3	20

⁴Cn

⁵Sr

L1818655-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1818655-01 01/24/25 20:43 • (MS) R4170243-4 01/24/25 20:43

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Oil & Grease (Hexane Extr)	40.0	ND	42.7	107	1	78.0-114	

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4169191-2 01/21/25 08:47

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Gasoline Range Organics-NWTPH	U		0.0316	0.100
(S) a,a,a-Trifluorotoluene(FID)	105			78.0-120

Laboratory Control Sample (LCS)

(LCS) R4169191-1 01/21/25 08:03

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5.00	4.71	94.2	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			107	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) R4169459-4 01/20/25 22:18

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
cis-1,2-Dichloroethene	U		0.000126	0.00100
trans-1,2-Dichloroethene	U		0.000149	0.00100
Ethylbenzene	U		0.000137	0.00100
Tetrachloroethene	U		0.000300	0.00100
Toluene	U		0.000278	0.00100
Trichloroethene	U		0.000190	0.00100
Vinyl chloride	U		0.000234	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	100			80.0-120
(S) 4-Bromofluorobenzene	106			77.0-126
(S) 1,2-Dichloroethane-d4	94.8			70.0-130

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

(LCS) R4169459-1 01/20/25 20:32 • (LCSD) R4169459-2 01/20/25 20:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00452	0.00463	90.4	92.6	70.0-123			2.40	20
cis-1,2-Dichloroethene	0.00500	0.00466	0.00476	93.2	95.2	73.0-120			2.12	20
trans-1,2-Dichloroethene	0.00500	0.00458	0.00457	91.6	91.4	73.0-120			0.219	20
Ethylbenzene	0.00500	0.00440	0.00445	88.0	89.0	79.0-123			1.13	20
Tetrachloroethene	0.00500	0.00427	0.00434	85.4	86.8	72.0-132			1.63	20
Toluene	0.00500	0.00447	0.00445	89.4	89.0	79.0-120			0.448	20
Trichloroethene	0.00500	0.00452	0.00446	90.4	89.2	78.0-124			1.34	20
Vinyl chloride	0.00500	0.00387	0.00398	77.4	79.6	67.0-131			2.80	20
Xylenes, Total	0.0150	0.0132	0.0131	88.0	87.3	79.0-123			0.760	20
(S) Toluene-d8				102	101	80.0-120				
(S) 4-Bromofluorobenzene				102	103	77.0-126				
(S) 1,2-Dichloroethane-d4				91.8	96.4	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4169738-3 01/22/25 21:51

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
cis-1,2-Dichloroethene	U		0.000126	0.00100
(S) Toluene-d8	103			80.0-120
(S) 4-Bromofluorobenzene	100			77.0-126
(S) 1,2-Dichloroethane-d4	90.5			70.0-130

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

(LCS) R4169738-1 01/22/25 19:56 • (LCSD) R4169738-2 01/22/25 20:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
cis-1,2-Dichloroethene	0.00500	0.00516	0.00526	103	105	73.0-120			1.92	20
(S) Toluene-d8				100	98.4	80.0-120				
(S) 4-Bromofluorobenzene				101	99.0	77.0-126				
(S) 1,2-Dichloroethane-d4				88.6	91.1	70.0-130				

1

Cp

2

Tc

3

Ss

4

Cn

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Sr

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Qc

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Gl

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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.

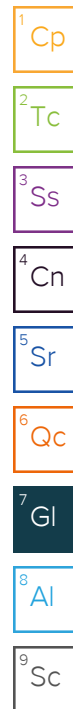
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

Abbreviations and Definitions

MDL	Method Detection Limit.
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.
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.
----	---



ACCREDITATIONS & LOCATIONS

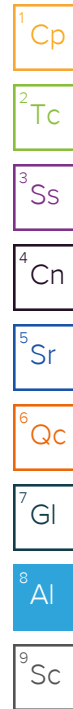
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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:

Engineering/Remediation Resources Group

15333 NE 90th Street

Report to:

Jennifer Sonnichsen 425-658-5026

Billing Information:

Jennifer Sonnichsen | Accounts Payable
15333 NE 90th Street
Ste 100Pres
Chk

Email To:

jennifer.sonnichsen@errg.com; spencer.siomins

Project Description:

Former Circle K

City/State

Collected: SEATTLE, WA

Please Circle:

PT MT CT ET

Regulatory Program(DOD,RCRA,DW,etc):

ECOLOGY

Client Project #

20230065

Lab Project #

ENGREMRWA-CIRCLE K

Collected by (print):

FI

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

☐ Same Day ☐ Five Day
☐ Next Day ☐ 5 Day (Rad Only)
☐ Two Day ☐ 10 Day (Rad Only)
☐ Three Day ☐ STD TAT

Quote #

Date Results Needed

Immediately

Packed on Ice N ☐ Y ☒No.
of
Cntrs

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

No.
of
Cntrs

LG-404-EFF-20250117

GRAB

GW

N/A

1/17/25

1100

8

X

X

X

LG-403-MID-20250117

GW

1130

8

X

X

X

LG-401-INF-20250117

GW

1150

8

X

X

X

DUP-3-20250117

GW

1200

8

X

X

X

DUP-1-20250117

GW

1105

2

X

DUP-2-20250117

GW

1110

2

X

TRIP BLANK TB-01-20250117

Y

GW

B

B

1400

2

X

X

GW

8

X

X

X

FI

* Matrix:

SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other

Remarks:

DUP3 UNPRESERVED BROKEN VIALS
 COC IN COOLER 1/2

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:

☐ UPS ☐ FedEx ☐ Courier

Tracking #

4047 5441 4005

Relinquished by: (Signature)

Date:

1/17/25

Time:

1500

Received by: (Signature)

FEDEX

Trip Blank Received: Yes / No

☒ Y ☐ N
 MCL / MeOH
 TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: °C

Bottles Received: 36

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Aurora Mitchell 1/18/25 0045

Date: Time:

Hold:

Condition:

NCF / OK

Analysis / Container / Preservative

Chain of Custody

Page 1 of 7



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 #

B034

Acctnum: ENGREMRWA

Template: T266415

Prelogin: P1124726

PM: 3500 - Jennifer Gambill

PB: 1/19/25

Shipped Via: FedEx Ground

Remarks

Sample # (lab only)

-01

-02

-03

-04

-05

-06

-07

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

L# 1818655

[illegible]

Name Alexa Mitchell

11/19/25

Date

[illegible]

Engineering/Remediation Resources Group

Sample Delivery Group: L1818670
Samples Received: 01/18/2025
Project Number: FORMER CIRCLE K
Description: Former Circle K 1461

Report To: Jennifer Sonnichsen
15333 NE 90th Street
Ste 100
Redmond, WA 98052

Entire Report Reviewed By:



Jennifer Gambill
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 mydata.pacelabs.com

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

SAMPLE SUMMARY

MW-21 L1818670-01 GW

				Collected by Blaine Tech	Collected date/time 01/17/25 09:09	Received date/time 01/18/25 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2437058	10	01/21/25 19:24	01/21/25 19:24	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2436501	500	01/20/25 18:02	01/20/25 18:02	JTO	Mt. Juliet, TN

MW-9 L1818670-02 GW

				Collected by Blaine Tech	Collected date/time 01/17/25 09:39	Received date/time 01/18/25 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2437058	1	01/21/25 16:36	01/21/25 16:36	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2436501	20	01/20/25 18:24	01/20/25 18:24	JTO	Mt. Juliet, TN

MW-8 L1818670-03 GW

				Collected by Blaine Tech	Collected date/time 01/17/25 10:10	Received date/time 01/18/25 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2437058	5	01/21/25 19:45	01/21/25 19:45	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2436501	50	01/20/25 18:45	01/20/25 18:45	JTO	Mt. Juliet, TN

MW-13 L1818670-04 GW

				Collected by Blaine Tech	Collected date/time 01/17/25 10:40	Received date/time 01/18/25 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2437058	10	01/21/25 20:06	01/21/25 20:06	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2436501	50	01/20/25 19:06	01/20/25 19:06	JTO	Mt. Juliet, TN

MW-20 L1818670-05 GW

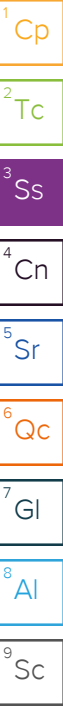
				Collected by Blaine Tech	Collected date/time 01/17/25 11:11	Received date/time 01/18/25 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2437058	10	01/21/25 20:27	01/21/25 20:27	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2436501	250	01/20/25 19:28	01/20/25 19:28	JTO	Mt. Juliet, TN

MW-6 L1818670-06 GW

				Collected by Blaine Tech	Collected date/time 01/17/25 10:59	Received date/time 01/18/25 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2437058	1	01/21/25 16:58	01/21/25 16:58	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2436501	1	01/20/25 15:53	01/20/25 15:53	JTO	Mt. Juliet, TN

MW-19 L1818670-07 GW

				Collected by Blaine Tech	Collected date/time 01/17/25 11:33	Received date/time 01/18/25 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2437058	10	01/21/25 20:48	01/21/25 20:48	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2436501	100	01/20/25 19:50	01/20/25 19:50	JTO	Mt. Juliet, TN



SAMPLE SUMMARY

MW-14 L1818670-08 GW

				Collected by Blaine Tech	Collected date/time 01/17/25 09:09	Received date/time 01/18/25 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2437058	1	01/21/25 17:18	01/21/25 17:18	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2436501	1	01/20/25 16:15	01/20/25 16:15	JTO	Mt. Juliet, TN

MW-16 L1818670-09 GW

				Collected by Blaine Tech	Collected date/time 01/17/25 09:38	Received date/time 01/18/25 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2437058	1	01/21/25 17:39	01/21/25 17:39	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2436501	1	01/20/25 16:37	01/20/25 16:37	JTO	Mt. Juliet, TN

MW-15 L1818670-10 GW

				Collected by Blaine Tech	Collected date/time 01/17/25 10:02	Received date/time 01/18/25 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2437058	1	01/21/25 18:00	01/21/25 18:00	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2436501	1	01/20/25 16:59	01/20/25 16:59	JTO	Mt. Juliet, TN

MW-17 L1818670-11 GW

				Collected by Blaine Tech	Collected date/time 01/17/25 10:35	Received date/time 01/18/25 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2437058	1	01/21/25 18:21	01/21/25 18:21	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2436501	1	01/20/25 17:20	01/20/25 17:20	JTO	Mt. Juliet, TN

MW-18 L1818670-12 GW

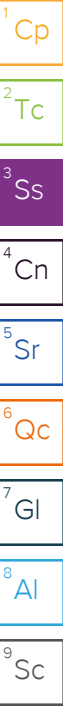
				Collected by Blaine Tech	Collected date/time 01/17/25 11:11	Received date/time 01/18/25 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2437058	1	01/21/25 18:42	01/21/25 18:42	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2436563	1	01/20/25 18:06	01/20/25 18:06	JBE	Mt. Juliet, TN

RW-1 L1818670-13 GW

				Collected by Blaine Tech	Collected date/time 01/17/25 11:44	Received date/time 01/18/25 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2437058	1	01/21/25 19:03	01/21/25 19:03	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2436563	1	01/20/25 18:27	01/20/25 18:27	JBE	Mt. Juliet, TN

DUP-1 L1818670-14 GW

				Collected by Blaine Tech	Collected date/time 01/17/25 12:00	Received date/time 01/18/25 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2437058	10	01/21/25 21:09	01/21/25 21:09	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2436563	25	01/20/25 20:53	01/20/25 20:53	JBE	Mt. Juliet, TN



SAMPLE SUMMARY

TB-01 L1818670-15 GW

Collected by
Blaine Tech

Collected date/time
01/17/25 00:00

Received date/time
01/18/25 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2437058	1	01/21/25 15:12	01/21/25 15:12	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2436570	1	01/20/25 16:56	01/20/25 16:56	DYW	Mt. Juliet, TN

¹Cp ${}^2\text{Tc}$ 3S_1 ${}^4\text{Cn}$ ^5Sr ${}^6\text{Qc}$ ${}^7\text{Gf}$ ${}^8\text{Al}$ ${}^9\text{Sc}$

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.



Jennifer Gambill
Project Manager



Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Gasoline Range Organics-NWTPH	12.0		1.00	10	01/21/2025 19:24	WG2437058
(S) a,a,a-Trifluorotoluene(FID)	84.9		78.0-120		01/21/2025 19:24	WG2437058

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	3.13		0.500	500	01/20/2025 18:02	WG2436501
Toluene	1.78		0.500	500	01/20/2025 18:02	WG2436501
Ethylbenzene	ND		0.500	500	01/20/2025 18:02	WG2436501
Total Xylenes	2.82		1.50	500	01/20/2025 18:02	WG2436501
(S) Toluene-d8	102		80.0-120		01/20/2025 18:02	WG2436501
(S) 4-Bromofluorobenzene	105		77.0-126		01/20/2025 18:02	WG2436501
(S) 1,2-Dichloroethane-d4	95.1		70.0-130		01/20/2025 18:02	WG2436501

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	3.85		0.100	1	01/21/2025 16:36	WG2437058
(S) a,a,a-Trifluorotoluene(FID)	107		78.0-120		01/21/2025 16:36	WG2437058

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.0200	20	01/20/2025 18:24	WG2436501
Toluene	ND		0.0200	20	01/20/2025 18:24	WG2436501
Ethylbenzene	0.156		0.0200	20	01/20/2025 18:24	WG2436501
Total Xylenes	0.203		0.0600	20	01/20/2025 18:24	WG2436501
(S) Toluene-d8	101		80.0-120		01/20/2025 18:24	WG2436501
(S) 4-Bromofluorobenzene	106		77.0-126		01/20/2025 18:24	WG2436501
(S) 1,2-Dichloroethane-d4	96.4		70.0-130		01/20/2025 18:24	WG2436501

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	18.3		0.500	5	01/21/2025 19:45	WG2437058
(S) a,a,a-Trifluorotoluene(FID)	88.6		78.0-120		01/21/2025 19:45	WG2437058

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.0500	50	01/20/2025 18:45	WG2436501
Toluene	0.188		0.0500	50	01/20/2025 18:45	WG2436501
Ethylbenzene	1.27		0.0500	50	01/20/2025 18:45	WG2436501
Total Xylenes	4.92		0.150	50	01/20/2025 18:45	WG2436501
(S) Toluene-d8	103		80.0-120		01/20/2025 18:45	WG2436501
(S) 4-Bromofluorobenzene	103		77.0-126		01/20/2025 18:45	WG2436501
(S) 1,2-Dichloroethane-d4	94.3		70.0-130		01/20/2025 18:45	WG2436501

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	16.1		1.00	10	01/21/2025 20:06	WG2437058
(S) a,a,a-Trifluorotoluene(FID)	87.6		78.0-120		01/21/2025 20:06	WG2437058

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.380		0.0500	50	01/20/2025 19:06	WG2436501
Toluene	0.847		0.0500	50	01/20/2025 19:06	WG2436501
Ethylbenzene	0.712		0.0500	50	01/20/2025 19:06	WG2436501
Total Xylenes	7.43		0.150	50	01/20/2025 19:06	WG2436501
(S) Toluene-d8	102		80.0-120		01/20/2025 19:06	WG2436501
(S) 4-Bromofluorobenzene	103		77.0-126		01/20/2025 19:06	WG2436501
(S) 1,2-Dichloroethane-d4	90.2		70.0-130		01/20/2025 19:06	WG2436501

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	8.95	B	1.00	10	01/21/2025 20:27	WG2437058
(S) a,a,a-Trifluorotoluene(FID)	86.4		78.0-120		01/21/2025 20:27	WG2437058

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.861		0.250	250	01/20/2025 19:28	WG2436501
Toluene	ND		0.250	250	01/20/2025 19:28	WG2436501
Ethylbenzene	0.712		0.250	250	01/20/2025 19:28	WG2436501
Total Xylenes	2.88		0.750	250	01/20/2025 19:28	WG2436501
(S) Toluene-d8	104		80.0-120		01/20/2025 19:28	WG2436501
(S) 4-Bromofluorobenzene	106		77.0-126		01/20/2025 19:28	WG2436501
(S) 1,2-Dichloroethane-d4	92.6		70.0-130		01/20/2025 19:28	WG2436501

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	0.263	B	0.100	1	01/21/2025 16:58	WG2437058
(S) a,a,a-Trifluorotoluene(FID)	86.0		78.0-120		01/21/2025 16:58	WG2437058

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0462		0.00100	1	01/20/2025 15:53	WG2436501
Toluene	0.00167		0.00100	1	01/20/2025 15:53	WG2436501
Ethylbenzene	0.00528		0.00100	1	01/20/2025 15:53	WG2436501
Total Xylenes	ND		0.00300	1	01/20/2025 15:53	WG2436501
(S) Toluene-d8	103		80.0-120		01/20/2025 15:53	WG2436501
(S) 4-Bromofluorobenzene	105		77.0-126		01/20/2025 15:53	WG2436501
(S) 1,2-Dichloroethane-d4	94.1		70.0-130		01/20/2025 15:53	WG2436501

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	14.8		1.00	10	01/21/2025 20:48	WG2437058
(S) a,a,a-Trifluorotoluene(FID)	87.2		78.0-120		01/21/2025 20:48	WG2437058

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.402		0.100	100	01/20/2025 19:50	WG2436501
Toluene	0.669		0.100	100	01/20/2025 19:50	WG2436501
Ethylbenzene	0.684		0.100	100	01/20/2025 19:50	WG2436501
Total Xylenes	4.49		0.300	100	01/20/2025 19:50	WG2436501
(S) Toluene-d8	104		80.0-120		01/20/2025 19:50	WG2436501
(S) 4-Bromofluorobenzene	105		77.0-126		01/20/2025 19:50	WG2436501
(S) 1,2-Dichloroethane-d4	90.2		70.0-130		01/20/2025 19:50	WG2436501

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		0.100	1	01/21/2025 17:18	WG2437058
(S) a,a,a-Trifluorotoluene(FID)	88.6		78.0-120		01/21/2025 17:18	WG2437058

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	01/20/2025 16:15	WG2436501
Toluene	ND		0.00100	1	01/20/2025 16:15	WG2436501
Ethylbenzene	ND		0.00100	1	01/20/2025 16:15	WG2436501
Total Xylenes	ND		0.00300	1	01/20/2025 16:15	WG2436501
(S) Toluene-d8	103		80.0-120		01/20/2025 16:15	WG2436501
(S) 4-Bromofluorobenzene	104		77.0-126		01/20/2025 16:15	WG2436501
(S) 1,2-Dichloroethane-d4	95.6		70.0-130		01/20/2025 16:15	WG2436501

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		0.100	1	01/21/2025 17:39	WG2437058
(S) a,a,a-Trifluorotoluene(FID)	88.3		78.0-120		01/21/2025 17:39	WG2437058

1
Cp

2
Tc

3
Ss

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	01/20/2025 16:37	WG2436501
Toluene	ND		0.00100	1	01/20/2025 16:37	WG2436501
Ethylbenzene	ND		0.00100	1	01/20/2025 16:37	WG2436501
Total Xylenes	ND		0.00300	1	01/20/2025 16:37	WG2436501
(S) Toluene-d8	103		80.0-120		01/20/2025 16:37	WG2436501
(S) 4-Bromofluorobenzene	104		77.0-126		01/20/2025 16:37	WG2436501
(S) 1,2-Dichloroethane-d4	97.7		70.0-130		01/20/2025 16:37	WG2436501

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		0.100	1	01/21/2025 18:00	WG2437058
(S) a,a,a-Trifluorotoluene(FID)	87.8		78.0-120		01/21/2025 18:00	WG2437058

1
Cp

2
Tc

3
Ss

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	01/20/2025 16:59	WG2436501
Toluene	ND		0.00100	1	01/20/2025 16:59	WG2436501
Ethylbenzene	ND		0.00100	1	01/20/2025 16:59	WG2436501
Total Xylenes	ND		0.00300	1	01/20/2025 16:59	WG2436501
(S) Toluene-d8	104		80.0-120		01/20/2025 16:59	WG2436501
(S) 4-Bromofluorobenzene	108		77.0-126		01/20/2025 16:59	WG2436501
(S) 1,2-Dichloroethane-d4	95.1		70.0-130		01/20/2025 16:59	WG2436501

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	0.300	B	0.100	1	01/21/2025 18:21	WG2437058
(S) a,a,a-Trifluorotoluene(FID)	89.0		78.0-120		01/21/2025 18:21	WG2437058

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	01/20/2025 17:20	WG2436501
Toluene	ND		0.00100	1	01/20/2025 17:20	WG2436501
Ethylbenzene	ND		0.00100	1	01/20/2025 17:20	WG2436501
Total Xylenes	ND		0.00300	1	01/20/2025 17:20	WG2436501
(S) Toluene-d8	110		80.0-120		01/20/2025 17:20	WG2436501
(S) 4-Bromofluorobenzene	104		77.0-126		01/20/2025 17:20	WG2436501
(S) 1,2-Dichloroethane-d4	91.4		70.0-130		01/20/2025 17:20	WG2436501

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	0.117	B	0.100	1	01/21/2025 18:42	WG2437058
(S) a,a,a-Trifluorotoluene(FID)	88.7		78.0-120		01/21/2025 18:42	WG2437058

1
Cp

2
Tc

3
Ss

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	01/20/2025 18:06	WG2436563
Ethylbenzene	ND		0.00100	1	01/20/2025 18:06	WG2436563
Toluene	ND		0.00100	1	01/20/2025 18:06	WG2436563
Xylenes, Total	ND		0.00300	1	01/20/2025 18:06	WG2436563
(S) Toluene-d8	104		80.0-120		01/20/2025 18:06	WG2436563
(S) 4-Bromofluorobenzene	103		77.0-126		01/20/2025 18:06	WG2436563
(S) 1,2-Dichloroethane-d4	96.3		70.0-130		01/20/2025 18:06	WG2436563

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	0.167	B	0.100	1	01/21/2025 19:03	WG2437058
(S) a,a,a-Trifluorotoluene(FID)	88.9		78.0-120		01/21/2025 19:03	WG2437058

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	01/20/2025 18:27	WG2436563
Ethylbenzene	ND		0.00100	1	01/20/2025 18:27	WG2436563
Toluene	ND		0.00100	1	01/20/2025 18:27	WG2436563
Xylenes, Total	ND		0.00300	1	01/20/2025 18:27	WG2436563
(S) Toluene-d8	104		80.0-120		01/20/2025 18:27	WG2436563
(S) 4-Bromofluorobenzene	98.3		77.0-126		01/20/2025 18:27	WG2436563
(S) 1,2-Dichloroethane-d4	100		70.0-130		01/20/2025 18:27	WG2436563

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Gasoline Range Organics-NWTPH	5.27	B	1.00	10	01/21/2025 21:09	WG2437058
(S) a,a,a-Trifluorotoluene(FID)	88.0		78.0-120		01/21/2025 21:09	WG2437058

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.0250	25	01/20/2025 20:53	WG2436563
Ethylbenzene	0.198		0.0250	25	01/20/2025 20:53	WG2436563
Toluene	ND		0.0250	25	01/20/2025 20:53	WG2436563
Xylenes, Total	0.247		0.0750	25	01/20/2025 20:53	WG2436563
(S) Toluene-d8	105		80.0-120		01/20/2025 20:53	WG2436563
(S) 4-Bromofluorobenzene	101		77.0-126		01/20/2025 20:53	WG2436563
(S) 1,2-Dichloroethane-d4	92.6		70.0-130		01/20/2025 20:53	WG2436563

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		0.100	1	01/21/2025 15:12	WG2437058
(S) a,a,a-Trifluorotoluene(FID)	88.3		78.0-120		01/21/2025 15:12	WG2437058

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	01/20/2025 16:56	WG2436570
Ethylbenzene	ND		0.00100	1	01/20/2025 16:56	WG2436570
Toluene	ND		0.00100	1	01/20/2025 16:56	WG2436570
Xylenes, Total	ND		0.00300	1	01/20/2025 16:56	WG2436570
(S) Toluene-d8	94.6		80.0-120		01/20/2025 16:56	WG2436570
(S) 4-Bromofluorobenzene	98.3		77.0-126		01/20/2025 16:56	WG2436570
(S) 1,2-Dichloroethane-d4	97.7		70.0-130		01/20/2025 16:56	WG2436570

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Method Blank (MB)

(MB) R4169122-4 01/21/25 12:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Gasoline Range Organics-NWTPH	0.0995	J	0.0316	0.100
(S) a,a,a-Trifluorotoluene(FID)	88.3			78.0-120

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

(LCS) R4169122-2 01/21/25 11:56 • (LCSD) R4169122-3 01/21/25 12:17

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	5.00	4.43	4.80	88.6	96.0	70.0-124			8.02	20
(S) a,a,a-Trifluorotoluene(FID)				94.8	95.5	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) R4168690-3 01/20/25 11:39

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Ethylbenzene	U		0.000137	0.00100
Total Xylenes	U		0.000174	0.00300
(S) Toluene-d8	102			80.0-120
(S) 4-Bromofluorobenzene	107			77.0-126
(S) 1,2-Dichloroethane-d4	94.1			70.0-130

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

(LCS) R4168690-1 01/20/25 09:51 • (LCSD) R4168690-2 01/20/25 10:13

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00478	0.00459	95.6	91.8	70.0-123			4.06	20
Toluene	0.00500	0.00475	0.00446	95.0	89.2	79.0-120			6.30	20
Ethylbenzene	0.00500	0.00478	0.00450	95.6	90.0	79.0-123			6.03	20
Total Xylenes	0.0150	0.0143	0.0133	95.3	88.7	79.0-123			7.25	20
(S) Toluene-d8				103	100	80.0-120				
(S) 4-Bromofluorobenzene				104	102	77.0-126				
(S) 1,2-Dichloroethane-d4				91.5	93.0	70.0-130				

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4169437-3 01/20/25 11:12

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Toluene	U		0.000278	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	107			80.0-120
(S) 4-Bromofluorobenzene	97.3			77.0-126
(S) 1,2-Dichloroethane-d4	100			70.0-130

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

(LCS) R4169437-1 01/20/25 10:09 • (LCSD) R4169437-2 01/20/25 10:30

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00497	0.00503	99.4	101	70.0-123			1.20	20
Ethylbenzene	0.00500	0.00532	0.00530	106	106	79.0-123			0.377	20
Toluene	0.00500	0.00525	0.00546	105	109	79.0-120			3.92	20
Xylenes, Total	0.0150	0.0155	0.0156	103	104	79.0-123			0.643	20
(S) Toluene-d8				104	103	80.0-120				
(S) 4-Bromofluorobenzene				101	98.4	77.0-126				
(S) 1,2-Dichloroethane-d4				95.6	93.1	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4169436-3 01/20/25 11:18

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Toluene	U		0.000278	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	93.8			80.0-120
(S) 4-Bromofluorobenzene	98.7			77.0-126
(S) 1,2-Dichloroethane-d4	95.7			70.0-130

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

(LCS) R4169436-1 01/20/25 09:36 • (LCSD) R4169436-2 01/20/25 09:57

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00597	0.00573	119	115	70.0-123			4.10	20
Ethylbenzene	0.00500	0.00494	0.00519	98.8	104	79.0-123			4.94	20
Toluene	0.00500	0.00527	0.00534	105	107	79.0-120			1.32	20
Xylenes, Total	0.0150	0.0155	0.0157	103	105	79.0-123			1.28	20
(S) Toluene-d8				94.3	92.4	80.0-120				
(S) 4-Bromofluorobenzene				96.6	100	77.0-126				
(S) 1,2-Dichloroethane-d4				104	101	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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.

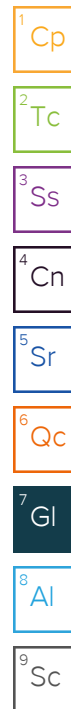
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

B	The same analyte is found in the associated blank.
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


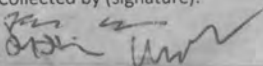
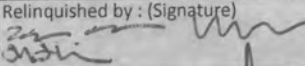
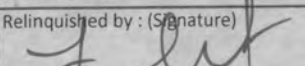
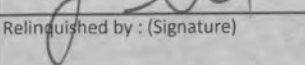
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Alaska	17-026	Nevada	TN000032021-1
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Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	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
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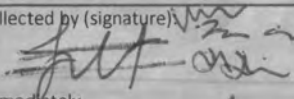
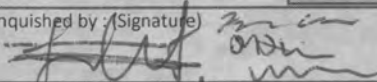
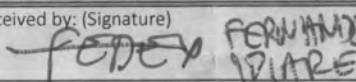
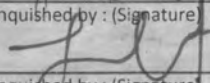
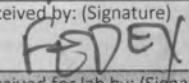
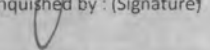
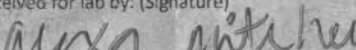
¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* 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: Engineering/Remediation Resources Group 15333 NE 90th Street Report to: Jennifer Sonnichsen Project Description: FORMER CIRCLE K 146		Billing Information: Jennifer Sonnichsen Accounts Payable 15333 NE 90th Street Ste 100 Redmond, WA 98073 Email To: jennifer.sonnichsen@errg.com; spencer.slomins City/State Collected: SEATTLE, WA		Please Circle: PT MT CT ET Client Project # FORMER CIRCLE K Lab Project # ENGREMRWA-CIRCLE K P.O. # Quote # Date Results Needed No. of Cntrs		Analysis / Container / Preservative										Chain of Custody Page 1 of 2  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 # 1818670 B036 Acctnum: ENGREMRWA Template: T263464 Prelogin: P1112895 PM: 3500 - Jennifer Gambill PB: Shipped Via: FedEX Ground					
Phone: 425-658-5026 Collected by (print): BLAINE TECH Collected by (signature):  Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>		Site/Facility ID # Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		Sample ID Comp/Grab Matrix * Depth Date Time Cntrs		NWTPHGX 40mlAmb HCl NWTPHGX 40mlAmb HCl-Bik V8260BTEX 40mlAmb-HCl V8260BTEX 40mlAmb-HCl-Bik										Remarks Sample # (lab only)					
MW-21 MW-9 MW-8 MW-13 MW-20 MW-6 MW-19 MW-14 MW-16 MW-15		GRAB GW GW GW GW GW GW GW GW GW		N/A 1/17/25 0909 0939 1010 1040 1111 1059 1133 0909 0938 1002		6 6 6 6 6 6 6 6 6 6		X X X X X X X X X X										-01 -02 -03 -04 -05 -06 -07 -08 -09 -10			
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other		Remarks: Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier		Tracking # 4208 1341 5281		pH _____ Temp _____ Flow _____ Other _____ Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N															
Relinquished by: (Signature) 		Date: 1/17/25		Time: 1205		Received by: (Signature) FERMANA		Trip Blank Received: Yes / No <input checked="" type="checkbox"/> YCL / MeOH <input type="checkbox"/> TBR		Temp: 54.9C Bottles Received: 15+4=19 84										If preservation required by Login: Date/Time	
Relinquished by: (Signature) 		Date: 1/17/25		Time: 1500		Received by: (Signature) FEDEX		Date: _____ Time: _____										Hold:		Condition: NCF / <input checked="" type="checkbox"/> OK	
Relinquished by: (Signature) 		Date: 1/18/25		Time: 0845		Received by: (Signature) alixen mitchem		Date: 1/18/25 Time: 0845										Condition:		NCF / <input checked="" type="checkbox"/> OK	

Company Name/Address: Engineering/Remediation Resources Group 15333 NE 90th Street Report to: Jennifer Sonnichsen		Billing Information: Jennifer Sonnichsen Accounts Payable 15333 NE 90th Street Ste 100 Email To: jennifer.sonnichsen@errg.com; spencer.slomins		Pres Chk <div style="border: 1px solid black; height: 40px; width: 100%;"></div>		Analysis / Container / Preservative								Chain of Custody Page 2 of 2  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	
Project Description: FORMER CIRCLE K 1461		City/State Collected: SEATTLE, WA		Please Circle: <input checked="" type="radio"/> MT <input type="radio"/> CT <input type="radio"/> ET		NWT PHGX 40ml Amb HCl NWT PHGX 40ml Amb HCl-Bk V8260BTEX 40ml Amb-HCl V8260BTEX 40ml Amb-HCl-Bk								SDG # 1818670	
Phone: 425-658-5026		Client Project # FORMER CIRCLE K		Lab Project # ENGREMRWA-CIRCLE K										Table #	
Collected by (print): BAINE TECH		Site/Facility ID #		P.O. #										Acctnum: ENGREMRWA	
Collected by (signature): 		Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		Quote # Date Results Needed										Template: T263464	
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>		No. of Cntrs		Prelogin: P1112895		PM: 3500 - Jennifer Gambill									
Sample ID		Comp/Grab		Matrix *		Depth		Date		Time		Shipped Via: FedEX Ground			
MW-17 MW-18 RW-1 DUP-1		GRAB ↓		GW		N/A		11/17/25		1035 1111 1144 1200		6 6 6 6			
TRIP BLANK TB-01		GW		GW		GW		GW		GW		GW			
TRIP BLANK		GW		GW		GW		GW		GW		GW			
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other		Remarks:		Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier		Tracking # 4208 13415281		pH _____ Temp _____ Flow _____ Other _____		Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> NP <input type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N Preservation Correct/Checked: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N					
Relinquished by: (Signature) 		Date: 1/17/25		Time: 1205		Received by: (Signature) 		Trip Blank Received: Yes/No <input checked="" type="checkbox"/> HCL/MeOH <input type="checkbox"/> TBR		Temp: 5.4°C		Bottles Received: 1.5L out - 1.9 L 84			
Relinquished by: (Signature) 		Date: 1/17/15		Time: 1500		Received by: (Signature) 		If preservation required by Login: Date/Time		Date: 1/18/25		Time: 0845			
Relinquished by: (Signature) 		Date:		Time:		Received by: (Signature) 		Hold:		Condition: NCF / OK					

Engineering/Remediation Resources Group

Sample Delivery Group: L1827337
Samples Received: 02/15/2025
Project Number: 20230065
Description: Former Circle K 1461

Report To: Jennifer Sonnichsen
15333 NE 90th Street
Ste 100
Redmond, WA 98052

Entire Report Reviewed By:



Jennifer Gambill
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 National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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

SAMPLE SUMMARY

FALCO-300-INF-20250213 L1827337-01 Air

Collected by
Fernando Idiarte

Collected date/time
02/13/25 09:35

Received date/time
02/15/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2454385	100	02/19/25 21:43	02/19/25 21:43	DAH	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG2454886	500	02/20/25 18:43	02/20/25 18:43	MBF	Mt. Juliet, TN

FALCO-300-EFF-20250213 L1827337-02 Air

Collected by
Fernando Idiarte

Collected date/time
02/13/25 09:45

Received date/time
02/15/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2452779	1	02/16/25 21:05	02/16/25 21:05	MNP	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG2454384	10	02/19/25 14:36	02/19/25 14:36	NIH	Mt. Juliet, TN

VP-3-20250213 L1827337-03 Air

Collected by
Fernando Idiarte

Collected date/time
02/13/25 10:25

Received date/time
02/15/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2452779	1	02/16/25 21:36	02/16/25 21:36	MNP	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG2454383	10	02/19/25 21:12	02/19/25 21:12	NIH	Mt. Juliet, TN

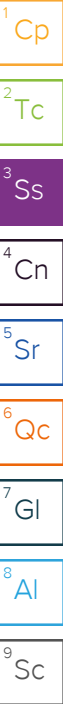
VP-4-2025021 L1827337-04 Air

Collected by
Fernando Idiarte

Collected date/time
02/13/25 10:35

Received date/time
02/15/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2452779	1	02/16/25 22:08	02/16/25 22:08	MNP	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG2454383	200	02/20/25 00:21	02/20/25 00:21	NIH	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.



Jennifer Gambill
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	125	297	380	903		100	WG2454385
Allyl chloride	107-05-1	76.53	20.0	62.6	ND	ND		100	WG2454385
Benzene	71-43-2	78.10	20.0	63.9	2350	7510		100	WG2454385
Benzyl Chloride	100-44-7	127	20.0	104	ND	ND		100	WG2454385
Bromodichloromethane	75-27-4	164	20.0	134	ND	ND		100	WG2454385
Bromoform	75-25-2	253	63.0	652	ND	ND		100	WG2454385
Bromomethane	74-83-9	94.90	20.0	77.6	ND	ND		100	WG2454385
1,3-Butadiene	106-99-0	54.10	200	443	ND	ND		100	WG2454385
Carbon disulfide	75-15-0	76.10	40.0	124	ND	ND		100	WG2454385
Carbon tetrachloride	56-23-5	154	20.0	126	ND	ND		100	WG2454385
Chlorobenzene	108-90-7	113	20.0	92.4	ND	ND		100	WG2454385
Chloroethane	75-00-3	64.50	20.0	52.8	ND	ND		100	WG2454385
Chloroform	67-66-3	119	20.0	97.3	ND	ND		100	WG2454385
Chloromethane	74-87-3	50.50	20.0	41.3	ND	ND		100	WG2454385
2-Chlorotoluene	95-49-8	126	20.0	103	ND	ND		100	WG2454385
Cyclohexane	110-82-7	84.20	20.0	68.9	2480	8540		100	WG2454385
Dibromochloromethane	124-48-1	208	20.0	170	ND	ND		100	WG2454385
1,2-Dibromoethane	106-93-4	188	20.0	154	ND	ND		100	WG2454385
1,2-Dichlorobenzene	95-50-1	147	20.0	120	ND	ND		100	WG2454385
1,3-Dichlorobenzene	541-73-1	147	20.0	120	ND	ND		100	WG2454385
1,4-Dichlorobenzene	106-46-7	147	20.0	120	ND	ND		100	WG2454385
1,2-Dichloroethane	107-06-2	99	20.0	81.0	ND	ND		100	WG2454385
1,1-Dichloroethane	75-34-3	98	20.0	80.2	ND	ND		100	WG2454385
1,1-Dichloroethene	75-35-4	96.90	20.0	79.3	ND	ND		100	WG2454385
cis-1,2-Dichloroethene	156-59-2	96.90	20.0	79.3	50.4	200		100	WG2454385
trans-1,2-Dichloroethene	156-60-5	96.90	20.0	79.3	ND	ND		100	WG2454385
1,2-Dichloropropane	78-87-5	113	20.0	92.4	ND	ND		100	WG2454385
cis-1,3-Dichloropropene	10061-01-5	111	20.0	90.8	ND	ND		100	WG2454385
trans-1,3-Dichloropropene	10061-02-6	111	20.0	90.8	ND	ND		100	WG2454385
1,4-Dioxane	123-91-1	88.10	63.0	227	ND	ND		100	WG2454385
Ethanol	64-17-5	46.10	250	471	764	1440		100	WG2454385
Ethylbenzene	100-41-4	106	20.0	86.7	849	3680		100	WG2454385
4-Ethyltoluene	622-96-8	120	20.0	98.2	1170	5740		100	WG2454385
Trichlorofluoromethane	75-69-4	137.40	20.0	112	ND	ND		100	WG2454385
Dichlorodifluoromethane	75-71-8	120.92	20.0	98.9	ND	ND		100	WG2454385
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	20.0	153	ND	ND		100	WG2454385
1,2-Dichlorotetrafluoroethane	76-14-2	171	20.0	140	ND	ND		100	WG2454385
Heptane	142-82-5	100	20.0	81.8	4330	17700		100	WG2454385
Hexachloro-1,3-butadiene	87-68-3	261	63.0	673	ND	ND		100	WG2454385
n-Hexane	110-54-3	86.20	315	1110	15200	53600		500	WG2454886
Isopropylbenzene	98-82-8	120.20	20.0	98.3	ND	ND		100	WG2454385
Methylene Chloride	75-09-2	84.90	20.0	69.4	ND	ND		100	WG2454385
Methyl Butyl Ketone	591-78-6	100	125	511	ND	ND		100	WG2454385
2-Butanone (MEK)	78-93-3	72.10	125	369	ND	ND		100	WG2454385
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	125	512	ND	ND		100	WG2454385
Methyl methacrylate	80-62-6	100.12	20.0	81.9	ND	ND		100	WG2454385
MTBE	1634-04-4	88.10	20.0	72.1	ND	ND		100	WG2454385
Naphthalene	91-20-3	128	63.0	330	ND	ND		100	WG2454385
2-Propanol	67-63-0	60.10	125	307	1360	3340		100	WG2454385
Propene	115-07-1	42.10	125	215	ND	ND		100	WG2454385
Styrene	100-42-5	104	40.0	170	ND	ND		100	WG2454385
1,1,2,2-Tetrachloroethane	79-34-5	168	20.0	137	ND	ND		100	WG2454385
Tetrachloroethylene	127-18-4	166	20.0	136	281	1910		100	WG2454385
Tetrahydrofuran	109-99-9	72.10	20.0	59.0	ND	ND		100	WG2454385
Toluene	108-88-3	92.10	50.0	188	3230	12200		100	WG2454385
1,2,4-Trichlorobenzene	120-82-1	181	63.0	466	ND	ND		100	WG2454385

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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	20.0	109	ND	ND		100	WG2454385
1,1,2-Trichloroethane	79-00-5	133	20.0	109	ND	ND		100	WG2454385
Trichloroethylene	79-01-6	131	20.0	107	ND	ND		100	WG2454385
1,2,4-Trimethylbenzene	95-63-6	120	20.0	98.2	902	4430		100	WG2454385
1,3,5-Trimethylbenzene	108-67-8	120	20.0	98.2	432	2120		100	WG2454385
2,2,4-Trimethylpentane	540-84-1	114.22	20.0	93.4	5510	25700		100	WG2454385
Vinyl chloride	75-01-4	62.50	20.0	51.1	ND	ND		100	WG2454385
Vinyl Bromide	593-60-2	106.95	20.0	87.5	ND	ND		100	WG2454385
Vinyl acetate	108-05-4	86.10	63.0	222	ND	ND		100	WG2454385
Xylenes, Total	1330-20-7	106.16	60.0	261	8540	37100		100	WG2454385
m&p-Xylene	179601-23-1	106	40.0	173	6470	28000		100	WG2454385
o-Xylene	95-47-6	106	20.0	86.7	2070	8970		100	WG2454385
TPH (GC/MS) Low Fraction	8006-61-9	101	20000	82600	145000	599000		100	WG2454385
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		96.2				WG2454385
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		91.8				WG2454886

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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	6.29	14.9	B	1	WG2452779
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2452779
Benzene	71-43-2	78.10	2.00	6.39	8.97	28.7		10	WG2454384
Benzyl Chloride	100-44-7	127	2.00	10.4	ND	ND		10	WG2454384
Bromodichloromethane	75-27-4	164	2.00	13.4	ND	ND		10	WG2454384
Bromoform	75-25-2	253	6.30	65.2	ND	ND		10	WG2454384
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2452779
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2452779
Carbon disulfide	75-15-0	76.10	0.400	1.24	1.50	4.67		1	WG2452779
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2452779
Chlorobenzene	108-90-7	113	2.00	9.24	ND	ND		10	WG2454384
Chloroethane	75-00-3	64.50	0.200	0.528	0.779	2.06		1	WG2452779
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2452779
Chloromethane	74-87-3	50.50	0.200	0.413	21.9	45.2		1	WG2452779
2-Chlorotoluene	95-49-8	126	2.00	10.3	ND	ND		10	WG2454384
Cyclohexane	110-82-7	84.20	0.200	0.689	24.8	85.4		1	WG2452779
Dibromochloromethane	124-48-1	208	2.00	17.0	ND	ND		10	WG2454384
1,2-Dibromoethane	106-93-4	188	2.00	15.4	ND	ND		10	WG2454384
1,2-Dichlorobenzene	95-50-1	147	2.00	12.0	ND	ND		10	WG2454384
1,3-Dichlorobenzene	541-73-1	147	2.00	12.0	ND	ND		10	WG2454384
1,4-Dichlorobenzene	106-46-7	147	2.00	12.0	ND	ND		10	WG2454384
1,2-Dichloroethane	107-06-2	99	2.00	8.10	ND	ND		10	WG2454384
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2452779
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2452779
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2452779
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2452779
1,2-Dichloropropane	78-87-5	113	2.00	9.24	ND	ND		10	WG2454384
cis-1,3-Dichloropropene	10061-01-5	111	2.00	9.08	ND	ND		10	WG2454384
trans-1,3-Dichloropropene	10061-02-6	111	2.00	9.08	ND	ND		10	WG2454384
1,4-Dioxane	123-91-1	88.10	6.30	22.7	ND	ND		10	WG2454384
Ethanol	64-17-5	46.10	2.50	4.71	8.81	16.6		1	WG2452779
Ethylbenzene	100-41-4	106	2.00	8.67	2.12	9.19		10	WG2454384
4-Ethyltoluene	622-96-8	120	2.00	9.82	ND	ND		10	WG2454384
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	ND	ND		1	WG2452779
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	ND	ND		1	WG2452779
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2452779
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2452779
Heptane	142-82-5	100	2.00	8.18	35.9	147		10	WG2454384
Hexachloro-1,3-butadiene	87-68-3	261	6.30	67.3	ND	ND		10	WG2454384
n-Hexane	110-54-3	86.20	6.30	22.2	236	832		10	WG2454384
Isopropylbenzene	98-82-8	120.20	2.00	9.83	ND	ND		10	WG2454384
Methylene Chloride	75-09-2	84.90	0.200	0.694	6.91	24.0		1	WG2452779
Methyl Butyl Ketone	591-78-6	100	12.5	51.1	ND	ND		10	WG2454384
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2452779
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	12.5	51.2	ND	ND		10	WG2454384
Methyl methacrylate	80-62-6	100.12	2.00	8.19	ND	ND		10	WG2454384
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2452779
Naphthalene	91-20-3	128	6.30	33.0	ND	ND		10	WG2454384
2-Propanol	67-63-0	60.10	1.25	3.07	12.2	30.0		1	WG2452779
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2452779
Styrene	100-42-5	104	4.00	17.0	ND	ND		10	WG2454384
1,1,2,2-Tetrachloroethane	79-34-5	168	2.00	13.7	ND	ND		10	WG2454384
Tetrachloroethylene	127-18-4	166	2.00	13.6	5.50	37.3		10	WG2454384
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2452779
Toluene	108-88-3	92.10	5.00	18.8	7.43	28.0		10	WG2454384
1,2,4-Trichlorobenzene	120-82-1	181	6.30	46.6	ND	ND		10	WG2454384

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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	ND	ND		1	WG2452779
1,1,2-Trichloroethane	79-00-5	133	2.00	10.9	ND	ND		10	WG2454384
Trichloroethylene	79-01-6	131	2.00	10.7	ND	ND		10	WG2454384
1,2,4-Trimethylbenzene	95-63-6	120	2.00	9.82	2.21	10.8		10	WG2454384
1,3,5-Trimethylbenzene	108-67-8	120	2.00	9.82	ND	ND		10	WG2454384
2,2,4-Trimethylpentane	540-84-1	114.22	2.00	9.34	95.9	448		10	WG2454384
Vinyl chloride	75-01-4	62.50	0.200	0.511	0.261	0.667		1	WG2452779
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2452779
Vinyl acetate	108-05-4	86.10	0.630	2.22	ND	ND		1	WG2452779
Xylenes, Total	1330-20-7	106.16	6.00	26.1	9.42	40.9		10	WG2454384
m&p-Xylene	179601-23-1	106	4.00	17.3	6.95	30.1		10	WG2454384
o-Xylene	95-47-6	106	2.00	8.67	2.47	10.7		10	WG2454384
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	606	2500		1	WG2452779
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		102				WG2452779
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		98.9				WG2454384

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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	3.54	8.41	B	1	WG2452779
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2452779
Benzene	71-43-2	78.10	0.200	0.639	1.66	5.30		1	WG2452779
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2452779
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2452779
Bromoform	75-25-2	253	0.630	6.52	ND	ND		1	WG2452779
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2452779
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2452779
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		1	WG2452779
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2452779
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2452779
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2452779
Chloroform	67-66-3	119	0.200	0.973	0.967	4.71		1	WG2452779
Chloromethane	74-87-3	50.50	0.200	0.413	0.221	0.456		1	WG2452779
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2452779
Cyclohexane	110-82-7	84.20	0.200	0.689	0.308	1.06		1	WG2452779
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2452779
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2452779
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2452779
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2452779
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2452779
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2452779
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2452779
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2452779
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2452779
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2452779
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2452779
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2452779
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2452779
1,4-Dioxane	123-91-1	88.10	0.630	2.27	ND	ND		1	WG2452779
Ethanol	64-17-5	46.10	2.50	4.71	8.97	16.9		1	WG2452779
Ethylbenzene	100-41-4	106	0.200	0.867	5.65	24.5		1	WG2452779
4-Ethyltoluene	622-96-8	120	0.200	0.982	9.21	45.2		1	WG2452779
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.208	1.17		1	WG2452779
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.379	1.87		1	WG2452779
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2452779
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2452779
Heptane	142-82-5	100	0.200	0.818	0.785	3.21		1	WG2452779
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2452779
n-Hexane	110-54-3	86.20	0.630	2.22	0.686	2.42		1	WG2452779
Isopropylbenzene	98-82-8	120.20	0.200	0.983	0.704	3.46		1	WG2452779
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.330	1.15		1	WG2452779
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2452779
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2452779
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2452779
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2452779
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2452779
Naphthalene	91-20-3	128	0.630	3.30	2.90	15.2		1	WG2452779
2-Propanol	67-63-0	60.10	1.25	3.07	1.94	4.77		1	WG2452779
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2452779
Styrene	100-42-5	104	0.400	1.70	ND	ND		1	WG2452779
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2452779
Tetrachloroethylene	127-18-4	166	2.00	13.6	143	971		10	WG2454383
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2452779
Toluene	108-88-3	92.10	0.500	1.88	8.38	31.6		1	WG2452779
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2452779

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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	ND	ND		1	WG2452779
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2452779
Trichloroethylene	79-01-6	131	0.200	1.07	11.7	62.7		1	WG2452779
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	37.9	186		1	WG2452779
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	11.5	56.4		1	WG2452779
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	0.470	2.20		1	WG2452779
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2452779
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2452779
Vinyl acetate	108-05-4	86.10	0.630	2.22	ND	ND		1	WG2452779
Xylenes, Total	1330-20-7	106.16	0.600	2.61	70.4	306		1	WG2452779
m&p-Xylene	179601-23-1	106	0.400	1.73	50.1	217		1	WG2452779
o-Xylene	95-47-6	106	0.200	0.867	20.3	88.0		1	WG2452779
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	465	1920		1	WG2452779
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		103				WG2452779
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		93.1				WG2454383

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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	2.77	6.58	B	1	WG2452779
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2452779
Benzene	71-43-2	78.10	0.200	0.639	1.48	4.73		1	WG2452779
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2452779
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2452779
Bromoform	75-25-2	253	0.630	6.52	ND	ND		1	WG2452779
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2452779
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2452779
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		1	WG2452779
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2452779
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2452779
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2452779
Chloroform	67-66-3	119	0.200	0.973	4.33	21.1		1	WG2452779
Chloromethane	74-87-3	50.50	0.200	0.413	0.211	0.436		1	WG2452779
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2452779
Cyclohexane	110-82-7	84.20	0.200	0.689	72.5	250		1	WG2452779
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2452779
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2452779
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2452779
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2452779
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	2.39	14.4		1	WG2452779
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2452779
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2452779
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2452779
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	7.83	31.0		1	WG2452779
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	0.720	2.85		1	WG2452779
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2452779
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2452779
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2452779
1,4-Dioxane	123-91-1	88.10	0.630	2.27	ND	ND		1	WG2452779
Ethanol	64-17-5	46.10	2.50	4.71	13.3	25.1		1	WG2452779
Ethylbenzene	100-41-4	106	0.200	0.867	5.34	23.2		1	WG2452779
4-Ethyltoluene	622-96-8	120	0.200	0.982	6.01	29.5		1	WG2452779
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.247	1.39		1	WG2452779
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.740	3.66		1	WG2452779
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2452779
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2452779
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG2452779
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2452779
n-Hexane	110-54-3	86.20	0.630	2.22	1.14	4.02		1	WG2452779
Isopropylbenzene	98-82-8	120.20	0.200	0.983	0.838	4.12		1	WG2452779
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.256	0.889		1	WG2452779
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2452779
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	1.43	4.22		1	WG2452779
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2452779
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2452779
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2452779
Naphthalene	91-20-3	128	0.630	3.30	7.23	37.9		1	WG2452779
2-Propanol	67-63-0	60.10	1.25	3.07	4.92	12.1		1	WG2452779
Propene	115-07-1	42.10	1.25	2.15	9.69	16.7		1	WG2452779
Styrene	100-42-5	104	0.400	1.70	ND	ND		1	WG2452779
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2452779
Tetrachloroethylene	127-18-4	166	40.0	272	4310	29300		200	WG2454383
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2452779
Toluene	108-88-3	92.10	0.500	1.88	8.45	31.8		1	WG2452779
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2452779

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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	ND	ND		1	WG2452779
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2452779
Trichloroethylene	79-01-6	131	0.200	1.07	75.3	403		1	WG2452779
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	28.5	140		1	WG2452779
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	8.34	40.9		1	WG2452779
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	87.4	408		1	WG2452779
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2452779
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2452779
Vinyl acetate	108-05-4	86.10	0.630	2.22	ND	ND		1	WG2452779
Xylenes, Total	1330-20-7	106.16	0.600	2.61	52.3	227		1	WG2452779
m&p-Xylene	179601-23-1	106	0.400	1.73	34.5	150		1	WG2452779
o-Xylene	95-47-6	106	0.200	0.867	17.8	77.2		1	WG2452779
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	3830	15800		1	WG2452779
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		135				WG2452779
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		97.3				WG2454383

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Method Blank (MB)

(MB) R4177872-3 02/16/25 10:30

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	0.657	U	0.520	1.25
Allyl chloride	U		0.186	0.200
Benzene	U		0.110	0.200
Benzyl Chloride	U		0.0888	0.200
Bromodichloromethane	U		0.0695	0.200
Bromoform	U		0.0755	0.630
Bromomethane	U		0.0938	0.200
1,3-Butadiene	U		0.158	2.00
Carbon disulfide	U		0.160	0.400
Carbon tetrachloride	U		0.0746	0.200
Chlorobenzene	U		0.118	0.200
Chloroethane	U		0.110	0.200
Chloroform	U		0.104	0.200
Chloromethane	U		0.110	0.200
2-Chlorotoluene	U		0.0787	0.200
Cyclohexane	U		0.170	0.200
Dibromochloromethane	U		0.0696	0.200
1,2-Dibromoethane	U		0.0690	0.200
1,2-Dichlorobenzene	U		0.0734	0.200
1,3-Dichlorobenzene	U		0.0753	0.200
1,4-Dichlorobenzene	U		0.0768	0.200
1,2-Dichloroethane	U		0.0730	0.200
1,1-Dichloroethane	U		0.0710	0.200
1,1-Dichloroethene	U		0.0747	0.200
cis-1,2-Dichloroethene	U		0.0796	0.200
trans-1,2-Dichloroethene	U		0.0735	0.200
1,2-Dichloropropane	U		0.0752	0.200
cis-1,3-Dichloropropene	U		0.0743	0.200
trans-1,3-Dichloropropene	U		0.0795	0.200
1,4-Dioxane	U		0.164	0.630
Ethanol	U		2.37	2.50
Ethylbenzene	U		0.0778	0.200
4-Ethyltoluene	U		0.0887	0.200
Trichlorofluoromethane	U		0.0771	0.200
Dichlorodifluoromethane	U		0.0806	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0751	0.200
1,2-Dichlorotetrafluoroethane	U		0.0756	0.200
Heptane	U		0.114	0.200
Hexachloro-1,3-butadiene	U		0.0800	0.630
n-Hexane	U		0.143	0.630

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4177872-3 02/16/25 10:30

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Isopropylbenzene	U		0.0722	0.200
Methylene Chloride	U		0.169	0.200
Methyl Butyl Ketone	U		0.133	1.25
2-Butanone (MEK)	U		0.116	1.25
4-Methyl-2-pentanone (MIBK)	U		0.106	1.25
Methyl methacrylate	U		0.169	0.200
MTBE	U		0.0813	0.200
Naphthalene	U		0.617	0.630
2-Propanol	U		0.680	1.25
Propene	U		0.214	1.25
Styrene	U		0.0802	0.400
1,1,2,2-Tetrachloroethane	U		0.0695	0.200
Tetrahydrofuran	U		0.164	0.200
Toluene	U		0.130	0.500
1,2,4-Trichlorobenzene	U		0.462	0.630
1,1,1-Trichloroethane	U		0.0718	0.200
1,1,2-Trichloroethane	U		0.0683	0.200
Trichloroethylene	U		0.0680	0.200
1,2,4-Trimethylbenzene	U		0.0927	0.200
1,3,5-Trimethylbenzene	U		0.0853	0.200
2,2,4-Trimethylpentane	U		0.0898	0.200
Vinyl chloride	U		0.0826	0.200
Vinyl Bromide	U		0.0749	0.200
Vinyl acetate	U		0.0968	0.630
Xylenes, Total	U		0.0887	0.600
m&p-Xylene	U		0.174	0.400
o-Xylene	U		0.0887	0.200
TPH (GC/MS) Low Fraction	U		68.3	200
(S) 1,4-Bromofluorobenzene	93.1			60.0-140

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R4177872-1 02/16/25 09:27 • (LCSD) R4177872-2 02/16/25 09:59

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	3.91	3.96	104	106	70.0-130			1.27	25
Allyl chloride	3.75	3.62	3.42	96.5	91.2	70.0-130			5.68	25
Benzene	3.75	3.49	3.49	93.1	93.1	70.0-130			0.000	25
Benzyl Chloride	3.75	3.95	3.90	105	104	70.0-152			1.27	25

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

(LCS) R4177872-1 02/16/25 09:27 • (LCSD) R4177872-2 02/16/25 09:59

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	3.49	3.52	93.1	93.9	70.0-130			0.856	25
Bromoform	3.75	3.24	3.24	86.4	86.4	70.0-130			0.000	25
Bromomethane	3.75	3.64	3.58	97.1	95.5	70.0-130			1.66	25
1,3-Butadiene	3.75	3.46	3.48	92.3	92.8	70.0-130			0.576	25
Carbon disulfide	7.50	6.96	6.92	92.8	92.3	70.0-130			0.576	25
Carbon tetrachloride	3.75	3.79	3.74	101	99.7	70.0-130			1.33	25
Chlorobenzene	3.75	3.53	3.55	94.1	94.7	70.0-130			0.565	25
Chloroethane	3.75	3.57	3.48	95.2	92.8	70.0-130			2.55	25
Chloroform	3.75	3.51	3.57	93.6	95.2	70.0-130			1.69	25
Chloromethane	3.75	3.53	3.42	94.1	91.2	70.0-130			3.17	25
2-Chlorotoluene	3.75	3.45	3.52	92.0	93.9	70.0-130			2.01	25
Cyclohexane	3.75	3.44	3.43	91.7	91.5	70.0-130			0.291	25
Dibromochloromethane	3.75	3.53	3.55	94.1	94.7	70.0-130			0.565	25
1,2-Dibromoethane	3.75	3.63	3.71	96.8	98.9	70.0-130			2.18	25
1,2-Dichlorobenzene	3.75	3.59	3.59	95.7	95.7	70.0-130			0.000	25
1,3-Dichlorobenzene	3.75	3.66	3.67	97.6	97.9	70.0-130			0.273	25
1,4-Dichlorobenzene	3.75	3.72	3.72	99.2	99.2	70.0-130			0.000	25
1,2-Dichloroethane	3.75	3.55	3.56	94.7	94.9	70.0-130			0.281	25
1,1-Dichloroethane	3.75	3.58	3.57	95.5	95.2	70.0-130			0.280	25
1,1-Dichloroethene	3.75	3.54	3.46	94.4	92.3	70.0-130			2.29	25
cis-1,2-Dichloroethene	3.75	3.49	3.54	93.1	94.4	70.0-130			1.42	25
trans-1,2-Dichloroethene	3.75	3.47	3.53	92.5	94.1	70.0-130			1.71	25
1,2-Dichloropropane	3.75	3.42	3.41	91.2	90.9	70.0-130			0.293	25
cis-1,3-Dichloropropene	3.75	3.56	3.48	94.9	92.8	70.0-130			2.27	25
trans-1,3-Dichloropropene	3.75	3.52	3.74	93.9	99.7	70.0-130			6.06	25
1,4-Dioxane	3.75	3.49	3.58	93.1	95.5	70.0-140			2.55	25
Ethanol	3.75	3.13	3.05	83.5	81.3	55.0-148			2.59	25
Ethylbenzene	3.75	3.43	3.47	91.5	92.5	70.0-130			1.16	25
4-Ethyltoluene	3.75	3.75	3.79	100	101	70.0-130			1.06	25
Trichlorofluoromethane	3.75	3.58	3.61	95.5	96.3	70.0-130			0.834	25
Dichlorodifluoromethane	3.75	3.58	3.50	95.5	93.3	64.0-139			2.26	25
1,1,2-Trichlorotrifluoroethane	3.75	3.55	3.54	94.7	94.4	70.0-130			0.282	25
1,2-Dichlorotetrafluoroethane	3.75	3.59	3.50	95.7	93.3	70.0-130			2.54	25
Heptane	3.75	3.45	3.47	92.0	92.5	70.0-130			0.578	25
Hexachloro-1,3-butadiene	3.75	3.53	3.43	94.1	91.5	70.0-151			2.87	25
n-Hexane	3.75	3.43	3.39	91.5	90.4	70.0-130			1.17	25
Isopropylbenzene	3.75	3.47	3.52	92.5	93.9	70.0-130			1.43	25
Methylene Chloride	3.75	3.30	3.19	88.0	85.1	70.0-130			3.39	25
Methyl Butyl Ketone	3.75	3.66	3.68	97.6	98.1	70.0-149			0.545	25
2-Butanone (MEK)	3.75	3.53	3.53	94.1	94.1	70.0-130			0.000	25

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

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

(LCS) R4177872-1 02/16/25 09:27 • (LCSD) R4177872-2 02/16/25 09:59

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	3.59	3.55	95.7	94.7	70.0-139			1.12	25
Methyl methacrylate	3.75	3.73	3.69	99.5	98.4	70.0-130			1.08	25
MTBE	3.75	3.50	3.51	93.3	93.6	70.0-130			0.285	25
Naphthalene	3.75	4.05	4.05	108	108	70.0-159			0.000	25
2-Propanol	3.75	3.28	3.34	87.5	89.1	70.0-139			1.81	25
Propene	3.75	3.32	3.45	88.5	92.0	64.0-144			3.84	25
Styrene	7.50	7.40	7.47	98.7	99.6	70.0-130			0.941	25
1,1,2,2-Tetrachloroethane	3.75	3.48	3.49	92.8	93.1	70.0-130			0.287	25
Tetrahydrofuran	3.75	3.42	3.48	91.2	92.8	70.0-137			1.74	25
Toluene	3.75	3.47	3.46	92.5	92.3	70.0-130			0.289	25
1,2,4-Trichlorobenzene	3.75	3.44	3.45	91.7	92.0	70.0-160			0.290	25
1,1,1-Trichloroethane	3.75	3.56	3.63	94.9	96.8	70.0-130			1.95	25
1,1,2-Trichloroethane	3.75	3.68	3.64	98.1	97.1	70.0-130			1.09	25
Trichloroethylene	3.75	3.49	3.51	93.1	93.6	70.0-130			0.571	25
1,2,4-Trimethylbenzene	3.75	3.73	3.71	99.5	98.9	70.0-130			0.538	25
1,3,5-Trimethylbenzene	3.75	3.72	3.71	99.2	98.9	70.0-130			0.269	25
2,2,4-Trimethylpentane	3.75	3.45	3.53	92.0	94.1	70.0-130			2.29	25
Vinyl chloride	3.75	3.54	3.44	94.4	91.7	70.0-130			2.87	25
Vinyl Bromide	3.75	3.61	3.56	96.3	94.9	70.0-130			1.39	25
Vinyl acetate	3.75	2.96	3.15	78.9	84.0	70.0-130			6.22	25
Xylenes, Total	11.3	10.6	10.6	93.8	93.8	70.0-130			0.000	25
m&p-Xylene	7.50	7.04	7.01	93.9	93.5	70.0-130			0.427	25
o-Xylene	3.75	3.55	3.57	94.7	95.2	70.0-130			0.562	25
TPH (GC/MS) Low Fraction	188	168	170	89.4	90.4	70.0-130			1.18	25
(S) 1,4-Bromofluorobenzene				102	101	60.0-140				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4178400-3 02/19/25 10:38

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
Tetrachloroethylene	U		0.111	0.200
(S) 1,4-Bromofluorobenzene	88.5			60.0-140

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

(LCS) R4178400-1 02/19/25 09:21 • (LCSD) R4178400-2 02/19/25 10:00

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Tetrachloroethylene	3.75	4.39	4.42	117	118	70.0-130			0.681	25
(S) 1,4-Bromofluorobenzene				98.7	98.3	60.0-140				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4178377-3 02/19/25 11:08

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.110	0.200
Benzyl Chloride	U		0.0888	0.200
Bromodichloromethane	U		0.0695	0.200
Bromoform	U		0.0755	0.630
Chlorobenzene	U		0.118	0.200
2-Chlorotoluene	U		0.0787	0.200
Dibromochloromethane	U		0.0696	0.200
1,2-Dibromoethane	U		0.0690	0.200
1,2-Dichlorobenzene	U		0.0734	0.200
1,3-Dichlorobenzene	U		0.0753	0.200
1,4-Dichlorobenzene	U		0.0768	0.200
1,2-Dichloroethane	U		0.0730	0.200
1,2-Dichloropropane	U		0.0752	0.200
cis-1,3-Dichloropropene	U		0.0743	0.200
trans-1,3-Dichloropropene	U		0.0795	0.200
1,4-Dioxane	U		0.164	0.630
Ethylbenzene	U		0.0778	0.200
4-Ethyltoluene	U		0.0887	0.200
Heptane	U		0.114	0.200
Hexachloro-1,3-butadiene	U		0.0800	0.630
n-Hexane	U		0.143	0.630
Isopropylbenzene	U		0.0722	0.200
Methyl Butyl Ketone	U		0.133	1.25
4-Methyl-2-pentanone (MIBK)	U		0.106	1.25
Methyl methacrylate	U		0.169	0.200
Naphthalene	U		0.617	0.630
Styrene	U		0.0802	0.400
1,1,2,2-Tetrachloroethane	U		0.0695	0.200
Tetrachloroethylene	U		0.111	0.200
Toluene	U		0.130	0.500
1,2,4-Trichlorobenzene	U		0.462	0.630
1,1,2-Trichloroethane	U		0.0683	0.200
Trichloroethylene	U		0.0680	0.200
1,2,4-Trimethylbenzene	U		0.0927	0.200
1,3,5-Trimethylbenzene	U		0.0853	0.200
2,2,4-Trimethylpentane	U		0.0898	0.200
Xylenes, Total	U		0.0887	0.600
m&p-Xylene	U		0.174	0.400
o-Xylene	U		0.0887	0.200
(S) 1,4-Bromofluorobenzene	96.6			60.0-140

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

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

(LCS) R4178377-1 02/19/25 09:33 • (LCSD) R4178377-2 02/19/25 10:22

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	3.75	3.57	3.52	95.2	93.9	70.0-130			1.41	25
Benzyl Chloride	3.75	3.54	3.53	94.4	94.1	70.0-152			0.283	25
Bromodichloromethane	3.75	3.59	3.64	95.7	97.1	70.0-130			1.38	25
Bromoform	3.75	3.52	3.40	93.9	90.7	70.0-130			3.47	25
Chlorobenzene	3.75	3.59	3.66	95.7	97.6	70.0-130			1.93	25
2-Chlorotoluene	3.75	3.79	3.70	101	98.7	70.0-130			2.40	25
Dibromochloromethane	3.75	3.59	3.66	95.7	97.6	70.0-130			1.93	25
1,2-Dibromoethane	3.75	3.47	3.64	92.5	97.1	70.0-130			4.78	25
1,2-Dichlorobenzene	3.75	3.73	3.76	99.5	100	70.0-130			0.801	25
1,3-Dichlorobenzene	3.75	3.67	3.67	97.9	97.9	70.0-130			0.000	25
1,4-Dichlorobenzene	3.75	3.74	3.64	99.7	97.1	70.0-130			2.71	25
1,2-Dichloroethane	3.75	3.85	3.73	103	99.5	70.0-130			3.17	25
1,2-Dichloropropane	3.75	3.42	3.47	91.2	92.5	70.0-130			1.45	25
cis-1,3-Dichloropropene	3.75	3.43	3.53	91.5	94.1	70.0-130			2.87	25
trans-1,3-Dichloropropene	3.75	3.59	3.76	95.7	100	70.0-130			4.63	25
1,4-Dioxane	3.75	3.61	3.61	96.3	96.3	70.0-140			0.000	25
Ethylbenzene	3.75	3.66	3.63	97.6	96.8	70.0-130			0.823	25
4-Ethyltoluene	3.75	3.76	3.74	100	99.7	70.0-130			0.533	25
Heptane	3.75	3.66	3.61	97.6	96.3	70.0-130			1.38	25
Hexachloro-1,3-butadiene	3.75	3.71	3.75	98.9	100	70.0-151			1.07	25
n-Hexane	3.75	3.51	3.53	93.6	94.1	70.0-130			0.568	25
Isopropylbenzene	3.75	3.83	3.66	102	97.6	70.0-130			4.54	25
Methyl Butyl Ketone	3.75	3.32	3.33	88.5	88.8	70.0-149			0.301	25
4-Methyl-2-pentanone (MIBK)	3.75	3.47	3.55	92.5	94.7	70.0-139			2.28	25
Methyl methacrylate	3.75	3.54	3.71	94.4	98.9	70.0-130			4.69	25
Naphthalene	3.75	3.42	3.46	91.2	92.3	70.0-159			1.16	25
Styrene	7.50	7.95	7.67	106	102	70.0-130			3.59	25
1,1,2,2-Tetrachloroethane	3.75	3.44	3.37	91.7	89.9	70.0-130			2.06	25
Tetrachloroethylene	3.75	3.62	3.69	96.5	98.4	70.0-130			1.92	25
Toluene	3.75	3.61	3.66	96.3	97.6	70.0-130			1.38	25
1,2,4-Trichlorobenzene	3.75	3.04	3.22	81.1	85.9	70.0-160			5.75	25
1,1,2-Trichloroethane	3.75	3.54	3.57	94.4	95.2	70.0-130			0.844	25
Trichloroethylene	3.75	3.52	3.52	93.9	93.9	70.0-130			0.000	25
1,2,4-Trimethylbenzene	3.75	3.86	3.88	103	103	70.0-130			0.517	25
1,3,5-Trimethylbenzene	3.75	3.84	3.80	102	101	70.0-130			1.05	25
2,2,4-Trimethylpentane	3.75	3.50	3.48	93.3	92.8	70.0-130			0.573	25
Xylenes, Total	11.3	11.4	11.1	101	98.2	70.0-130			2.67	25
m&p-Xylene	7.50	7.60	7.43	101	99.1	70.0-130			2.26	25
o-Xylene	3.75	3.82	3.68	102	98.1	70.0-130			3.73	25
(S) 1,4-Bromofluorobenzene				99.2	97.6	60.0-140				

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4178428-3 02/19/25 11:28

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.520	1.25
Allyl chloride	U		0.186	0.200
Benzene	U		0.110	0.200
Benzyl Chloride	U		0.0888	0.200
Bromodichloromethane	U		0.0695	0.200
Bromoform	U		0.0755	0.630
Bromomethane	U		0.0938	0.200
1,3-Butadiene	U		0.158	2.00
Carbon disulfide	U		0.160	0.400
Carbon tetrachloride	U		0.0746	0.200
Chlorobenzene	U		0.118	0.200
Chloroethane	U		0.110	0.200
Chloroform	U		0.104	0.200
Chloromethane	U		0.110	0.200
2-Chlorotoluene	U		0.0787	0.200
Cyclohexane	U		0.170	0.200
Dibromochloromethane	U		0.0696	0.200
1,2-Dibromoethane	U		0.0690	0.200
1,2-Dichlorobenzene	U		0.0734	0.200
1,3-Dichlorobenzene	U		0.0753	0.200
1,4-Dichlorobenzene	U		0.0768	0.200
1,2-Dichloroethane	U		0.0730	0.200
1,1-Dichloroethane	U		0.0710	0.200
1,1-Dichloroethene	U		0.0747	0.200
cis-1,2-Dichloroethene	U		0.0796	0.200
trans-1,2-Dichloroethene	U		0.0735	0.200
1,2-Dichloropropane	U		0.0752	0.200
cis-1,3-Dichloropropene	U		0.0743	0.200
trans-1,3-Dichloropropene	U		0.0795	0.200
1,4-Dioxane	U		0.164	0.630
Ethanol	U		2.37	2.50
Ethylbenzene	U		0.0778	0.200
4-Ethyltoluene	U		0.0887	0.200
Trichlorofluoromethane	U		0.0771	0.200
Dichlorodifluoromethane	U		0.0806	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0751	0.200
1,2-Dichlorotetrafluoroethane	U		0.0756	0.200
Heptane	U		0.114	0.200
Hexachloro-1,3-butadiene	U		0.0800	0.630
Isopropylbenzene	U		0.0722	0.200

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4178428-3 02/19/25 11:28

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Methylene Chloride	U		0.169	0.200
Methyl Butyl Ketone	U		0.133	1.25
2-Butanone (MEK)	U		0.116	1.25
4-Methyl-2-pentanone (MIBK)	U		0.106	1.25
Methyl methacrylate	U		0.169	0.200
MTBE	U		0.0813	0.200
Naphthalene	U		0.617	0.630
2-Propanol	U		0.680	1.25
Propene	U		0.214	1.25
Styrene	U		0.0802	0.400
1,1,2,2-Tetrachloroethane	U		0.0695	0.200
Tetrachloroethylene	U		0.111	0.200
Tetrahydrofuran	U		0.164	0.200
Toluene	U		0.130	0.500
1,2,4-Trichlorobenzene	U		0.462	0.630
1,1,1-Trichloroethane	U		0.0718	0.200
1,1,2-Trichloroethane	U		0.0683	0.200
Trichloroethylene	U		0.0680	0.200
1,2,4-Trimethylbenzene	U		0.0927	0.200
1,3,5-Trimethylbenzene	U		0.0853	0.200
2,2,4-Trimethylpentane	U		0.0898	0.200
Vinyl chloride	U		0.0826	0.200
Vinyl Bromide	U		0.0749	0.200
Vinyl acetate	U		0.0968	0.630
Xylenes, Total	U		0.0887	0.600
m&p-Xylene	U		0.174	0.400
o-Xylene	U		0.0887	0.200
TPH (GC/MS) Low Fraction	U		68.3	200
(S) 1,4-Bromofluorobenzene	94.2			60.0-140

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

L1826382-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1826382-12 02/19/25 16:19 • (DUP) R4178428-4 02/19/25 17:07

Analyte	Original Result ppbv	DUP Result ppbv	Dilution	DUP RPD %	DUP RPD Limits %
Acetone	ND	1.35	1	10.9	25
Allyl chloride	ND	ND	1	0.000	25
Benzene	ND	ND	1	0.000	25
Benzyl Chloride	ND	ND	1	0.000	25

L1826382-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1826382-12 02/19/25 16:19 • (DUP) R4178428-4 02/19/25 17:07

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ppbv	ppbv		%		%
Bromodichloromethane	ND	ND	1	0.000		25
Bromoform	ND	ND	1	0.000		25
Bromomethane	ND	ND	1	0.000		25
1,3-Butadiene	ND	ND	1	0.000		25
Carbon disulfide	ND	ND	1	0.000		25
Carbon tetrachloride	ND	ND	1	0.000		25
Chlorobenzene	ND	ND	1	0.000		25
Chloroethane	ND	ND	1	0.000		25
Chloroform	ND	ND	1	0.000		25
Chloromethane	ND	ND	1	0.000		25
2-Chlorotoluene	ND	ND	1	0.000		25
Cyclohexane	ND	ND	1	0.000		25
Dibromochloromethane	ND	ND	1	0.000		25
1,2-Dibromoethane	ND	ND	1	0.000		25
1,2-Dichlorobenzene	ND	ND	1	0.000		25
1,3-Dichlorobenzene	ND	ND	1	0.000		25
1,4-Dichlorobenzene	ND	ND	1	0.000		25
1,2-Dichloroethane	ND	ND	1	0.000		25
1,1-Dichloroethane	ND	ND	1	0.000		25
1,1-Dichloroethene	ND	ND	1	0.000		25
cis-1,2-Dichloroethene	ND	ND	1	0.000		25
trans-1,2-Dichloroethene	ND	ND	1	0.000		25
1,2-Dichloropropane	ND	ND	1	0.000		25
cis-1,3-Dichloropropene	ND	ND	1	0.000		25
trans-1,3-Dichloropropene	ND	ND	1	0.000		25
1,4-Dioxane	ND	ND	1	0.000		25
Ethanol	10.8	15.4	1	35.1		25
Ethylbenzene	ND	ND	1	0.000		25
4-Ethyltoluene	ND	ND	1	0.000		25
Trichlorofluoromethane	0.298	0.289	1	3.07		25
Dichlorodifluoromethane	0.468	0.468	1	0.000		25
1,1,2-Trichlorotrifluoroethane	ND	ND	1	0.000		25
1,2-Dichlorotetrafluoroethane	0.631	0.613	1	2.89		25
Heptane	ND	ND	1	0.000		25
Hexachloro-1,3-butadiene	ND	ND	1	0.000		25
Isopropylbenzene	ND	ND	1	0.000		25
Methylene Chloride	0.364	0.426	1	15.7		25
Methyl Butyl Ketone	ND	ND	1	0.000		25
2-Butanone (MEK)	ND	ND	1	0.000		25

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1826382-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1826382-12 02/19/25 16:19 • (DUP) R4178428-4 02/19/25 17:07

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ppbv	ppbv		%		%
4-Methyl-2-pentanone (MIBK)	ND	ND	1	0.000		25
Methyl methacrylate	ND	ND	1	0.000		25
MTBE	ND	ND	1	0.000		25
Naphthalene	ND	ND	1	0.000		25
2-Propanol	1.66	1.98	1	17.6		25
Propene	ND	ND	1	0.000		25
Styrene	ND	ND	1	0.000		25
1,1,2,2-Tetrachloroethane	ND	ND	1	0.000		25
Tetrachloroethylene	ND	ND	1	0.000		25
Tetrahydrofuran	ND	ND	1	0.000		25
Toluene	ND	ND	1	1.08		25
1,2,4-Trichlorobenzene	ND	ND	1	0.000		25
1,1,1-Trichloroethane	ND	ND	1	0.000		25
1,1,2-Trichloroethane	ND	ND	1	0.000		25
Trichloroethylene	ND	ND	1	0.000		25
1,2,4-Trimethylbenzene	ND	ND	1	5.13		25
1,3,5-Trimethylbenzene	ND	ND	1	0.000		25
2,2,4-Trimethylpentane	0.233	0.239	1	2.54		25
Vinyl chloride	ND	ND	1	0.000		25
Vinyl Bromide	ND	ND	1	0.000		25
Vinyl acetate	ND	ND	1	0.000		25
Xylenes, Total	ND	ND	1	200	P1	25
m&p-Xylene	ND	ND	1	7.60		25
o-Xylene	ND	ND	1	16.9		25
TPH (GC/MS) Low Fraction	ND	ND	1	200	P1	25
(S) 1,4-Bromofluorobenzene		97.4				60.0-140

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R4178428-1 02/19/25 09:50 • (LCSD) R4178428-2 02/19/25 10:40

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Acetone	3.75	3.57	3.63	95.2	96.8	70.0-130			1.67	25
Allyl chloride	3.75	3.75	3.87	100	103	70.0-130			3.15	25
Benzene	3.75	3.83	3.94	102	105	70.0-130			2.83	25
Benzyl Chloride	3.75	3.50	3.42	93.3	91.2	70.0-152			2.31	25
Bromodichloromethane	3.75	3.70	3.73	98.7	99.5	70.0-130			0.808	25
Bromoform	3.75	3.45	3.47	92.0	92.5	70.0-130			0.578	25
Bromomethane	3.75	3.64	3.60	97.1	96.0	70.0-130			1.10	25

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

(LCS) R4178428-1 02/19/25 09:50 • (LCSD) R4178428-2 02/19/25 10:40

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
1,3-Butadiene	3.75	3.17	3.40	84.5	90.7	70.0-130			7.00	25
Carbon disulfide	7.50	7.69	7.76	103	103	70.0-130			0.906	25
Carbon tetrachloride	3.75	3.70	3.76	98.7	100	70.0-130			1.61	25
Chlorobenzene	3.75	3.85	3.92	103	105	70.0-130			1.80	25
Chloroethane	3.75	3.83	3.73	102	99.5	70.0-130			2.65	25
Chloroform	3.75	3.72	3.79	99.2	101	70.0-130			1.86	25
Chloromethane	3.75	3.74	3.76	99.7	100	70.0-130			0.533	25
2-Chlorotoluene	3.75	3.72	3.71	99.2	98.9	70.0-130			0.269	25
Cyclohexane	3.75	3.73	3.82	99.5	102	70.0-130			2.38	25
Dibromochloromethane	3.75	3.68	3.78	98.1	101	70.0-130			2.68	25
1,2-Dibromoethane	3.75	3.79	3.86	101	103	70.0-130			1.83	25
1,2-Dichlorobenzene	3.75	3.72	3.66	99.2	97.6	70.0-130			1.63	25
1,3-Dichlorobenzene	3.75	3.70	3.69	98.7	98.4	70.0-130			0.271	25
1,4-Dichlorobenzene	3.75	3.75	3.72	100	99.2	70.0-130			0.803	25
1,2-Dichloroethane	3.75	3.69	3.71	98.4	98.9	70.0-130			0.541	25
1,1-Dichloroethane	3.75	3.81	3.85	102	103	70.0-130			1.04	25
1,1-Dichloroethene	3.75	3.74	3.80	99.7	101	70.0-130			1.59	25
cis-1,2-Dichloroethene	3.75	3.80	3.84	101	102	70.0-130			1.05	25
trans-1,2-Dichloroethene	3.75	3.82	3.83	102	102	70.0-130			0.261	25
1,2-Dichloropropane	3.75	3.87	3.90	103	104	70.0-130			0.772	25
cis-1,3-Dichloropropene	3.75	3.77	3.79	101	101	70.0-130			0.529	25
trans-1,3-Dichloropropene	3.75	3.68	3.71	98.1	98.9	70.0-130			0.812	25
1,4-Dioxane	3.75	3.59	3.70	95.7	98.7	70.0-140			3.02	25
Ethanol	3.75	3.45	3.47	92.0	92.5	55.0-148			0.578	25
Ethylbenzene	3.75	3.76	3.82	100	102	70.0-130			1.58	25
4-Ethyltoluene	3.75	3.66	3.67	97.6	97.9	70.0-130			0.273	25
Trichlorofluoromethane	3.75	3.69	3.73	98.4	99.5	70.0-130			1.08	25
Dichlorodifluoromethane	3.75	3.68	3.64	98.1	97.1	64.0-139			1.09	25
1,1,2-Trichlorotrifluoroethane	3.75	3.80	3.85	101	103	70.0-130			1.31	25
1,2-Dichlorotetrafluoroethane	3.75	3.99	3.97	106	106	70.0-130			0.503	25
Heptane	3.75	3.77	3.87	101	103	70.0-130			2.62	25
Hexachloro-1,3-butadiene	3.75	3.75	3.73	100	99.5	70.0-151			0.535	25
Isopropylbenzene	3.75	3.77	3.68	101	98.1	70.0-130			2.42	25
Methylene Chloride	3.75	3.70	3.75	98.7	100	70.0-130			1.34	25
Methyl Butyl Ketone	3.75	3.55	3.52	94.7	93.9	70.0-149			0.849	25
2-Butanone (MEK)	3.75	3.78	3.84	101	102	70.0-130			1.57	25
4-Methyl-2-pentanone (MIBK)	3.75	3.56	3.61	94.9	96.3	70.0-139			1.39	25
Methyl methacrylate	3.75	3.44	3.62	91.7	96.5	70.0-130			5.10	25
MTBE	3.75	3.73	3.78	99.5	101	70.0-130			1.33	25
Naphthalene	3.75	3.70	3.76	98.7	100	70.0-159			1.61	25

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R4178428-1 02/19/25 09:50 • (LCSD) R4178428-2 02/19/25 10:40

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2-Propanol	3.75	3.65	3.61	97.3	96.3	70.0-139			1.10	25
Propene	3.75	3.56	3.60	94.9	96.0	64.0-144			1.12	25
Styrene	7.50	7.65	7.83	102	104	70.0-130			2.33	25
1,1,2,2-Tetrachloroethane	3.75	3.66	3.58	97.6	95.5	70.0-130			2.21	25
Tetrachloroethylene	3.75	3.81	3.85	102	103	70.0-130			1.04	25
Tetrahydrofuran	3.75	3.70	3.74	98.7	99.7	70.0-137			1.08	25
Toluene	3.75	3.76	3.81	100	102	70.0-130			1.32	25
1,2,4-Trichlorobenzene	3.75	3.77	3.79	101	101	70.0-160			0.529	25
1,1,1-Trichloroethane	3.75	3.66	3.71	97.6	98.9	70.0-130			1.36	25
1,1,2-Trichloroethane	3.75	3.79	3.84	101	102	70.0-130			1.31	25
Trichloroethylene	3.75	3.77	3.83	101	102	70.0-130			1.58	25
1,2,4-Trimethylbenzene	3.75	3.71	3.64	98.9	97.1	70.0-130			1.90	25
1,3,5-Trimethylbenzene	3.75	3.81	3.72	102	99.2	70.0-130			2.39	25
2,2,4-Trimethylpentane	3.75	3.84	3.91	102	104	70.0-130			1.81	25
Vinyl chloride	3.75	3.44	3.64	91.7	97.1	70.0-130			5.65	25
Vinyl Bromide	3.75	3.66	3.66	97.6	97.6	70.0-130			0.000	25
Vinyl acetate	3.75	3.72	3.73	99.2	99.5	70.0-130			0.268	25
Xylenes, Total	11.3	11.3	11.5	100	102	70.0-130			1.75	25
m&p-Xylene	7.50	7.56	7.71	101	103	70.0-130			1.96	25
o-Xylene	3.75	3.74	3.77	99.7	101	70.0-130			0.799	25
TPH (GC/MS) Low Fraction	188	169	172	89.9	91.5	70.0-130			1.76	25
(S) 1,4-Bromofluorobenzene				95.9	97.0	60.0-140				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4178586-3 02/20/25 10:27

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ppbv		ppbv	ppbv
n-Hexane	U		0.143	0.630
(S) 1,4-Bromofluorobenzene	88.4			60.0-140

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

(LCS) R4178586-1 02/20/25 09:09 • (LCSD) R4178586-2 02/20/25 09:49

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ppbv	ppbv	ppbv	%	%	%			%	%
n-Hexane	3.75	4.28	4.33	114	115	70.0-130			1.16	25
(S) 1,4-Bromofluorobenzene				99.1	98.6	60.0-140				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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.
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.
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.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

ACCREDITATIONS & LOCATIONS

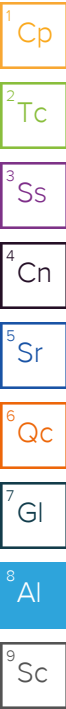
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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.



Pace® Location Requested (City/State):								Air CHAIN-OF-CUSTODY Analytical Request Document Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields											
Company Name: Engineering/Remediation Resources Group								Contact/Report To: Jennifer Sonnichsen											
Street Address: 15333 NE 90th Street								Phone #: 425-658-5026											
								E-Mail: jennifer.sonnichsen@errg.com; spencer.slominski@erra.com; fernando.idarte@erra.com											
City, State Zip:								Cc E-Mail:											
Customer Project #: 20230065								Invoice to:											
Project Name: FORMER CIRCLE K 1461								Invoice E-Mail:											
Site Collection Info/Facility ID (as applicable): ENGREMRWA-CIRCLE K								Purchase Order # (if applicable):											
Time Zone Collected: [] AK [x] PT [] MT [] CT [] ET								Quote #:											
Data Deliverables:								Regulatory Program (CAA, RCRA, etc.) as applicable:											
[] Level II [] Level III [] Level IV								Rush (Pre-approval required): 2 Day 3 day 5 day Other _____											
[] EQUIS								Permit # as applicable:											
[] Other: EIM WA								Units for Reporting: (<u>ug/m³</u>) PPBV mg/m³ PPMV											
Date Results Requested:								Date Results Reported:											
* Matrix Codes (Insert in Matrix box below): Ambient (A), Indoor (I), Soil Vapor (SV), Other (O)																			
Customer Sample ID		Matrix *	Summa Canister ID	Flow Controller ID	Begin Collection		End Collection		Start Pressure / Vacuum (in Hg)	End Pressure / Vacuum (in Hg)	Duration (minutes)	Flow Rate m³/min or L/min	Total Volume Sampled m³ or L	TO-15 Summa	Lab Use Only				
FALCO-300-INF-20250213	SV	12314	29006	2/13	0930	2/13	0935	30	5					X					
FALCO-300-EFF-20250213	SV	7633	13601		0940		0945	28	4					X					
VP-3-20250213	SV	12540	13901		1020		1025	28	4					X					
VP-4-2025021	SV	23403	28915		1030		1035	28	4					X					
Customer Remarks / Special Conditions / Possible Hazards:								Collected By: ERRG Printed Name: FERNANDO IDARTE Signature: <i>[Signature]</i>				Additional Instructions from Pace®:							
Relinquished by/Company: <i>[Signature]</i> ERRG								Date/Time: 2/13/24 1140				Received by/Company: <i>[Signature]</i>				Date/Time: <i>[Signature]</i>			
Relinquished by/Company: <i>[Signature]</i>								Date/Time:				Received by/Company: <i>[Signature]</i>				Date/Time:			
Relinquished by/Company: <i>[Signature]</i>								Date/Time:				Received by/Company: <i>[Signature]</i>				Date/Time:			
Relinquished by/Company: <i>[Signature]</i>								Date/Time:				Received by/Company: <i>[Signature]</i>				Date/Time:			
												# Coolers: Thermometer ID: Correction Factor (°C): Obs. Temp. (°C): Corrected Temp. (°C): <i>[Handwritten]</i>							
												Working Number: <i>[Handwritten]</i> 9209 0732							
												Delivered by: In-Person Courier <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> UPS <input type="checkbox"/> Other							
												Page: 1 of 1							

Engineering/Remediation Resources Group

Sample Delivery Group: L1829173
Samples Received: 02/22/2025
Project Number: 20230065
Description: Former Cricle K 1461
Site: FORMER CIRCLE K 1461
Report To: Jennifer Sonnichsen
15333 NE 90th Street
Ste 100
Redmond, WA 98052

Entire Report Reviewed By:



Jennifer Gambill
Project Manager

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Pace Analytical National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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Sc: Sample Chain of Custody	29

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

SAMPLE SUMMARY

RW-1 L1829173-01 GW

				Collected by Blaine Tech	Collected date/time 02/21/25 09:12	Received date/time 02/22/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2457356	1	02/25/25 13:33	02/25/25 13:33	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2457157	1	02/24/25 19:58	02/24/25 19:58	WHS	Mt. Juliet, TN

MW-13 L1829173-02 GW

				Collected by Blaine Tech	Collected date/time 02/21/25 09:13	Received date/time 02/22/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2457356	10	02/25/25 16:39	02/25/25 16:39	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2457157	50	02/24/25 22:09	02/24/25 22:09	WHS	Mt. Juliet, TN

MW-18 L1829173-03 GW

				Collected by Blaine Tech	Collected date/time 02/21/25 09:35	Received date/time 02/22/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2457356	1	02/25/25 13:55	02/25/25 13:55	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2457157	1	02/24/25 20:16	02/24/25 20:16	WHS	Mt. Juliet, TN

MW-9 L1829173-04 GW

				Collected by Blaine Tech	Collected date/time 02/21/25 09:41	Received date/time 02/22/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2457356	1	02/25/25 14:16	02/25/25 14:16	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2457316	20	02/25/25 00:42	02/25/25 00:42	JAH	Mt. Juliet, TN

MW-16 L1829173-05 GW

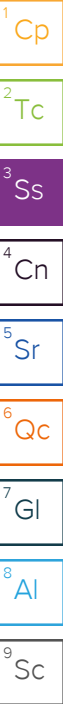
				Collected by Blaine Tech	Collected date/time 02/21/25 10:00	Received date/time 02/22/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2457356	1	02/25/25 14:38	02/25/25 14:38	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2457316	1	02/24/25 22:35	02/24/25 22:35	JAH	Mt. Juliet, TN

MW-8 L1829173-06 GW

				Collected by Blaine Tech	Collected date/time 02/21/25 10:09	Received date/time 02/22/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2457356	5	02/25/25 17:01	02/25/25 17:01	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2457316	50	02/25/25 01:03	02/25/25 01:03	JAH	Mt. Juliet, TN

MW-14 L1829173-07 GW

				Collected by Blaine Tech	Collected date/time 02/21/25 10:23	Received date/time 02/22/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2457356	1	02/25/25 14:59	02/25/25 14:59	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2457316	1	02/24/25 22:56	02/24/25 22:56	JAH	Mt. Juliet, TN



SAMPLE SUMMARY

MW-6 L1829173-08 GW

				Collected by Blaine Tech	Collected date/time 02/21/25 10:39	Received date/time 02/22/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2457356	1	02/25/25 15:21	02/25/25 15:21	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2457316	1	02/24/25 23:17	02/24/25 23:17	JAH	Mt. Juliet, TN

MW-15 L1829173-09 GW

				Collected by Blaine Tech	Collected date/time 02/21/25 10:55	Received date/time 02/22/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2458619	1	02/27/25 01:00	02/27/25 01:00	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2457316	1	02/24/25 23:38	02/24/25 23:38	JAH	Mt. Juliet, TN

MW-17 L1829173-10 GW

				Collected by Blaine Tech	Collected date/time 02/21/25 11:43	Received date/time 02/22/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2457356	1	02/25/25 16:18	02/25/25 16:18	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2457316	1	02/25/25 00:00	02/25/25 00:00	JAH	Mt. Juliet, TN

MW-21 L1829173-11 GW

				Collected by Blaine Tech	Collected date/time 02/21/25 11:15	Received date/time 02/22/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2457356	10	02/25/25 17:22	02/25/25 17:22	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2457316	500	02/25/25 03:11	02/25/25 03:11	JAH	Mt. Juliet, TN

MW-20 L1829173-12 GW

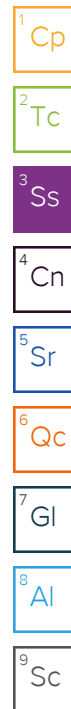
				Collected by Blaine Tech	Collected date/time 02/21/25 11:47	Received date/time 02/22/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2457356	10	02/25/25 17:44	02/25/25 17:44	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2457316	250	02/25/25 02:50	02/25/25 02:50	JAH	Mt. Juliet, TN

TB-1 L1829173-13 GW

				Collected by Blaine Tech	Collected date/time 02/21/25 09:00	Received date/time 02/22/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2457356	1	02/25/25 11:24	02/25/25 11:24	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2457316	1	02/24/25 21:53	02/24/25 21:53	JAH	Mt. Juliet, TN

TB-2 L1829173-14 GW

				Collected by Blaine Tech	Collected date/time 02/21/25 09:05	Received date/time 02/22/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2457356	1	02/25/25 11:45	02/25/25 11:45	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2457316	1	02/24/25 22:14	02/24/25 22:14	JAH	Mt. Juliet, TN



SAMPLE SUMMARY

MW-19 L1829173-15 GW

Collected by
Blaine Tech

Collected date/time
02/21/25 11:20

Received date/time
02/22/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2457356	10	02/25/25 18:05	02/25/25 18:05	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2457316	100	02/25/25 02:29	02/25/25 02:29	JAH	Mt. Juliet, TN

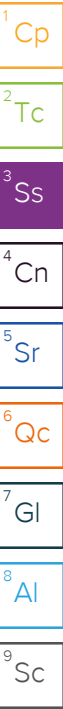
DUP-1 L1829173-16 GW

Collected by
Blaine Tech

Collected date/time
02/21/25 12:00

Received date/time
02/22/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2457356	10	02/25/25 18:26	02/25/25 18:26	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2457316	10	02/25/25 00:21	02/25/25 00:21	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.



Jennifer Gambill
Project Manager



Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	0.223	B	0.100	1	02/25/2025 13:33	WG2457356
(S) a,a,a-Trifluorotoluene(FID)	101		78.0-120		02/25/2025 13:33	WG2457356

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	02/24/2025 19:58	WG2457157
Ethylbenzene	ND		0.00100	1	02/24/2025 19:58	WG2457157
Toluene	ND		0.00100	1	02/24/2025 19:58	WG2457157
Xylenes, Total	ND		0.00300	1	02/24/2025 19:58	WG2457157
(S) Toluene-d8	101		80.0-120		02/24/2025 19:58	WG2457157
(S) 4-Bromofluorobenzene	94.8		77.0-126		02/24/2025 19:58	WG2457157
(S) 1,2-Dichloroethane-d4	121		70.0-130		02/24/2025 19:58	WG2457157

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	14.1		1.00	10	02/25/2025 16:39	WG2457356
(S) a,a,a-Trifluorotoluene(FID)	98.3		78.0-120		02/25/2025 16:39	WG2457356

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.352		0.0500	50	02/24/2025 22:09	WG2457157
Ethylbenzene	0.409		0.0500	50	02/24/2025 22:09	WG2457157
Toluene	0.580		0.0500	50	02/24/2025 22:09	WG2457157
Xylenes, Total	5.14		0.150	50	02/24/2025 22:09	WG2457157
(S) Toluene-d8	104		80.0-120		02/24/2025 22:09	WG2457157
(S) 4-Bromofluorobenzene	96.2		77.0-126		02/24/2025 22:09	WG2457157
(S) 1,2-Dichloroethane-d4	107		70.0-130		02/24/2025 22:09	WG2457157

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	0.110	B	0.100	1	02/25/2025 13:55	WG2457356
(S) a,a,a-Trifluorotoluene(FID)	100		78.0-120		02/25/2025 13:55	WG2457356

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	02/24/2025 20:16	WG2457157
Ethylbenzene	ND		0.00100	1	02/24/2025 20:16	WG2457157
Toluene	ND		0.00100	1	02/24/2025 20:16	WG2457157
Xylenes, Total	ND		0.00300	1	02/24/2025 20:16	WG2457157
(S) Toluene-d8	100		80.0-120		02/24/2025 20:16	WG2457157
(S) 4-Bromofluorobenzene	97.4		77.0-126		02/24/2025 20:16	WG2457157
(S) 1,2-Dichloroethane-d4	118		70.0-130		02/24/2025 20:16	WG2457157

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

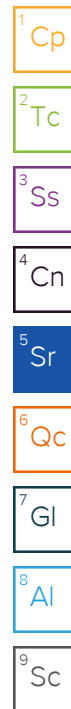
Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	9.02		0.100	1	02/25/2025 14:16	WG2457356
(S) a,a,a-Trifluorotoluene(FID)	118		78.0-120		02/25/2025 14:16	WG2457356

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.0200	20	02/25/2025 00:42	WG2457316
Ethylbenzene	0.351		0.0200	20	02/25/2025 00:42	WG2457316
Toluene	0.0325		0.0200	20	02/25/2025 00:42	WG2457316
Xylenes, Total	0.665		0.0600	20	02/25/2025 00:42	WG2457316
(S) Toluene-d8	90.2		80.0-120		02/25/2025 00:42	WG2457316
(S) 4-Bromofluorobenzene	97.1		77.0-126		02/25/2025 00:42	WG2457316
(S) 1,2-Dichloroethane-d4	116		70.0-130		02/25/2025 00:42	WG2457316

Sample Narrative:

L1829173-04 WG2457316: Non-target compounds too high to run at a lower dilution.



Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	0.112	B	0.100	1	02/25/2025 14:38	WG2457356
(S) a,a,a-Trifluorotoluene(FID)	100		78.0-120		02/25/2025 14:38	WG2457356

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	02/24/2025 22:35	WG2457316
Ethylbenzene	ND		0.00100	1	02/24/2025 22:35	WG2457316
Toluene	ND		0.00100	1	02/24/2025 22:35	WG2457316
Xylenes, Total	ND		0.00300	1	02/24/2025 22:35	WG2457316
(S) Toluene-d8	95.6		80.0-120		02/24/2025 22:35	WG2457316
(S) 4-Bromofluorobenzene	99.1		77.0-126		02/24/2025 22:35	WG2457316
(S) 1,2-Dichloroethane-d4	121		70.0-130		02/24/2025 22:35	WG2457316

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

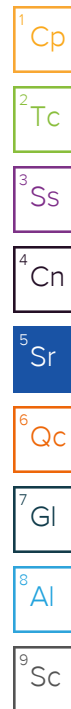
Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	23.4		0.500	5	02/25/2025 17:01	WG2457356
(S) a,a,a-Trifluorotoluene(FID)	96.9		78.0-120		02/25/2025 17:01	WG2457356

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.0500	50	02/25/2025 01:03	WG2457316
Ethylbenzene	1.07		0.0500	50	02/25/2025 01:03	WG2457316
Toluene	0.178		0.0500	50	02/25/2025 01:03	WG2457316
Xylenes, Total	4.06		0.150	50	02/25/2025 01:03	WG2457316
(S) Toluene-d8	88.6		80.0-120		02/25/2025 01:03	WG2457316
(S) 4-Bromofluorobenzene	96.5		77.0-126		02/25/2025 01:03	WG2457316
(S) 1,2-Dichloroethane-d4	115		70.0-130		02/25/2025 01:03	WG2457316

Sample Narrative:

L1829173-06 WG2457316: Non-target compounds too high to run at a lower dilution.



Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		0.100	1	02/25/2025 14:59	WG2457356
(S) a,a,a-Trifluorotoluene(FID)	100		78.0-120		02/25/2025 14:59	WG2457356

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	02/24/2025 22:56	WG2457316
Ethylbenzene	ND		0.00100	1	02/24/2025 22:56	WG2457316
Toluene	ND		0.00100	1	02/24/2025 22:56	WG2457316
Xylenes, Total	ND		0.00300	1	02/24/2025 22:56	WG2457316
(S) Toluene-d8	96.9		80.0-120		02/24/2025 22:56	WG2457316
(S) 4-Bromofluorobenzene	101		77.0-126		02/24/2025 22:56	WG2457316
(S) 1,2-Dichloroethane-d4	118		70.0-130		02/24/2025 22:56	WG2457316

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	0.109	B	0.100	1	02/25/2025 15:21	WG2457356
(S) a,a,a-Trifluorotoluene(FID)	98.5		78.0-120		02/25/2025 15:21	WG2457356

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0227		0.00100	1	02/24/2025 23:17	WG2457316
Ethylbenzene	0.00138		0.00100	1	02/24/2025 23:17	WG2457316
Toluene	ND		0.00100	1	02/24/2025 23:17	WG2457316
Xylenes, Total	ND		0.00300	1	02/24/2025 23:17	WG2457316
(S) Toluene-d8	93.3		80.0-120		02/24/2025 23:17	WG2457316
(S) 4-Bromofluorobenzene	94.6		77.0-126		02/24/2025 23:17	WG2457316
(S) 1,2-Dichloroethane-d4	121		70.0-130		02/24/2025 23:17	WG2457316

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		0.100	1	02/27/2025 01:00	WG2458619
(S) a,a,a-Trifluorotoluene(FID)	102		78.0-120		02/27/2025 01:00	WG2458619

1
Cp

2
Tc

3
Ss

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	02/24/2025 23:38	WG2457316
Ethylbenzene	ND		0.00100	1	02/24/2025 23:38	WG2457316
Toluene	ND		0.00100	1	02/24/2025 23:38	WG2457316
Xylenes, Total	ND		0.00300	1	02/24/2025 23:38	WG2457316
(S) Toluene-d8	94.0		80.0-120		02/24/2025 23:38	WG2457316
(S) 4-Bromofluorobenzene	96.6		77.0-126		02/24/2025 23:38	WG2457316
(S) 1,2-Dichloroethane-d4	122		70.0-130		02/24/2025 23:38	WG2457316

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	0.323	B	0.100	1	02/25/2025 16:18	WG2457356
(S) a,a,a-Trifluorotoluene(FID)	101		78.0-120		02/25/2025 16:18	WG2457356

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	02/25/2025 00:00	WG2457316
Ethylbenzene	ND		0.00100	1	02/25/2025 00:00	WG2457316
Toluene	ND		0.00100	1	02/25/2025 00:00	WG2457316
Xylenes, Total	ND		0.00300	1	02/25/2025 00:00	WG2457316
(S) Toluene-d8	94.3		80.0-120		02/25/2025 00:00	WG2457316
(S) 4-Bromofluorobenzene	95.9		77.0-126		02/25/2025 00:00	WG2457316
(S) 1,2-Dichloroethane-d4	117		70.0-130		02/25/2025 00:00	WG2457316

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	69.0		1.00	10	02/25/2025 17:22	WG2457356
(S) a,a,a-Trifluorotoluene(FID)	89.8		78.0-120		02/25/2025 17:22	WG2457356

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	16.4		0.500	500	02/25/2025 03:11	WG2457316
Ethylbenzene	0.970		0.500	500	02/25/2025 03:11	WG2457316
Toluene	14.7		0.500	500	02/25/2025 03:11	WG2457316
Xylenes, Total	6.39		1.50	500	02/25/2025 03:11	WG2457316
(S) Toluene-d8	93.1		80.0-120		02/25/2025 03:11	WG2457316
(S) 4-Bromofluorobenzene	98.0		77.0-126		02/25/2025 03:11	WG2457316
(S) 1,2-Dichloroethane-d4	117		70.0-130		02/25/2025 03:11	WG2457316

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	41.6		1.00	10	02/25/2025 17:44	WG2457356
(S) a,a,a-Trifluorotoluene(FID)	93.4		78.0-120		02/25/2025 17:44	WG2457356

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	7.73		0.250	250	02/25/2025 02:50	WG2457316
Ethylbenzene	0.920		0.250	250	02/25/2025 02:50	WG2457316
Toluene	7.97		0.250	250	02/25/2025 02:50	WG2457316
Xylenes, Total	4.94		0.750	250	02/25/2025 02:50	WG2457316
(S) Toluene-d8	91.9		80.0-120		02/25/2025 02:50	WG2457316
(S) 4-Bromofluorobenzene	98.8		77.0-126		02/25/2025 02:50	WG2457316
(S) 1,2-Dichloroethane-d4	123		70.0-130		02/25/2025 02:50	WG2457316

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		0.100	1	02/25/2025 11:24	WG2457356
(S) a,a,a-Trifluorotoluene(FID)	100		78.0-120		02/25/2025 11:24	WG2457356

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	02/24/2025 21:53	WG2457316
Ethylbenzene	ND		0.00100	1	02/24/2025 21:53	WG2457316
Toluene	ND		0.00100	1	02/24/2025 21:53	WG2457316
Xylenes, Total	ND		0.00300	1	02/24/2025 21:53	WG2457316
(S) Toluene-d8	94.4		80.0-120		02/24/2025 21:53	WG2457316
(S) 4-Bromofluorobenzene	99.6		77.0-126		02/24/2025 21:53	WG2457316
(S) 1,2-Dichloroethane-d4	118		70.0-130		02/24/2025 21:53	WG2457316

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		0.100	1	02/25/2025 11:45	WG2457356
(S) a,a,a-Trifluorotoluene(FID)	100		78.0-120		02/25/2025 11:45	WG2457356

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	02/24/2025 22:14	WG2457316
Ethylbenzene	ND		0.00100	1	02/24/2025 22:14	WG2457316
Toluene	ND		0.00100	1	02/24/2025 22:14	WG2457316
Xylenes, Total	ND		0.00300	1	02/24/2025 22:14	WG2457316
(S) Toluene-d8	97.4		80.0-120		02/24/2025 22:14	WG2457316
(S) 4-Bromofluorobenzene	101		77.0-126		02/24/2025 22:14	WG2457316
(S) 1,2-Dichloroethane-d4	121		70.0-130		02/24/2025 22:14	WG2457316

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	17.1		1.00	10	02/25/2025 18:05	WG2457356
(S) a,a,a-Trifluorotoluene(FID)	96.9		78.0-120		02/25/2025 18:05	WG2457356

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.336		0.100	100	02/25/2025 02:29	WG2457316
Ethylbenzene	0.718		0.100	100	02/25/2025 02:29	WG2457316
Toluene	0.933		0.100	100	02/25/2025 02:29	WG2457316
Xylenes, Total	3.82		0.300	100	02/25/2025 02:29	WG2457316
(S) Toluene-d8	91.1		80.0-120		02/25/2025 02:29	WG2457316
(S) 4-Bromofluorobenzene	93.2		77.0-126		02/25/2025 02:29	WG2457316
(S) 1,2-Dichloroethane-d4	115		70.0-130		02/25/2025 02:29	WG2457316

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Gasoline Range Organics-NWTPH	23.5		1.00	10	02/25/2025 18:26	WG2457356
(S) a,a,a-Trifluorotoluene(FID)	98.2		78.0-120		02/25/2025 18:26	WG2457356

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.0100	10	02/25/2025 00:21	WG2457316
Ethylbenzene	1.14		0.0100	10	02/25/2025 00:21	WG2457316
Toluene	0.186		0.0100	10	02/25/2025 00:21	WG2457316
Xylenes, Total	4.21		0.0300	10	02/25/2025 00:21	WG2457316
(S) Toluene-d8	87.1		80.0-120		02/25/2025 00:21	WG2457316
(S) 4-Bromofluorobenzene	95.2		77.0-126		02/25/2025 00:21	WG2457316
(S) 1,2-Dichloroethane-d4	122		70.0-130		02/25/2025 00:21	WG2457316

Sample Narrative:

L1829173-16 WG2457316: Non-target compounds too high to run at a lower dilution.

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4180407-2 02/25/25 10:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Gasoline Range Organics-NWTPH	0.0647	J	0.0316	0.100
(S) a,a,a-Trifluorotoluene(FID)	99.9			78.0-120

Laboratory Control Sample (LCS)

(LCS) R4180407-1 02/25/25 09:47

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5.00	5.24	105	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			99.2	78.0-120	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4180754-3 02/26/25 23:24

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Gasoline Range Organics-NWTPH	U		0.0316	0.100
(S) a,a,a-Trifluorotoluene(FID)	104			78.0-120

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

(LCS) R4180754-1 02/26/25 21:31 • (LCSD) R4180754-4 02/26/25 23:56

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	5.00	4.76	4.92	95.2	98.4	70.0-124			3.31	20
(S) a,a,a-Trifluorotoluene(FID)				106	104	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) R4179828-3 02/24/25 12:49

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Toluene	U		0.000278	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	96.6			80.0-120
(S) 4-Bromofluorobenzene	93.4			77.0-126
(S) 1,2-Dichloroethane-d4	129			70.0-130

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

(LCS) R4179828-1 02/24/25 11:35 • (LCSD) R4179828-2 02/24/25 11:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00484	0.00490	96.8	98.0	70.0-123			1.23	20
Ethylbenzene	0.00500	0.00448	0.00465	89.6	93.0	79.0-123			3.72	20
Toluene	0.00500	0.00554	0.00558	111	112	79.0-120			0.719	20
Xylenes, Total	0.0150	0.0144	0.0147	96.0	98.0	79.0-123			2.06	20
(S) Toluene-d8				97.9	96.6	80.0-120				
(S) 4-Bromofluorobenzene				94.2	91.4	77.0-126				
(S) 1,2-Dichloroethane-d4				122	116	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4179942-3 02/24/25 18:54

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Toluene	U		0.000278	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	93.3			80.0-120
(S) 4-Bromofluorobenzene	97.4			77.0-126
(S) 1,2-Dichloroethane-d4	113			70.0-130

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

(LCS) R4179942-1 02/24/25 17:08 • (LCSD) R4179942-2 02/24/25 17:29

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00539	0.00517	108	103	70.0-123			4.17	20
Ethylbenzene	0.00500	0.00413	0.00412	82.6	82.4	79.0-123			0.242	20
Toluene	0.00500	0.00466	0.00452	93.2	90.4	79.0-120			3.05	20
Xylenes, Total	0.0150	0.0129	0.0128	86.0	85.3	79.0-123			0.778	20
(S) Toluene-d8				93.0	91.6	80.0-120				
(S) 4-Bromofluorobenzene				94.9	96.1	77.0-126				
(S) 1,2-Dichloroethane-d4				116	119	70.0-130				

1
Cp

2
Tc

3
Ss

4
Cn

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Sr

6
Qc

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Gl

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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.

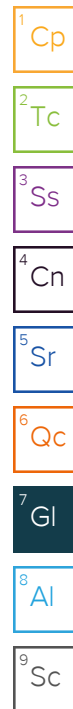
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

Abbreviations and Definitions

MDL	Method Detection Limit.
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

B	The same analyte is found in the associated blank.
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	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: Engineering/Remediation Resources Group 15333 NE 90th Street Report to: Fernando Idiarte 425-658-5026						Billing Information: Jennifer Sonnichsen 15333 NE 90th Street Ste 100 Redmond, WA 98052 Email To: jennifer.sonnichsen@errg.com;fernando.idiarte						Pres Chk		Analysis / Container / Preservative										Chain of Custody		Page 1 of 1					
Project Description: FORMER CIRCLE K 1461						City/State Collected: Seattle, WA						Please Circle: <input checked="" type="checkbox"/> MT <input type="checkbox"/> CT <input type="checkbox"/> ET						 MT JULIET, TN 1206S 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 # 1829173 B130 Acctnum: ENGREMRWA Template: T224845 Prelogin: P1131375 PM: 3500 - Jennifer Gambill PB: 2/14/25 MV Shipped Via: FedEX Ground													
Regulatory Program(DOD,RCRA,DW,etc): ECOTOLOGY						Client Project # 20230065						Lab Project # ENGREMRWA-JBLM-YTC CIRCLE K																			
Collected by (print): BLAINE TECH						Site/Facility ID # CIRCLE K 1461 FORMER						P.O. #																			
Collected by (signature): <i>[Signature]</i>						Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day <input type="checkbox"/> STD TAT						Quote #																			
Immediately Packed on ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>						Date Results Needed						No. of Cntrs																			
Sample ID						Comp/Grab		Matrix *		Depth		Date		Time														Remarks		Sample # (lab only)	
RW-1						GRAB		GW		N/A		2/2/25		0912		36		X												-01	
mw-13								GW						0913		36		X												-02	
mw-18								GW						0935		36		X												-03	
mw-9								GW						0941		36		X												-04	
mw-16								GW						1000		36		X												-05	
mw-8								GW						1009		63		X												-06	
mw-14								GW						1023		63		X												-07	
mw-6								GW						1039		63		X												-08	
mw-15								GW						1055		63		X												-09	
mw-17								GW						1143		63		X												-10	
* Matrix:						Remarks: 8260D - BTEX ONLY														pH _____ Temp _____				<u>Sample Receipt Check/List</u> COC Seal Present/Intact: <input checked="" type="checkbox"/> NP <input type="checkbox"/> Y <input type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input type="checkbox"/> Y <input type="checkbox"/> N RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N							
SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other _____																				Flow _____ Other _____											
Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier						Tracking # 4046 0481 2570						Trip Blank Received: Yes/No 4 HCL / MeOH TBR						If preservation required by Login: Date/Time													
Relinquished by : (Signature) <i>[Signature]</i>						Date: 2/21/25 Time: 1330						Received by: (Signature) FEDEX												Temp: 54.9°C Bottles Received: 84							
Relinquished by : (Signature)						Date: Time:						Received by: (Signature)												Time: Hold:							
Relinquished by : (Signature)						Date: Time:						Received for lab by: (Signature) Alexa Mitchell						Date: 2/22/25 Time: 0900						Condition: NCF / OK							

[illegible]

Engineering/Remediation Resources Group

Sample Delivery Group: L1831494
Samples Received: 03/01/2025
Project Number: 20230065
Description: Former Circle K
Site: 1461
Report To: Jennifer Sonnichsen
15333 NE 90th Street
Ste 100
Redmond, WA 98052

Entire Report Reviewed By:



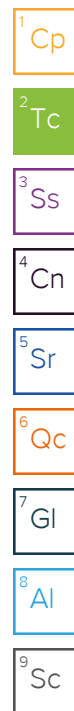
Jennifer Gambill
Project Manager

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 National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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SAMPLE SUMMARY

LG-404-EFF-20250227 L1831494-01 GW

Collected by
FL

Collected date/time
02/27/25 16:00

Received date/time
03/01/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG2463462	1	03/06/25 08:09	03/06/25 13:15	CWB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2462795	1	03/05/25 15:30	03/05/25 15:30	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2461889	1	03/03/25 23:48	03/03/25 23:48	JBE	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

LG-403-MID-20250227 L1831494-02 GW

Collected by
FL

Collected date/time
02/27/25 16:45

Received date/time
03/01/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG2463462	1	03/06/25 08:09	03/06/25 13:15	CWB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2462795	1	03/05/25 15:53	03/05/25 15:53	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2461889	1	03/04/25 00:07	03/04/25 00:07	JBE	Mt. Juliet, TN

LG-401-INF-20250227 L1831494-03 GW

Collected by
FL

Collected date/time
02/27/25 17:00

Received date/time
03/01/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG2463462	1	03/06/25 08:09	03/06/25 13:15	CWB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2462795	1	03/05/25 16:16	03/05/25 16:16	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2461889	1	03/04/25 00:26	03/04/25 00:26	JBE	Mt. Juliet, TN

DUP-1-2025027 L1831494-04 GW

Collected by
FL

Collected date/time
02/27/25 16:15

Received date/time
03/01/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG2463462	1	03/06/25 08:09	03/06/25 13:15	CWB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2462795	1	03/05/25 16:40	03/05/25 16:40	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2461889	1	03/04/25 00:45	03/04/25 00:45	JBE	Mt. Juliet, TN

DUP-2 L1831494-05 GW

Collected by
FL

Collected date/time
02/27/25 16:30

Received date/time
03/01/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG2463462	1	03/06/25 08:09	03/06/25 13:15	CWB	Mt. Juliet, TN

TB-1-20250228 L1831494-06 GW

Collected by
FL

Collected date/time
02/28/25 12:00

Received date/time
03/01/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2462795	1	03/05/25 10:51	03/05/25 10:51	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2461889	1	03/03/25 23:29	03/03/25 23:29	JBE	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.



Jennifer Gambill
Project Manager



Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.88	1	03/06/2025 13:15	WG2463462

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Gasoline Range Organics-NWTPH	ND		0.100	1	03/05/2025 15:30	WG2462795
(S) a,a,a-Trifluorotoluene(FID)	101		78.0-120		03/05/2025 15:30	WG2462795

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	03/03/2025 23:48	WG2461889
cis-1,2-Dichloroethene	ND		0.00100	1	03/03/2025 23:48	WG2461889
trans-1,2-Dichloroethene	ND		0.00100	1	03/03/2025 23:48	WG2461889
Ethylbenzene	ND		0.00100	1	03/03/2025 23:48	WG2461889
Tetrachloroethene	ND		0.00100	1	03/03/2025 23:48	WG2461889
Toluene	ND		0.00100	1	03/03/2025 23:48	WG2461889
Trichloroethene	ND		0.00100	1	03/03/2025 23:48	WG2461889
Vinyl chloride	ND		0.00100	1	03/03/2025 23:48	WG2461889
Xylenes, Total	ND		0.00300	1	03/03/2025 23:48	WG2461889
(S) Toluene-d8	97.4		80.0-120		03/03/2025 23:48	WG2461889
(S) 4-Bromofluorobenzene	99.3		77.0-126		03/03/2025 23:48	WG2461889
(S) 1,2-Dichloroethane-d4	104		70.0-130		03/03/2025 23:48	WG2461889

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.62	1	03/06/2025 13:15	WG2463462

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Gasoline Range Organics-NWTPH	ND		0.100	1	03/05/2025 15:53	WG2462795
(S) a,a,a-Trifluorotoluene(FID)	101		78.0-120		03/05/2025 15:53	WG2462795

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	03/04/2025 00:07	WG2461889
cis-1,2-Dichloroethene	ND		0.00100	1	03/04/2025 00:07	WG2461889
trans-1,2-Dichloroethene	ND		0.00100	1	03/04/2025 00:07	WG2461889
Ethylbenzene	ND		0.00100	1	03/04/2025 00:07	WG2461889
Tetrachloroethene	ND		0.00100	1	03/04/2025 00:07	WG2461889
Toluene	ND		0.00100	1	03/04/2025 00:07	WG2461889
Trichloroethene	ND		0.00100	1	03/04/2025 00:07	WG2461889
Vinyl chloride	ND		0.00100	1	03/04/2025 00:07	WG2461889
Xylenes, Total	ND		0.00300	1	03/04/2025 00:07	WG2461889
(S) Toluene-d8	99.4		80.0-120		03/04/2025 00:07	WG2461889
(S) 4-Bromofluorobenzene	97.9		77.0-126		03/04/2025 00:07	WG2461889
(S) 1,2-Dichloroethane-d4	103		70.0-130		03/04/2025 00:07	WG2461889

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 1664B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Oil & Grease (Hexane Extr)	11.9		5.68	1	03/06/2025 13:15	WG2463462

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	0.114		0.100	1	03/05/2025 16:16	WG2462795
(S) a,a,a-Trifluorotoluene(FID)	101		78.0-120		03/05/2025 16:16	WG2462795

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00209		0.00100	1	03/04/2025 00:26	WG2461889
cis-1,2-Dichloroethene	ND		0.00100	1	03/04/2025 00:26	WG2461889
trans-1,2-Dichloroethene	ND		0.00100	1	03/04/2025 00:26	WG2461889
Ethylbenzene	ND		0.00100	1	03/04/2025 00:26	WG2461889
Tetrachloroethene	0.00336		0.00100	1	03/04/2025 00:26	WG2461889
Toluene	0.00183		0.00100	1	03/04/2025 00:26	WG2461889
Trichloroethene	ND		0.00100	1	03/04/2025 00:26	WG2461889
Vinyl chloride	ND		0.00100	1	03/04/2025 00:26	WG2461889
Xylenes, Total	ND		0.00300	1	03/04/2025 00:26	WG2461889
(S) Toluene-d8	103		80.0-120		03/04/2025 00:26	WG2461889
(S) 4-Bromofluorobenzene	92.2		77.0-126		03/04/2025 00:26	WG2461889
(S) 1,2-Dichloroethane-d4	98.4		70.0-130		03/04/2025 00:26	WG2461889

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 1664B

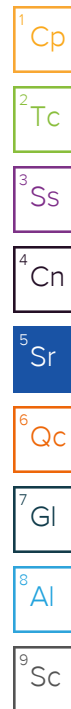
Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND	J6	6.10	1	03/06/2025 13:15	WG2463462

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Gasoline Range Organics-NWTPH	ND		0.100	1	03/05/2025 16:40	WG2462795
(S) a,a,a-Trifluorotoluene(FID)	102		78.0-120		03/05/2025 16:40	WG2462795

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Benzene	ND		0.00100	1	03/04/2025 00:45	WG2461889
cis-1,2-Dichloroethene	ND		0.00100	1	03/04/2025 00:45	WG2461889
trans-1,2-Dichloroethene	ND		0.00100	1	03/04/2025 00:45	WG2461889
Ethylbenzene	ND		0.00100	1	03/04/2025 00:45	WG2461889
Tetrachloroethene	ND		0.00100	1	03/04/2025 00:45	WG2461889
Toluene	ND		0.00100	1	03/04/2025 00:45	WG2461889
Trichloroethene	ND		0.00100	1	03/04/2025 00:45	WG2461889
Vinyl chloride	ND		0.00100	1	03/04/2025 00:45	WG2461889
Xylenes, Total	ND		0.00300	1	03/04/2025 00:45	WG2461889
(S) Toluene-d8	103		80.0-120		03/04/2025 00:45	WG2461889
(S) 4-Bromofluorobenzene	92.9		77.0-126		03/04/2025 00:45	WG2461889
(S) 1,2-Dichloroethane-d4	101		70.0-130		03/04/2025 00:45	WG2461889



Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		6.33	1	03/06/2025 13:15	WG2463462

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		0.100	1	03/05/2025 10:51	WG2462795
(S) a,a,a-Trifluorotoluene(FID)	101		78.0-120		03/05/2025 10:51	WG2462795

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	03/03/2025 23:29	WG2461889
cis-1,2-Dichloroethene	ND		0.00100	1	03/03/2025 23:29	WG2461889
trans-1,2-Dichloroethene	ND		0.00100	1	03/03/2025 23:29	WG2461889
Ethylbenzene	ND		0.00100	1	03/03/2025 23:29	WG2461889
Tetrachloroethene	ND		0.00100	1	03/03/2025 23:29	WG2461889
Toluene	ND		0.00100	1	03/03/2025 23:29	WG2461889
Trichloroethene	ND		0.00100	1	03/03/2025 23:29	WG2461889
Vinyl chloride	ND		0.00100	1	03/03/2025 23:29	WG2461889
Xylenes, Total	ND		0.00300	1	03/03/2025 23:29	WG2461889
(S) Toluene-d8	94.8		80.0-120		03/03/2025 23:29	WG2461889
(S) 4-Bromofluorobenzene	98.1		77.0-126		03/03/2025 23:29	WG2461889
(S) 1,2-Dichloroethane-d4	101		70.0-130		03/03/2025 23:29	WG2461889

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Method Blank (MB)

(MB) R4183323-1 03/06/25 13:15

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Oil & Grease (Hexane Extr)	U		1.40	5.00

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) R4183323-2 03/06/25 13:15 • (LCSD) R4183323-3 03/06/25 13:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Oil & Grease (Hexane Extr)	40.0	34.6	34.5	86.5	86.3	78.0-114			0.289	20

L1831494-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1831494-04 03/06/25 13:15 • (MS) R4183323-4 03/06/25 13:15

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Oil & Grease (Hexane Extr)	40.0	ND	25.6	64.0	1	78.0-114	J6

Method Blank (MB)

(MB) R4183187-3 03/05/25 10:08

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Gasoline Range Organics-NWTPH	U		0.0316	0.100
(S) a,a,a-Trifluorotoluene(FID)	101			78.0-120

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

(LCS) R4183187-1 03/05/25 08:57 • (LCSD) R4183187-2 03/05/25 09:21

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	5.00	4.40	4.80	88.0	96.0	70.0-124			8.70	20
(S) a,a,a-Trifluorotoluene(FID)				106	104	78.0-120				

L1831191-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1831191-01 03/05/25 12:47 • (MS) R4183187-4 03/05/25 19:24 • (MSD) R4183187-5 03/05/25 19:47

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	5.00	0.318	5.90	6.04	112	114	1	10.0-155			2.35	21
(S) a,a,a-Trifluorotoluene(FID)					107	106		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) R4183796-2 03/03/25 22:54

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
cis-1,2-Dichloroethene	U		0.000126	0.00100
trans-1,2-Dichloroethene	U		0.000149	0.00100
Ethylbenzene	U		0.000137	0.00100
Tetrachloroethene	U		0.000300	0.00100
Toluene	U		0.000278	0.00100
Trichloroethene	U		0.000190	0.00100
Vinyl chloride	U		0.000234	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	97.8			80.0-120
(S) 4-Bromofluorobenzene	96.5			77.0-126
(S) 1,2-Dichloroethane-d4	102			70.0-130

Laboratory Control Sample (LCS)

(LCS) R4183796-1 03/03/25 19:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00542	108	70.0-123	
cis-1,2-Dichloroethene	0.00500	0.00499	99.8	73.0-120	
trans-1,2-Dichloroethene	0.00500	0.00504	101	73.0-120	
Ethylbenzene	0.00500	0.00514	103	79.0-123	
Tetrachloroethene	0.00500	0.00599	120	72.0-132	
Toluene	0.00500	0.00533	107	79.0-120	
Trichloroethene	0.00500	0.00581	116	78.0-124	
Vinyl chloride	0.00500	0.00488	97.6	67.0-131	
Xylenes, Total	0.0150	0.0152	101	79.0-123	
(S) Toluene-d8			101	80.0-120	
(S) 4-Bromofluorobenzene			91.7	77.0-126	
(S) 1,2-Dichloroethane-d4			99.9	70.0-130	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

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.

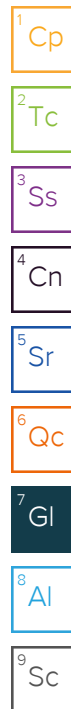
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
----	---



ACCREDITATIONS & LOCATIONS

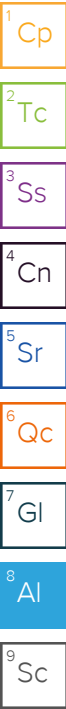
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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.



Engineering/Remediation Resources Group

Sample Delivery Group: L1839238
Samples Received: 03/22/2025
Project Number: 20230065
Description: Former Circle K
Site: 1461
Report To: Jennifer Sonnichsen
15333 NE 90th Street
Ste 100
Redmond, WA 98052

Entire Report Reviewed By:



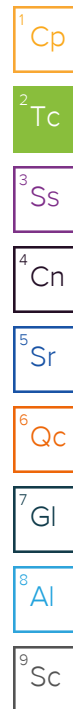
Jennifer Gambill
Project Manager

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 National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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SAMPLE SUMMARY

LG-404-EFF-20250321 L1839238-01 GW

				Collected by FL	Collected date/time 03/21/25 12:30	Received date/time 03/22/25 09:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG2479066	1	03/29/25 07:42	03/29/25 12:19	CWB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2476256	1	03/26/25 02:08	03/26/25 02:08	JBE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2479143	1	03/29/25 16:30	03/29/25 16:30	DWR	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

LG-404-DUP1-20250321 L1839238-02 GW

				Collected by FL	Collected date/time 03/21/25 12:35	Received date/time 03/22/25 09:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG2479066	1	03/29/25 07:42	03/29/25 12:19	CWB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2475151	1	03/24/25 20:21	03/24/25 20:21	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2479143	1	03/29/25 16:53	03/29/25 16:53	DWR	Mt. Juliet, TN

LG-404-DUP2-20250321 L1839238-03 GW

				Collected by FL	Collected date/time 03/21/25 12:40	Received date/time 03/22/25 09:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG2479066	1	03/29/25 07:42	03/29/25 12:19	CWB	Mt. Juliet, TN

LG-402-MID-20250321 L1839238-04 GW

				Collected by FL	Collected date/time 03/21/25 12:50	Received date/time 03/22/25 09:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG2479066	1	03/29/25 07:42	03/29/25 12:19	CWB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2477158	1	03/26/25 18:23	03/26/25 18:23	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2479143	1	03/29/25 17:17	03/29/25 17:17	DWR	Mt. Juliet, TN

LG-401-INF-20250321 L1839238-05 GW

				Collected by FL	Collected date/time 03/21/25 13:00	Received date/time 03/22/25 09:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG2479066	1	03/29/25 07:42	03/29/25 12:19	CWB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2477158	1	03/26/25 18:44	03/26/25 18:44	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2479143	1	03/29/25 17:41	03/29/25 17:41	DWR	Mt. Juliet, TN

TB-01-20250321 L1839238-06 GW

				Collected by FL	Collected date/time 03/21/25 13:30	Received date/time 03/22/25 09:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2477158	1	03/26/25 17:19	03/26/25 17:19	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2479143	1	03/29/25 14:29	03/29/25 14:29	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.



Jennifer Gambill
Project Manager



Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.95	1	03/29/2025 12:19	WG2479066

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	ND		100	1	03/26/2025 02:08	WG2476256
(S) a,a,a-Trifluorotoluene(FID)	101		78.0-120		03/26/2025 02:08	WG2476256

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	03/29/2025 16:30	WG2479143
Ethylbenzene	ND		1.00	1	03/29/2025 16:30	WG2479143
Toluene	ND		1.00	1	03/29/2025 16:30	WG2479143
Xylenes, Total	ND		3.00	1	03/29/2025 16:30	WG2479143
Trichloroethene	ND		1.00	1	03/29/2025 16:30	WG2479143
cis-1,2-Dichloroethene	ND		1.00	1	03/29/2025 16:30	WG2479143
trans-1,2-Dichloroethene	ND		1.00	1	03/29/2025 16:30	WG2479143
Tetrachloroethene	ND		1.00	1	03/29/2025 16:30	WG2479143
Vinyl chloride	ND	C3	1.00	1	03/29/2025 16:30	WG2479143
(S) Toluene-d8	100		80.0-120		03/29/2025 16:30	WG2479143
(S) 4-Bromofluorobenzene	102		77.0-126		03/29/2025 16:30	WG2479143
(S) 1,2-Dichloroethane-d4	95.3		70.0-130		03/29/2025 16:30	WG2479143

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.26	1	03/29/2025 12:19	WG2479066

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	ND		100	1	03/24/2025 20:21	WG2475151
(S) a,a,a-Trifluorotoluene(FID)	102		78.0-120		03/24/2025 20:21	WG2475151

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	03/29/2025 16:53	WG2479143
Ethylbenzene	ND		1.00	1	03/29/2025 16:53	WG2479143
Toluene	ND		1.00	1	03/29/2025 16:53	WG2479143
Xylenes, Total	ND		3.00	1	03/29/2025 16:53	WG2479143
Trichloroethene	ND		1.00	1	03/29/2025 16:53	WG2479143
cis-1,2-Dichloroethene	ND		1.00	1	03/29/2025 16:53	WG2479143
trans-1,2-Dichloroethene	ND		1.00	1	03/29/2025 16:53	WG2479143
Tetrachloroethene	ND		1.00	1	03/29/2025 16:53	WG2479143
Vinyl chloride	ND	C3	1.00	1	03/29/2025 16:53	WG2479143
(S) Toluene-d8	104		80.0-120		03/29/2025 16:53	WG2479143
(S) 4-Bromofluorobenzene	99.7		77.0-126		03/29/2025 16:53	WG2479143
(S) 1,2-Dichloroethane-d4	95.0		70.0-130		03/29/2025 16:53	WG2479143

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.26	1	03/29/2025 12:19	WG2479066

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.81	1	03/29/2025 12:19	WG2479066

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	ND		100	1	03/26/2025 18:23	WG2477158
(S) a,a,a-Trifluorotoluene(FID)	100		78.0-120		03/26/2025 18:23	WG2477158

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	03/29/2025 17:17	WG2479143
Ethylbenzene	ND		1.00	1	03/29/2025 17:17	WG2479143
Toluene	ND		1.00	1	03/29/2025 17:17	WG2479143
Xylenes, Total	ND		3.00	1	03/29/2025 17:17	WG2479143
Trichloroethene	ND		1.00	1	03/29/2025 17:17	WG2479143
cis-1,2-Dichloroethene	ND		1.00	1	03/29/2025 17:17	WG2479143
trans-1,2-Dichloroethene	ND		1.00	1	03/29/2025 17:17	WG2479143
Tetrachloroethene	ND		1.00	1	03/29/2025 17:17	WG2479143
Vinyl chloride	ND	C3	1.00	1	03/29/2025 17:17	WG2479143
(S) Toluene-d8	103		80.0-120		03/29/2025 17:17	WG2479143
(S) 4-Bromofluorobenzene	97.9		77.0-126		03/29/2025 17:17	WG2479143
(S) 1,2-Dichloroethane-d4	97.2		70.0-130		03/29/2025 17:17	WG2479143

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	6.31		5.95	1	03/29/2025 12:19	WG2479066

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	180	B	100	1	03/26/2025 18:44	WG2477158
(S) a,a,a-Trifluorotoluene(FID)	101		78.0-120		03/26/2025 18:44	WG2477158

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	03/29/2025 17:41	WG2479143
Ethylbenzene	ND		1.00	1	03/29/2025 17:41	WG2479143
Toluene	ND		1.00	1	03/29/2025 17:41	WG2479143
Xylenes, Total	6.04		3.00	1	03/29/2025 17:41	WG2479143
Trichloroethene	ND		1.00	1	03/29/2025 17:41	WG2479143
cis-1,2-Dichloroethene	ND		1.00	1	03/29/2025 17:41	WG2479143
trans-1,2-Dichloroethene	ND		1.00	1	03/29/2025 17:41	WG2479143
Tetrachloroethene	ND		1.00	1	03/29/2025 17:41	WG2479143
Vinyl chloride	ND	C3	1.00	1	03/29/2025 17:41	WG2479143
(S) Toluene-d8	98.9		80.0-120		03/29/2025 17:41	WG2479143
(S) 4-Bromofluorobenzene	101		77.0-126		03/29/2025 17:41	WG2479143
(S) 1,2-Dichloroethane-d4	97.4		70.0-130		03/29/2025 17:41	WG2479143

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	03/26/2025 17:19	WG2477158
(S) a,a,a-Trifluorotoluene(FID)	102		78.0-120		03/26/2025 17:19	WG2477158

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	03/29/2025 14:29	WG2479143
Ethylbenzene	ND		1.00	1	03/29/2025 14:29	WG2479143
Toluene	ND		1.00	1	03/29/2025 14:29	WG2479143
Xylenes, Total	ND		3.00	1	03/29/2025 14:29	WG2479143
Trichloroethene	ND		1.00	1	03/29/2025 14:29	WG2479143
cis-1,2-Dichloroethene	ND		1.00	1	03/29/2025 14:29	WG2479143
trans-1,2-Dichloroethene	ND		1.00	1	03/29/2025 14:29	WG2479143
Tetrachloroethene	ND		1.00	1	03/29/2025 14:29	WG2479143
Vinyl chloride	ND	C3	1.00	1	03/29/2025 14:29	WG2479143
(S) Toluene-d8	102		80.0-120		03/29/2025 14:29	WG2479143
(S) 4-Bromofluorobenzene	101		77.0-126		03/29/2025 14:29	WG2479143
(S) 1,2-Dichloroethane-d4	95.3		70.0-130		03/29/2025 14:29	WG2479143

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4192618-1 03/29/25 12:19

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Oil & Grease (Hexane Extr)	U		1.40	5.00

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

(LCS) R4192618-2 03/29/25 12:19 • (LCSD) R4192618-3 03/29/25 12:19

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Oil & Grease (Hexane Extr)	40.0	37.3	32.2	93.3	80.5	78.0-114			14.7	20

L1838993-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1838993-01 03/29/25 12:19 • (MS) R4192618-4 03/29/25 12:19

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Oil & Grease (Hexane Extr)	40.0	ND	38.7	96.8	1	78.0-114	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4190797-2 03/24/25 10:01

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	37.7	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	100			78.0-120

Laboratory Control Sample (LCS)

(LCS) R4190797-1 03/24/25 09:06

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5000	4940	98.8	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			105	78.0-120	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4191224-4 03/25/25 23:08

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	38.5	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	101			78.0-120

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

(LCS) R4191224-2 03/25/25 21:33 • (LCSD) R4191224-3 03/25/25 22:11

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	5000	4490	4460	89.8	89.2	70.0-124			0.670	20
(S) a,a,a-Trifluorotoluene(FID)				107	108	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) R4191662-2 03/26/25 13:59

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	39.5	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	100			78.0-120

Laboratory Control Sample (LCS)

(LCS) R4191662-1 03/26/25 13:00

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5000	4750	95.0	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			107	78.0-120	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4193025-3 03/29/25 10:48

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.0941	1.00
Ethylbenzene	U		0.137	1.00
Toluene	U		0.278	1.00
Xylenes, Total	U		0.174	3.00
Trichloroethene	U		0.190	1.00
cis-1,2-Dichloroethene	U		0.126	1.00
trans-1,2-Dichloroethene	U		0.149	1.00
Tetrachloroethene	U		0.300	1.00
Vinyl chloride	U		0.234	1.00
(S) Toluene-d8	100			80.0-120
(S) 4-Bromofluorobenzene	98.2			77.0-126
(S) 1,2-Dichloroethane-d4	97.1			70.0-130

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

(LCS) R4193025-1 03/29/25 09:37 • (LCSD) R4193025-2 03/29/25 10:00

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	4.81	4.75	96.2	95.0	70.0-123			1.26	20
Ethylbenzene	5.00	4.55	4.72	91.0	94.4	79.0-123			3.67	20
Toluene	5.00	4.79	4.72	95.8	94.4	79.0-120			1.47	20
Xylenes, Total	15.0	14.0	14.2	93.3	94.7	79.0-123			1.42	20
Trichloroethene	5.00	4.85	4.68	97.0	93.6	78.0-124			3.57	20
cis-1,2-Dichloroethene	5.00	4.51	4.55	90.2	91.0	73.0-120			0.883	20
trans-1,2-Dichloroethene	5.00	5.05	4.84	101	96.8	73.0-120			4.25	20
Tetrachloroethene	5.00	4.55	4.80	91.0	96.0	72.0-132			5.35	20
Vinyl chloride	5.00	3.81	3.75	76.2	75.0	67.0-131			1.59	20
(S) Toluene-d8				100	99.3	80.0-120				
(S) 4-Bromofluorobenzene				98.1	100	77.0-126				
(S) 1,2-Dichloroethane-d4				94.9	94.8	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

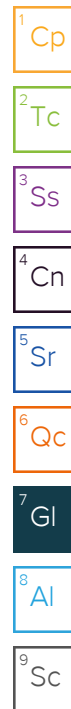
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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.
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.



ACCREDITATIONS & LOCATIONS

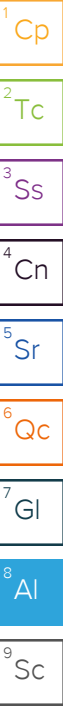
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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.



[illegible]

Engineering/Remediation Resources Group

Sample Delivery Group: L1839621
Samples Received: 03/25/2025
Project Number: 20230065
Description: Former Circle K 1461

Report To: Jennifer Sonnichsen
15333 NE 90th Street
Ste 100
Redmond, WA 98052

Entire Report Reviewed By:



Jennifer Gambill
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 National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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		⁹ Sc

SAMPLE SUMMARY

FALCO-300-INF-20250324 L1839621-01 Air

Collected by
Fernando Idiarte

Collected date/time
03/24/25 14:10

Received date/time
03/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2476938	100	03/27/25 00:49	03/27/25 00:49	DAH	Mt. Juliet, TN

FALCO-300-EFF-20250324 L1839621-02 Air

Collected by
Fernando Idiarte

Collected date/time
03/24/25 14:25

Received date/time
03/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2476938	1	03/27/25 00:22	03/27/25 00:22	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.



Jennifer Gambill
Project Manager



Volatile Organic Compounds (MS) by Method TO-15

	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
Analyte			ppbv	ug/m3	ppbv	ug/m3			
Acetone	67-64-1	58.10	125	297	ND	ND		100	WG2476938
Allyl chloride	107-05-1	76.53	20.0	62.6	ND	ND		100	WG2476938
Benzene	71-43-2	78.10	20.0	63.9	2160	6900		100	WG2476938
Benzyl Chloride	100-44-7	127	20.0	104	ND	ND		100	WG2476938
Bromodichloromethane	75-27-4	164	20.0	134	ND	ND		100	WG2476938
Bromoform	75-25-2	253	63.0	652	ND	ND		100	WG2476938
Bromomethane	74-83-9	94.90	20.0	77.6	ND	ND		100	WG2476938
1,3-Butadiene	106-99-0	54.10	200	443	ND	ND		100	WG2476938
Carbon disulfide	75-15-0	76.10	40.0	124	ND	ND		100	WG2476938
Carbon tetrachloride	56-23-5	154	20.0	126	ND	ND		100	WG2476938
Chlorobenzene	108-90-7	113	20.0	92.4	ND	ND		100	WG2476938
Chloroethane	75-00-3	64.50	20.0	52.8	ND	ND		100	WG2476938
Chloroform	67-66-3	119	20.0	97.3	ND	ND		100	WG2476938
Chloromethane	74-87-3	50.50	20.0	41.3	ND	ND		100	WG2476938
2-Chlorotoluene	95-49-8	126	20.0	103	ND	ND		100	WG2476938
Cyclohexane	110-82-7	84.20	20.0	68.9	1590	5480		100	WG2476938
Dibromochloromethane	124-48-1	208	20.0	170	ND	ND		100	WG2476938
1,2-Dibromoethane	106-93-4	188	20.0	154	ND	ND		100	WG2476938
1,2-Dichlorobenzene	95-50-1	147	20.0	120	ND	ND		100	WG2476938
1,3-Dichlorobenzene	541-73-1	147	20.0	120	ND	ND		100	WG2476938
1,4-Dichlorobenzene	106-46-7	147	20.0	120	ND	ND		100	WG2476938
1,2-Dichloroethane	107-06-2	99	20.0	81.0	ND	ND		100	WG2476938
1,1-Dichloroethane	75-34-3	98	20.0	80.2	ND	ND		100	WG2476938
1,1-Dichloroethene	75-35-4	96.90	20.0	79.3	ND	ND		100	WG2476938
cis-1,2-Dichloroethene	156-59-2	96.90	20.0	79.3	53.5	212		100	WG2476938
trans-1,2-Dichloroethene	156-60-5	96.90	20.0	79.3	ND	ND		100	WG2476938
1,2-Dichloropropane	78-87-5	113	20.0	92.4	ND	ND		100	WG2476938
cis-1,3-Dichloropropene	10061-01-5	111	20.0	90.8	ND	ND		100	WG2476938
trans-1,3-Dichloropropene	10061-02-6	111	20.0	90.8	ND	ND		100	WG2476938
1,4-Dioxane	123-91-1	88.10	63.0	227	ND	ND		100	WG2476938
Ethanol	64-17-5	46.10	250	471	1810	3410		100	WG2476938
Ethylbenzene	100-41-4	106	20.0	86.7	699	3030		100	WG2476938
4-Ethyltoluene	622-96-8	120	20.0	98.2	ND	ND		100	WG2476938
Trichlorofluoromethane	75-69-4	137.40	20.0	112	ND	ND		100	WG2476938
Dichlorodifluoromethane	75-71-8	120.92	20.0	98.9	ND	ND		100	WG2476938
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	20.0	153	ND	ND		100	WG2476938
1,2-Dichlorotetrafluoroethane	76-14-2	171	20.0	140	ND	ND		100	WG2476938
Heptane	142-82-5	100	20.0	81.8	2660	10900		100	WG2476938
Hexachloro-1,3-butadiene	87-68-3	261	63.0	673	ND	ND		100	WG2476938
n-Hexane	110-54-3	86.20	63.0	222	5260	18500		100	WG2476938
Isopropylbenzene	98-82-8	120.20	20.0	98.3	47.2	232		100	WG2476938
Methylene Chloride	75-09-2	84.90	20.0	69.4	221	767		100	WG2476938
Methyl Butyl Ketone	591-78-6	100	125	511	ND	ND		100	WG2476938
2-Butanone (MEK)	78-93-3	72.10	125	369	ND	ND		100	WG2476938
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	125	512	ND	ND		100	WG2476938
Methyl methacrylate	80-62-6	100.12	20.0	81.9	ND	ND		100	WG2476938
MTBE	1634-04-4	88.10	20.0	72.1	ND	ND		100	WG2476938
Naphthalene	91-20-3	128	63.0	330	ND	ND		100	WG2476938
2-Propanol	67-63-0	60.10	125	307	1780	4380		100	WG2476938
Propene	115-07-1	42.10	125	215	ND	ND		100	WG2476938
Styrene	100-42-5	104	40.0	170	42.1	179		100	WG2476938
1,1,2,2-Tetrachloroethane	79-34-5	168	20.0	137	ND	ND		100	WG2476938
Tetrachloroethylene	127-18-4	166	20.0	136	ND	ND		100	WG2476938
Tetrahydrofuran	109-99-9	72.10	20.0	59.0	ND	ND		100	WG2476938
Toluene	108-88-3	92.10	50.0	188	3480	13100		100	WG2476938
1,2,4-Trichlorobenzene	120-82-1	181	63.0	466	ND	ND		100	WG2476938

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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	20.0	109	ND	ND		100	WG2476938
1,1,2-Trichloroethane	79-00-5	133	20.0	109	ND	ND		100	WG2476938
Trichloroethylene	79-01-6	131	20.0	107	ND	ND		100	WG2476938
1,2,4-Trimethylbenzene	95-63-6	120	20.0	98.2	1120	5500		100	WG2476938
1,3,5-Trimethylbenzene	108-67-8	120	20.0	98.2	567	2780		100	WG2476938
2,2,4-Trimethylpentane	540-84-1	114.22	20.0	93.4	2770	12900		100	WG2476938
Vinyl chloride	75-01-4	62.50	20.0	51.1	ND	ND		100	WG2476938
Vinyl Bromide	593-60-2	106.95	20.0	87.5	ND	ND		100	WG2476938
Vinyl acetate	108-05-4	86.10	63.0	222	ND	ND		100	WG2476938
Xylenes, Total	1330-20-7	106.16	60.0	261	7020	30500		100	WG2476938
m&p-Xylene		106	40.0	173	5090	22100		100	WG2476938
o-Xylene	95-47-6	106	20.0	86.7	1930	8370		100	WG2476938
TPH (GC/MS) Low Fraction	8006-61-9	101	20000	82600	72700	300000		100	WG2476938
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		98.1				WG2476938

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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	WG2476938
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2476938
Benzene	71-43-2	78.10	0.200	0.639	3.12	9.97		1	WG2476938
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2476938
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2476938
Bromoform	75-25-2	253	0.630	6.52	ND	ND		1	WG2476938
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2476938
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2476938
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		1	WG2476938
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2476938
Chlorobenzene	108-90-7	113	0.200	0.924	0.733	3.39		1	WG2476938
Chloroethane	75-00-3	64.50	0.200	0.528	0.233	0.615		1	WG2476938
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2476938
Chloromethane	74-87-3	50.50	0.200	0.413	6.70	13.8		1	WG2476938
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2476938
Cyclohexane	110-82-7	84.20	0.200	0.689	10.9	37.5		1	WG2476938
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2476938
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2476938
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2476938
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2476938
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2476938
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2476938
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2476938
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2476938
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2476938
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2476938
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2476938
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2476938
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2476938
1,4-Dioxane	123-91-1	88.10	0.630	2.27	ND	ND		1	WG2476938
Ethanol	64-17-5	46.10	2.50	4.71	15.3	28.8		1	WG2476938
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG2476938
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG2476938
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	ND	ND		1	WG2476938
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.279	1.38		1	WG2476938
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2476938
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2476938
Heptane	142-82-5	100	0.200	0.818	15.5	63.4		1	WG2476938
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2476938
n-Hexane	110-54-3	86.20	0.630	2.22	87.3	308		1	WG2476938
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2476938
Methylene Chloride	75-09-2	84.90	0.200	0.694	1.36	4.72		1	WG2476938
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2476938
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2476938
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2476938
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2476938
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2476938
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG2476938
2-Propanol	67-63-0	60.10	1.25	3.07	9.25	22.7		1	WG2476938
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2476938
Styrene	100-42-5	104	0.400	1.70	ND	ND		1	WG2476938
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2476938
Tetrachloroethylene	127-18-4	166	0.200	1.36	2.03	13.8		1	WG2476938
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2476938
Toluene	108-88-3	92.10	0.500	1.88	ND	ND		1	WG2476938
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2476938

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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	ND	ND		1	WG2476938
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2476938
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG2476938
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.215	1.06		1	WG2476938
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG2476938
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	35.4	165		1	WG2476938
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2476938
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2476938
Vinyl acetate	108-05-4	86.10	0.630	2.22	ND	ND		1	WG2476938
Xylenes, Total	1330-20-7	106.16	0.600	2.61	1.06	4.60		1	WG2476938
m&p-Xylene		106	0.400	1.73	0.782	3.39		1	WG2476938
o-Xylene	95-47-6	106	0.200	0.867	0.274	1.19		1	WG2476938
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	243	1000		1	WG2476938
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		96.4				WG2476938

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4191358-3 03/26/25 13:03

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.520	1.25
Allyl chloride	U		0.186	0.200
Benzene	U		0.110	0.200
Benzyl Chloride	U		0.0888	0.200
Bromodichloromethane	U		0.0695	0.200
Bromoform	U		0.0755	0.630
Bromomethane	U		0.0938	0.200
1,3-Butadiene	U		0.158	2.00
Carbon disulfide	U		0.160	0.400
Carbon tetrachloride	U		0.0746	0.200
Chlorobenzene	U		0.118	0.200
Chloroethane	U		0.110	0.200
Chloroform	U		0.104	0.200
Chloromethane	U		0.110	0.200
2-Chlorotoluene	U		0.0787	0.200
Cyclohexane	U		0.170	0.200
Dibromochloromethane	U		0.0696	0.200
1,2-Dibromoethane	U		0.0690	0.200
1,2-Dichlorobenzene	U		0.0734	0.200
1,3-Dichlorobenzene	U		0.0753	0.200
1,4-Dichlorobenzene	U		0.0768	0.200
1,2-Dichloroethane	U		0.0730	0.200
1,1-Dichloroethane	U		0.0710	0.200
1,1-Dichloroethene	U		0.0747	0.200
cis-1,2-Dichloroethene	U		0.0796	0.200
trans-1,2-Dichloroethene	U		0.0735	0.200
1,2-Dichloropropane	U		0.0752	0.200
cis-1,3-Dichloropropene	U		0.0743	0.200
trans-1,3-Dichloropropene	U		0.0795	0.200
1,4-Dioxane	U		0.164	0.630
Ethanol	U		2.37	2.50
Ethylbenzene	U		0.0778	0.200
4-Ethyltoluene	U		0.0887	0.200
Trichlorofluoromethane	U		0.0771	0.200
Dichlorodifluoromethane	U		0.0806	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0751	0.200
1,2-Dichlorotetrafluoroethane	U		0.0756	0.200
Heptane	U		0.114	0.200
Hexachloro-1,3-butadiene	U		0.0800	0.630
n-Hexane	U		0.143	0.630

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4191358-3 03/26/25 13:03

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Isopropylbenzene	U		0.0722	0.200
Methylene Chloride	U		0.169	0.200
Methyl Butyl Ketone	U		0.133	1.25
2-Butanone (MEK)	U		0.116	1.25
4-Methyl-2-pentanone (MIBK)	U		0.106	1.25
Methyl methacrylate	U		0.169	0.200
MTBE	U		0.0813	0.200
Naphthalene	U		0.617	0.630
2-Propanol	U		0.680	1.25
Propene	U		0.214	1.25
Styrene	U		0.0802	0.400
1,1,2,2-Tetrachloroethane	U		0.0695	0.200
Tetrachloroethylene	U		0.111	0.200
Tetrahydrofuran	U		0.164	0.200
Toluene	U		0.130	0.500
1,2,4-Trichlorobenzene	U		0.462	0.630
1,1,1-Trichloroethane	U		0.0718	0.200
1,1,2-Trichloroethane	U		0.0683	0.200
Trichloroethylene	U		0.0680	0.200
1,2,4-Trimethylbenzene	U		0.0927	0.200
1,3,5-Trimethylbenzene	U		0.0853	0.200
2,2,4-Trimethylpentane	U		0.0898	0.200
Vinyl chloride	U		0.0826	0.200
Vinyl Bromide	U		0.0749	0.200
Vinyl acetate	U		0.0968	0.630
Xylenes, Total	U		0.0887	0.600
m&p-Xylene	U		0.174	0.400
o-Xylene	U		0.0887	0.200
TPH (GC/MS) Low Fraction	U		68.3	200
(S) 1,4-Bromofluorobenzene	97.1			60.0-140

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

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

(LCS) R4191358-1 03/26/25 11:42 • (LCSD) R4191358-2 03/26/25 12:10

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	3.76	3.94	100	105	70.0-130			4.68	25
Allyl chloride	3.75	4.28	4.39	114	117	70.0-130			2.54	25
Benzene	3.75	4.02	4.03	107	107	70.0-130			0.248	25

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

(LCS) R4191358-1 03/26/25 11:42 • (LCSD) R4191358-2 03/26/25 12:10

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Benzyl Chloride	3.75	4.43	4.51	118	120	70.0-152			1.79	25
Bromodichloromethane	3.75	4.38	4.36	117	116	70.0-130			0.458	25
Bromoform	3.75	4.22	4.17	113	111	70.0-130			1.19	25
Bromomethane	3.75	3.83	4.04	102	108	70.0-130			5.34	25
1,3-Butadiene	3.75	3.91	4.07	104	109	70.0-130			4.01	25
Carbon disulfide	7.50	8.51	8.12	113	108	70.0-130			4.69	25
Carbon tetrachloride	3.75	4.26	4.42	114	118	70.0-130			3.69	25
Chlorobenzene	3.75	3.95	4.02	105	107	70.0-130			1.76	25
Chloroethane	3.75	3.86	3.97	103	106	70.0-130			2.81	25
Chloroform	3.75	3.95	4.14	105	110	70.0-130			4.70	25
Chloromethane	3.75	3.91	3.98	104	106	70.0-130			1.77	25
2-Chlorotoluene	3.75	4.20	4.25	112	113	70.0-130			1.18	25
Cyclohexane	3.75	3.83	4.01	102	107	70.0-130			4.59	25
Dibromochloromethane	3.75	4.41	4.44	118	118	70.0-130			0.678	25
1,2-Dibromoethane	3.75	4.22	4.24	113	113	70.0-130			0.473	25
1,2-Dichlorobenzene	3.75	4.21	4.35	112	116	70.0-130			3.27	25
1,3-Dichlorobenzene	3.75	4.31	4.51	115	120	70.0-130			4.54	25
1,4-Dichlorobenzene	3.75	4.33	4.41	115	118	70.0-130			1.83	25
1,2-Dichloroethane	3.75	4.16	4.21	111	112	70.0-130			1.19	25
1,1-Dichloroethane	3.75	4.07	4.03	109	107	70.0-130			0.988	25
1,1-Dichloroethene	3.75	3.99	4.17	106	111	70.0-130			4.41	25
cis-1,2-Dichloroethene	3.75	4.00	4.04	107	108	70.0-130			0.995	25
trans-1,2-Dichloroethene	3.75	4.17	3.73	111	99.5	70.0-130			11.1	25
1,2-Dichloropropane	3.75	4.05	4.17	108	111	70.0-130			2.92	25
cis-1,3-Dichloropropene	3.75	4.31	4.43	115	118	70.0-130			2.75	25
trans-1,3-Dichloropropene	3.75	4.31	4.39	115	117	70.0-130			1.84	25
1,4-Dioxane	3.75	3.90	4.07	104	109	70.0-140			4.27	25
Ethanol	3.75	4.03	4.14	107	110	55.0-148			2.69	25
Ethylbenzene	3.75	4.11	4.18	110	111	70.0-130			1.69	25
4-Ethyltoluene	3.75	4.28	4.34	114	116	70.0-130			1.39	25
Trichlorofluoromethane	3.75	4.03	4.11	107	110	70.0-130			1.97	25
Dichlorodifluoromethane	3.75	4.11	4.17	110	111	64.0-139			1.45	25
1,1,2-Trichlorotrifluoroethane	3.75	3.96	3.83	106	102	70.0-130			3.34	25
1,2-Dichlorotetrafluoroethane	3.75	3.98	4.09	106	109	70.0-130			2.73	25
Heptane	3.75	4.18	4.19	111	112	70.0-130			0.239	25
Hexachloro-1,3-butadiene	3.75	4.00	4.15	107	111	70.0-151			3.68	25
n-Hexane	3.75	4.05	4.18	108	111	70.0-130			3.16	25
Isopropylbenzene	3.75	4.06	4.22	108	113	70.0-130			3.86	25
Methylene Chloride	3.75	4.03	3.96	107	106	70.0-130			1.75	25
Methyl Butyl Ketone	3.75	4.46	4.50	119	120	70.0-149			0.893	25

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R4191358-1 03/26/25 11:42 • (LCSD) R4191358-2 03/26/25 12:10

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2-Butanone (MEK)	3.75	4.00	3.98	107	106	70.0-130			0.501	25
4-Methyl-2-pentanone (MIBK)	3.75	3.85	4.04	103	108	70.0-139			4.82	25
Methyl methacrylate	3.75	4.11	4.26	110	114	70.0-130			3.58	25
MTBE	3.75	3.92	4.03	105	107	70.0-130			2.77	25
Naphthalene	3.75	4.23	4.34	113	116	70.0-159			2.57	25
2-Propanol	3.75	3.94	3.98	105	106	70.0-139			1.01	25
Propene	3.75	4.11	4.13	110	110	64.0-144			0.485	25
Styrene	7.50	8.64	8.91	115	119	70.0-130			3.08	25
1,1,2,2-Tetrachloroethane	3.75	4.40	4.46	117	119	70.0-130			1.35	25
Tetrachloroethylene	3.75	3.98	4.16	106	111	70.0-130			4.42	25
Tetrahydrofuran	3.75	4.09	4.31	109	115	70.0-137			5.24	25
Toluene	3.75	4.08	4.01	109	107	70.0-130			1.73	25
1,2,4-Trichlorobenzene	3.75	3.97	4.00	106	107	70.0-160			0.753	25
1,1,1-Trichloroethane	3.75	4.08	4.21	109	112	70.0-130			3.14	25
1,1,2-Trichloroethane	3.75	4.12	4.14	110	110	70.0-130			0.484	25
Trichloroethylene	3.75	4.06	4.12	108	110	70.0-130			1.47	25
1,2,4-Trimethylbenzene	3.75	4.22	4.34	113	116	70.0-130			2.80	25
1,3,5-Trimethylbenzene	3.75	4.18	4.33	111	115	70.0-130			3.53	25
2,2,4-Trimethylpentane	3.75	3.98	4.18	106	111	70.0-130			4.90	25
Vinyl chloride	3.75	3.98	4.08	106	109	70.0-130			2.48	25
Vinyl Bromide	3.75	3.95	4.04	105	108	70.0-130			2.25	25
Vinyl acetate	3.75	3.98	3.92	106	105	70.0-130			1.52	25
Xylenes, Total	11.3	12.5	12.7	111	112	70.0-130			1.59	25
m&p-Xylene	7.50	8.42	8.51	112	113	70.0-130			1.06	25
o-Xylene	3.75	4.08	4.21	109	112	70.0-130			3.14	25
TPH (GC/MS) Low Fraction	188	204	204	109	109	70.0-130			0.000	25
(S) 1,4-Bromofluorobenzene				99.4	98.2	60.0-140				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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.

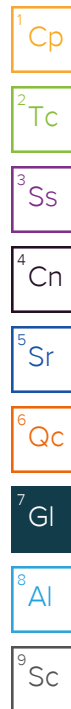
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



ACCREDITATIONS & LOCATIONS

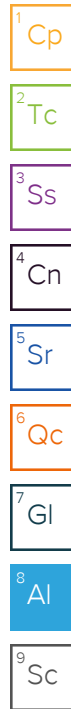
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122


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.



Pace Pace* Location Requested (City/State): Engineering/Remediation Resources Group Street Address: 15333 NE 90th Street City, State Zip: Customer Project #: 20230065 Project Name: FORMER CIRCLE K 1461 Site Collection Info/Facility ID (as applicable): ENGREMRWA-CIRCLE K Time Zone Collected: [] AK [] PT [] MT [] CT [] ET Data Deliverables: [] Level II [] Level III [] Level IV [] EQUIS [] Other EIM WA		Air CHAIN-OF-CUSTODY Analytical Request Document Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields Contact/Report To: Jennifer Sonnichsen Phone #: 425-658-5026 E-Mail: jennifer.sonnichsen@errg.com; spencer.slominski@erro.com; fernando.idarte@erro.com Cc E-Mail: Invoice to: Invoice E-Mail: Purchase Order # (if applicable): 2023 230065-PA-01 Quote #: State origin of sample(s): WA Regulatory Program (CAA, RCRA, etc.) as applicable: WA DOECOLOG Rush (Pre-approval required): 2 Day 3 day 5 day Other _____ Date Results Requested: Permit # as applicable: Units for Reporting: ug/m³ PPBV mg/m ³ PPMV		LAB USE ONLY- Affix Workorder/Login Label Here  Scan QR code for instructions																																																																																																																																																																								
* Matrix Codes (Insert in Matrix box below): Ambient (A), Indoor (I), Soil Vapor (SV), Other (O)		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2">Field Information</th> <th colspan="2">Analyses Requested</th> </tr> <tr> <td>Canister</td> <td>PUF / FILTER</td> <td colspan="2" rowspan="5"> AN 3/20/25 Proj. Manager: 3500 - Jennifer Gambill AcctNum / Client ID: ENGREMRWA Table #: Profile / Template: T262502 Prelog / Bottle Ord. ID: P1138501 </td> </tr> <tr> <td>Pressure / Vacuum</td> <td></td> </tr> <tr> <td>Start Pressure / Vacuum (in Hg)</td> <td>End Pressure / Vacuum (in Hg)</td> </tr> <tr> <td>Duration (minutes)</td> <td>Flow Rate (m³/min or L/min)</td> </tr> <tr> <td>Total Volume Sampled (m³ or L)</td> <td></td> </tr> <tr> <td colspan="2"></td> <td colspan="2" style="text-align: center;"> TO-15 Summa </td> </tr> <tr> <td colspan="2"></td> <td colspan="2" style="text-align: center;"> Sample Comment </td> </tr> </table>		Field Information		Analyses Requested		Canister	PUF / FILTER	AN 3/20/25 Proj. Manager: 3500 - Jennifer Gambill AcctNum / Client ID: ENGREMRWA Table #: Profile / Template: T262502 Prelog / Bottle Ord. ID: P1138501		Pressure / Vacuum		Start Pressure / Vacuum (in Hg)	End Pressure / Vacuum (in Hg)	Duration (minutes)	Flow Rate (m ³ /min or L/min)	Total Volume Sampled (m ³ or L)				TO-15 Summa				Sample Comment																																																																																																																																																		
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Engineering/Remediation Resources Group

Sample Delivery Group: L1841690
Samples Received: 03/29/2025
Project Number: 20230065
Description: Former Cricle K
Site: 1461
Report To: Jennifer Sonnichsen
15333 NE 90th Street
Ste 100
Redmond, WA 98052

Entire Report Reviewed By:



Jennifer Gambill
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 National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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

SAMPLE SUMMARY

MW-18 L1841690-01 GW

				Collected by Blaine Tech	Collected date/time 03/28/25 09:07	Received date/time 03/29/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2483497	1	04/04/25 19:31	04/04/25 19:31	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2484067	1	04/06/25 09:08	04/06/25 09:08	WHS	Mt. Juliet, TN

MW-20 L1841690-02 GW

				Collected by Blaine Tech	Collected date/time 03/28/25 09:08	Received date/time 03/29/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2483497	10	04/04/25 23:28	04/04/25 23:28	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2484067	250	04/06/25 05:20	04/06/25 05:20	WHS	Mt. Juliet, TN

RW-1 L1841690-03 GW

				Collected by Blaine Tech	Collected date/time 03/28/25 09:33	Received date/time 03/29/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2483497	1	04/04/25 19:52	04/04/25 19:52	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2484067	1	04/06/25 09:27	04/06/25 09:27	WHS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2485762	10	04/09/25 00:56	04/09/25 00:56	DYW	Mt. Juliet, TN

MW-9 L1841690-04 GW

				Collected by Blaine Tech	Collected date/time 03/28/25 09:44	Received date/time 03/29/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2483497	1	04/04/25 20:13	04/04/25 20:13	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2484067	20	04/06/25 05:39	04/06/25 05:39	WHS	Mt. Juliet, TN

MW-16 L1841690-05 GW

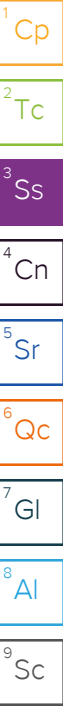
				Collected by Blaine Tech	Collected date/time 03/28/25 10:06	Received date/time 03/29/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2483497	1	04/04/25 20:35	04/04/25 20:35	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2484067	1	04/06/25 09:46	04/06/25 09:46	WHS	Mt. Juliet, TN

MW-8 L1841690-06 GW

				Collected by Blaine Tech	Collected date/time 03/28/25 10:12	Received date/time 03/29/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2483497	5	04/04/25 23:50	04/04/25 23:50	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2484067	50	04/06/25 05:58	04/06/25 05:58	WHS	Mt. Juliet, TN

MW-15 L1841690-07 GW

				Collected by Blaine Tech	Collected date/time 03/28/25 10:31	Received date/time 03/29/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2483497	1	04/04/25 20:56	04/04/25 20:56	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2484067	1	04/06/25 10:05	04/06/25 10:05	WHS	Mt. Juliet, TN



SAMPLE SUMMARY

MW-6 L1841690-08 GW

				Collected by Blaine Tech	Collected date/time 03/28/25 10:38	Received date/time 03/29/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2483497	1	04/04/25 21:18	04/04/25 21:18	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2484067	1	04/06/25 10:24	04/06/25 10:24	WHS	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

MW-14 L1841690-09 GW

				Collected by Blaine Tech	Collected date/time 03/28/25 10:56	Received date/time 03/29/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2483497	1	04/04/25 21:39	04/04/25 21:39	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2484067	1	04/06/25 10:43	04/06/25 10:43	WHS	Mt. Juliet, TN

⁴ Cn

⁵ Sr

⁶ Qc

MW-13 L1841690-10 GW

				Collected by Blaine Tech	Collected date/time 03/28/25 11:11	Received date/time 03/29/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2483497	10	04/05/25 00:11	04/05/25 00:11	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2484067	50	04/06/25 06:17	04/06/25 06:17	WHS	Mt. Juliet, TN

⁷ Gl

⁸ Al

⁹ Sc

MW-19 L1841690-11 GW

				Collected by Blaine Tech	Collected date/time 03/28/25 11:34	Received date/time 03/29/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2483497	10	04/05/25 00:33	04/05/25 00:33	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2484067	100	04/06/25 06:36	04/06/25 06:36	WHS	Mt. Juliet, TN

MW-21 L1841690-12 GW

				Collected by Blaine Tech	Collected date/time 03/28/25 11:39	Received date/time 03/29/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2483497	10	04/05/25 00:55	04/05/25 00:55	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2484067	500	04/06/25 06:55	04/06/25 06:55	WHS	Mt. Juliet, TN

MW-17 L1841690-13 GW

				Collected by Blaine Tech	Collected date/time 03/28/25 12:06	Received date/time 03/29/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2483497	1	04/04/25 22:01	04/04/25 22:01	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2484067	1	04/06/25 11:02	04/06/25 11:02	WHS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2485762	25	04/09/25 01:16	04/09/25 01:16	DYW	Mt. Juliet, TN

DUP-1 L1841690-14 GW

				Collected by Blaine Tech	Collected date/time 03/28/25 12:00	Received date/time 03/29/25 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2484900	1	04/08/25 00:38	04/08/25 00:38	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2484067	10	04/06/25 07:14	04/06/25 07:14	WHS	Mt. Juliet, TN

SAMPLE SUMMARY

TB-01 L1841690-15 GW

Collected by
Blaine Tech

Collected date/time
03/28/25 12:10

Received date/time
03/29/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2483497	1	04/04/25 17:22	04/04/25 17:22	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2484067	1	04/06/25 08:30	04/06/25 08:30	WHS	Mt. Juliet, TN

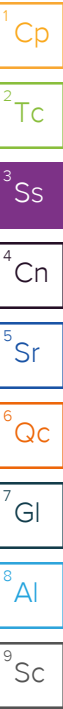
TB-02 L1841690-16 GW

Collected by
Blaine Tech

Collected date/time
03/28/25 12:11

Received date/time
03/29/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2483497	1	04/04/25 17:01	04/04/25 17:01	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2484067	1	04/06/25 08:49	04/06/25 08:49	WHS	Mt. Juliet, TN

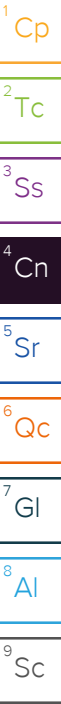


CASE NARRATIVE

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.



Jennifer Gambill
Project Manager



Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	04/04/2025 19:31	WG2483497
(S) a,a,a-Trifluorotoluene(FID)	93.1		78.0-120		04/04/2025 19:31	WG2483497

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/06/2025 09:08	WG2484067
Ethylbenzene	ND		1.00	1	04/06/2025 09:08	WG2484067
Toluene	ND		1.00	1	04/06/2025 09:08	WG2484067
Xylenes, Total	ND		3.00	1	04/06/2025 09:08	WG2484067
Trichloroethene	2.85		1.00	1	04/06/2025 09:08	WG2484067
cis-1,2-Dichloroethene	1.91		1.00	1	04/06/2025 09:08	WG2484067
trans-1,2-Dichloroethene	ND		1.00	1	04/06/2025 09:08	WG2484067
Tetrachloroethene	82.5		1.00	1	04/06/2025 09:08	WG2484067
Vinyl chloride	ND		1.00	1	04/06/2025 09:08	WG2484067
(S) Toluene-d8	96.2		80.0-120		04/06/2025 09:08	WG2484067
(S) 4-Bromofluorobenzene	98.3		77.0-126		04/06/2025 09:08	WG2484067
(S) 1,2-Dichloroethane-d4	102		70.0-130		04/06/2025 09:08	WG2484067

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	25400		1000	10	04/04/2025 23:28	WG2483497
(S) a,a,a-Trifluorotoluene(FID)	88.9		78.0-120		04/04/2025 23:28	WG2483497

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	2420		250	250	04/06/2025 05:20	WG2484067
Ethylbenzene	886		250	250	04/06/2025 05:20	WG2484067
Toluene	3070		250	250	04/06/2025 05:20	WG2484067
Xylenes, Total	4620		750	250	04/06/2025 05:20	WG2484067
Trichloroethene	ND		250	250	04/06/2025 05:20	WG2484067
cis-1,2-Dichloroethene	ND		250	250	04/06/2025 05:20	WG2484067
trans-1,2-Dichloroethene	ND		250	250	04/06/2025 05:20	WG2484067
Tetrachloroethene	ND		250	250	04/06/2025 05:20	WG2484067
Vinyl chloride	ND		250	250	04/06/2025 05:20	WG2484067
(S) Toluene-d8	96.4		80.0-120		04/06/2025 05:20	WG2484067
(S) 4-Bromofluorobenzene	102		77.0-126		04/06/2025 05:20	WG2484067
(S) 1,2-Dichloroethane-d4	102		70.0-130		04/06/2025 05:20	WG2484067

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	128	B	100	1	04/04/2025 19:52	WG2483497
(S) a,a,a-Trifluorotoluene(FID)	92.0		78.0-120		04/04/2025 19:52	WG2483497

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/06/2025 09:27	WG2484067
Ethylbenzene	ND		1.00	1	04/06/2025 09:27	WG2484067
Toluene	ND		1.00	1	04/06/2025 09:27	WG2484067
Xylenes, Total	ND		3.00	1	04/06/2025 09:27	WG2484067
Trichloroethene	19.9		1.00	1	04/06/2025 09:27	WG2484067
cis-1,2-Dichloroethene	6.35		1.00	1	04/06/2025 09:27	WG2484067
trans-1,2-Dichloroethene	ND		1.00	1	04/06/2025 09:27	WG2484067
Tetrachloroethene	363		10.0	10	04/09/2025 00:56	WG2485762
Vinyl chloride	ND		1.00	1	04/06/2025 09:27	WG2484067
(S) Toluene-d8	94.6		80.0-120		04/06/2025 09:27	WG2484067
(S) Toluene-d8	106		80.0-120		04/09/2025 00:56	WG2485762
(S) 4-Bromofluorobenzene	98.0		77.0-126		04/06/2025 09:27	WG2484067
(S) 4-Bromofluorobenzene	102		77.0-126		04/09/2025 00:56	WG2485762
(S) 1,2-Dichloroethane-d4	108		70.0-130		04/06/2025 09:27	WG2484067
(S) 1,2-Dichloroethane-d4	119		70.0-130		04/09/2025 00:56	WG2485762

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	5000		100	1	04/04/2025 20:13	WG2483497
(S) a,a,a-Trifluorotoluene(FID)	95.9		78.0-120		04/04/2025 20:13	WG2483497

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		20.0	20	04/06/2025 05:39	WG2484067
Ethylbenzene	271		20.0	20	04/06/2025 05:39	WG2484067
Toluene	20.4		20.0	20	04/06/2025 05:39	WG2484067
Xylenes, Total	508		60.0	20	04/06/2025 05:39	WG2484067
Trichloroethene	ND		20.0	20	04/06/2025 05:39	WG2484067
cis-1,2-Dichloroethene	ND		20.0	20	04/06/2025 05:39	WG2484067
trans-1,2-Dichloroethene	ND		20.0	20	04/06/2025 05:39	WG2484067
Tetrachloroethene	ND		20.0	20	04/06/2025 05:39	WG2484067
Vinyl chloride	ND		20.0	20	04/06/2025 05:39	WG2484067
(S) Toluene-d8	96.1		80.0-120		04/06/2025 05:39	WG2484067
(S) 4-Bromofluorobenzene	101		77.0-126		04/06/2025 05:39	WG2484067
(S) 1,2-Dichloroethane-d4	102		70.0-130		04/06/2025 05:39	WG2484067

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	04/04/2025 20:35	WG2483497
(S) a,a,a-Trifluorotoluene(FID)	92.4		78.0-120		04/04/2025 20:35	WG2483497

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/06/2025 09:46	WG2484067
Ethylbenzene	ND		1.00	1	04/06/2025 09:46	WG2484067
Toluene	ND		1.00	1	04/06/2025 09:46	WG2484067
Xylenes, Total	ND		3.00	1	04/06/2025 09:46	WG2484067
Trichloroethene	ND		1.00	1	04/06/2025 09:46	WG2484067
cis-1,2-Dichloroethene	ND		1.00	1	04/06/2025 09:46	WG2484067
trans-1,2-Dichloroethene	ND		1.00	1	04/06/2025 09:46	WG2484067
Tetrachloroethene	ND		1.00	1	04/06/2025 09:46	WG2484067
Vinyl chloride	ND		1.00	1	04/06/2025 09:46	WG2484067
(S) Toluene-d8	96.8		80.0-120		04/06/2025 09:46	WG2484067
(S) 4-Bromofluorobenzene	98.7		77.0-126		04/06/2025 09:46	WG2484067
(S) 1,2-Dichloroethane-d4	99.9		70.0-130		04/06/2025 09:46	WG2484067

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	16200		500	5	04/04/2025 23:50	WG2483497
(S) a,a,a-Trifluorotoluene(FID)	97.2		78.0-120		04/04/2025 23:50	WG2483497

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		50.0	50	04/06/2025 05:58	WG2484067
Ethylbenzene	570		50.0	50	04/06/2025 05:58	WG2484067
Toluene	72.5		50.0	50	04/06/2025 05:58	WG2484067
Xylenes, Total	2440		150	50	04/06/2025 05:58	WG2484067
Trichloroethene	ND		50.0	50	04/06/2025 05:58	WG2484067
cis-1,2-Dichloroethene	ND		50.0	50	04/06/2025 05:58	WG2484067
trans-1,2-Dichloroethene	ND		50.0	50	04/06/2025 05:58	WG2484067
Tetrachloroethene	ND		50.0	50	04/06/2025 05:58	WG2484067
Vinyl chloride	ND		50.0	50	04/06/2025 05:58	WG2484067
(S) Toluene-d8	95.6		80.0-120		04/06/2025 05:58	WG2484067
(S) 4-Bromofluorobenzene	98.6		77.0-126		04/06/2025 05:58	WG2484067
(S) 1,2-Dichloroethane-d4	99.6		70.0-130		04/06/2025 05:58	WG2484067

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	04/04/2025 20:56	WG2483497
(S) a,a,a-Trifluorotoluene(FID)	93.4		78.0-120		04/04/2025 20:56	WG2483497

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/06/2025 10:05	WG2484067
Ethylbenzene	ND		1.00	1	04/06/2025 10:05	WG2484067
Toluene	ND		1.00	1	04/06/2025 10:05	WG2484067
Xylenes, Total	ND		3.00	1	04/06/2025 10:05	WG2484067
Trichloroethene	ND		1.00	1	04/06/2025 10:05	WG2484067
cis-1,2-Dichloroethene	ND		1.00	1	04/06/2025 10:05	WG2484067
trans-1,2-Dichloroethene	ND		1.00	1	04/06/2025 10:05	WG2484067
Tetrachloroethene	ND		1.00	1	04/06/2025 10:05	WG2484067
Vinyl chloride	ND		1.00	1	04/06/2025 10:05	WG2484067
(S) Toluene-d8	97.2		80.0-120		04/06/2025 10:05	WG2484067
(S) 4-Bromofluorobenzene	98.8		77.0-126		04/06/2025 10:05	WG2484067
(S) 1,2-Dichloroethane-d4	103		70.0-130		04/06/2025 10:05	WG2484067

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	04/04/2025 21:18	WG2483497
(S) a,a,a-Trifluorotoluene(FID)	94.5		78.0-120		04/04/2025 21:18	WG2483497

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	19.1		1.00	1	04/06/2025 10:24	WG2484067
Ethylbenzene	1.22		1.00	1	04/06/2025 10:24	WG2484067
Toluene	ND		1.00	1	04/06/2025 10:24	WG2484067
Xylenes, Total	ND		3.00	1	04/06/2025 10:24	WG2484067
Trichloroethene	3.02		1.00	1	04/06/2025 10:24	WG2484067
cis-1,2-Dichloroethene	6.70		1.00	1	04/06/2025 10:24	WG2484067
trans-1,2-Dichloroethene	ND		1.00	1	04/06/2025 10:24	WG2484067
Tetrachloroethene	ND		1.00	1	04/06/2025 10:24	WG2484067
Vinyl chloride	13.2		1.00	1	04/06/2025 10:24	WG2484067
(S) Toluene-d8	98.1		80.0-120		04/06/2025 10:24	WG2484067
(S) 4-Bromofluorobenzene	97.9		77.0-126		04/06/2025 10:24	WG2484067
(S) 1,2-Dichloroethane-d4	103		70.0-130		04/06/2025 10:24	WG2484067

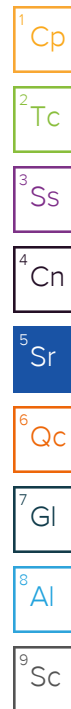
¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	04/04/2025 21:39	WG2483497
(S) a,a,a-Trifluorotoluene(FID)	94.7		78.0-120		04/04/2025 21:39	WG2483497

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/06/2025 10:43	WG2484067
Ethylbenzene	ND		1.00	1	04/06/2025 10:43	WG2484067
Toluene	ND		1.00	1	04/06/2025 10:43	WG2484067
Xylenes, Total	ND		3.00	1	04/06/2025 10:43	WG2484067
Trichloroethene	ND		1.00	1	04/06/2025 10:43	WG2484067
cis-1,2-Dichloroethene	ND		1.00	1	04/06/2025 10:43	WG2484067
trans-1,2-Dichloroethene	ND		1.00	1	04/06/2025 10:43	WG2484067
Tetrachloroethene	ND		1.00	1	04/06/2025 10:43	WG2484067
Vinyl chloride	ND		1.00	1	04/06/2025 10:43	WG2484067
(S) Toluene-d8	96.8		80.0-120		04/06/2025 10:43	WG2484067
(S) 4-Bromofluorobenzene	97.9		77.0-126		04/06/2025 10:43	WG2484067
(S) 1,2-Dichloroethane-d4	101		70.0-130		04/06/2025 10:43	WG2484067



Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	8290		1000	10	04/05/2025 00:11	WG2483497
(S) a,a,a-Trifluorotoluene(FID)	91.6		78.0-120		04/05/2025 00:11	WG2483497

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	180		50.0	50	04/06/2025 06:17	WG2484067
Ethylbenzene	61.3		50.0	50	04/06/2025 06:17	WG2484067
Toluene	138		50.0	50	04/06/2025 06:17	WG2484067
Xylenes, Total	1360		150	50	04/06/2025 06:17	WG2484067
Trichloroethene	ND		50.0	50	04/06/2025 06:17	WG2484067
cis-1,2-Dichloroethene	ND		50.0	50	04/06/2025 06:17	WG2484067
trans-1,2-Dichloroethene	ND		50.0	50	04/06/2025 06:17	WG2484067
Tetrachloroethene	ND		50.0	50	04/06/2025 06:17	WG2484067
Vinyl chloride	ND		50.0	50	04/06/2025 06:17	WG2484067
(S) Toluene-d8	96.1		80.0-120		04/06/2025 06:17	WG2484067
(S) 4-Bromofluorobenzene	99.9		77.0-126		04/06/2025 06:17	WG2484067
(S) 1,2-Dichloroethane-d4	102		70.0-130		04/06/2025 06:17	WG2484067

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	13500		1000	10	04/05/2025 00:33	WG2483497
(S) a,a,a-Trifluorotoluene(FID)	94.8		78.0-120		04/05/2025 00:33	WG2483497

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	122		100	100	04/06/2025 06:36	WG2484067
Ethylbenzene	725		100	100	04/06/2025 06:36	WG2484067
Toluene	802		100	100	04/06/2025 06:36	WG2484067
Xylenes, Total	3430		300	100	04/06/2025 06:36	WG2484067
Trichloroethene	185		100	100	04/06/2025 06:36	WG2484067
cis-1,2-Dichloroethene	142		100	100	04/06/2025 06:36	WG2484067
trans-1,2-Dichloroethene	ND		100	100	04/06/2025 06:36	WG2484067
Tetrachloroethene	419		100	100	04/06/2025 06:36	WG2484067
Vinyl chloride	ND		100	100	04/06/2025 06:36	WG2484067
(S) Toluene-d8	95.4		80.0-120		04/06/2025 06:36	WG2484067
(S) 4-Bromofluorobenzene	98.4		77.0-126		04/06/2025 06:36	WG2484067
(S) 1,2-Dichloroethane-d4	103		70.0-130		04/06/2025 06:36	WG2484067

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	47200		1000	10	04/05/2025 00:55	WG2483497
(S) a,a,a-Trifluorotoluene(FID)	83.9		78.0-120		04/05/2025 00:55	WG2483497

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	9270		500	500	04/06/2025 06:55	WG2484067
Ethylbenzene	1540		500	500	04/06/2025 06:55	WG2484067
Toluene	8460		500	500	04/06/2025 06:55	WG2484067
Xylenes, Total	7400		1500	500	04/06/2025 06:55	WG2484067
Trichloroethene	ND		500	500	04/06/2025 06:55	WG2484067
cis-1,2-Dichloroethene	ND		500	500	04/06/2025 06:55	WG2484067
trans-1,2-Dichloroethene	ND		500	500	04/06/2025 06:55	WG2484067
Tetrachloroethene	ND		500	500	04/06/2025 06:55	WG2484067
Vinyl chloride	ND		500	500	04/06/2025 06:55	WG2484067
(S) Toluene-d8	96.8		80.0-120		04/06/2025 06:55	WG2484067
(S) 4-Bromofluorobenzene	101		77.0-126		04/06/2025 06:55	WG2484067
(S) 1,2-Dichloroethane-d4	101		70.0-130		04/06/2025 06:55	WG2484067

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	276	B	100	1	04/04/2025 22:01	WG2483497
(S) a,a,a-Trifluorotoluene(FID)	93.3		78.0-120		04/04/2025 22:01	WG2483497

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/06/2025 11:02	WG2484067
Ethylbenzene	ND		1.00	1	04/06/2025 11:02	WG2484067
Toluene	ND		1.00	1	04/06/2025 11:02	WG2484067
Xylenes, Total	ND		3.00	1	04/06/2025 11:02	WG2484067
Trichloroethene	56.5		1.00	1	04/06/2025 11:02	WG2484067
cis-1,2-Dichloroethene	21.0		1.00	1	04/06/2025 11:02	WG2484067
trans-1,2-Dichloroethene	ND		1.00	1	04/06/2025 11:02	WG2484067
Tetrachloroethene	1030		25.0	25	04/09/2025 01:16	WG2485762
Vinyl chloride	ND		1.00	1	04/06/2025 11:02	WG2484067
(S) Toluene-d8	94.4		80.0-120		04/06/2025 11:02	WG2484067
(S) Toluene-d8	105		80.0-120		04/09/2025 01:16	WG2485762
(S) 4-Bromofluorobenzene	99.6		77.0-126		04/06/2025 11:02	WG2484067
(S) 4-Bromofluorobenzene	101		77.0-126		04/09/2025 01:16	WG2485762
(S) 1,2-Dichloroethane-d4	102		70.0-130		04/06/2025 11:02	WG2484067
(S) 1,2-Dichloroethane-d4	118		70.0-130		04/09/2025 01:16	WG2485762

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	04/08/2025 00:38	WG2484900
(S) a,a,a-Trifluorotoluene(FID)	85.0		78.0-120		04/08/2025 00:38	WG2484900

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		10.0	10	04/06/2025 07:14	WG2484067
Ethylbenzene	ND		10.0	10	04/06/2025 07:14	WG2484067
Toluene	ND		10.0	10	04/06/2025 07:14	WG2484067
Xylenes, Total	ND		30.0	10	04/06/2025 07:14	WG2484067
Trichloroethene	ND		10.0	10	04/06/2025 07:14	WG2484067
cis-1,2-Dichloroethene	ND		10.0	10	04/06/2025 07:14	WG2484067
trans-1,2-Dichloroethene	ND		10.0	10	04/06/2025 07:14	WG2484067
Tetrachloroethene	ND		10.0	10	04/06/2025 07:14	WG2484067
Vinyl chloride	ND		10.0	10	04/06/2025 07:14	WG2484067
(S) Toluene-d8	96.3		80.0-120		04/06/2025 07:14	WG2484067
(S) 4-Bromofluorobenzene	97.8		77.0-126		04/06/2025 07:14	WG2484067
(S) 1,2-Dichloroethane-d4	100		70.0-130		04/06/2025 07:14	WG2484067

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	04/04/2025 17:22	WG2483497
(S) a,a,a-Trifluorotoluene(FID)	92.3		78.0-120		04/04/2025 17:22	WG2483497

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/06/2025 08:30	WG2484067
Ethylbenzene	ND		1.00	1	04/06/2025 08:30	WG2484067
Toluene	ND		1.00	1	04/06/2025 08:30	WG2484067
Xylenes, Total	ND		3.00	1	04/06/2025 08:30	WG2484067
Trichloroethene	ND		1.00	1	04/06/2025 08:30	WG2484067
cis-1,2-Dichloroethene	ND		1.00	1	04/06/2025 08:30	WG2484067
trans-1,2-Dichloroethene	ND		1.00	1	04/06/2025 08:30	WG2484067
Tetrachloroethene	ND		1.00	1	04/06/2025 08:30	WG2484067
Vinyl chloride	ND		1.00	1	04/06/2025 08:30	WG2484067
(S) Toluene-d8	96.9		80.0-120		04/06/2025 08:30	WG2484067
(S) 4-Bromofluorobenzene	98.7		77.0-126		04/06/2025 08:30	WG2484067
(S) 1,2-Dichloroethane-d4	101		70.0-130		04/06/2025 08:30	WG2484067

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	04/04/2025 17:01	WG2483497
(S) a,a,a-Trifluorotoluene(FID)	92.9		78.0-120		04/04/2025 17:01	WG2483497

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/06/2025 08:49	WG2484067
Ethylbenzene	ND		1.00	1	04/06/2025 08:49	WG2484067
Toluene	ND		1.00	1	04/06/2025 08:49	WG2484067
Xylenes, Total	ND		3.00	1	04/06/2025 08:49	WG2484067
Trichloroethene	ND		1.00	1	04/06/2025 08:49	WG2484067
cis-1,2-Dichloroethene	ND		1.00	1	04/06/2025 08:49	WG2484067
trans-1,2-Dichloroethene	ND		1.00	1	04/06/2025 08:49	WG2484067
Tetrachloroethene	ND		1.00	1	04/06/2025 08:49	WG2484067
Vinyl chloride	ND		1.00	1	04/06/2025 08:49	WG2484067
(S) Toluene-d8	96.3		80.0-120		04/06/2025 08:49	WG2484067
(S) 4-Bromofluorobenzene	99.7		77.0-126		04/06/2025 08:49	WG2484067
(S) 1,2-Dichloroethane-d4	101		70.0-130		04/06/2025 08:49	WG2484067

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Method Blank (MB)

(MB) R4196111-2 04/04/25 16:12

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	42.4	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	92.5			78.0-120

Laboratory Control Sample (LCS)

(LCS) R4196111-1 04/04/25 14:07

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5000	4910	98.2	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			102	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) R4196334-2 04/07/25 22:21

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	32.8	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	86.2			78.0-120

Laboratory Control Sample (LCS)

(LCS) R4196334-1 04/07/25 21:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5000	4600	92.0	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			88.8	78.0-120	

1
Cp

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Tc

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Ss

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Cn

5
Sr

6
Qc

7
Gl

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Al

9
Sc

Method Blank (MB)

(MB) R4196703-3 04/06/25 05:01

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.0941	1.00
Ethylbenzene	U		0.137	1.00
Toluene	U		0.278	1.00
Xylenes, Total	U		0.174	3.00
Trichloroethene	U		0.190	1.00
cis-1,2-Dichloroethene	U		0.126	1.00
trans-1,2-Dichloroethene	U		0.149	1.00
Tetrachloroethene	U		0.300	1.00
Vinyl chloride	U		0.234	1.00
(S) Toluene-d8	96.2			80.0-120
(S) 4-Bromofluorobenzene	99.6			77.0-126
(S) 1,2-Dichloroethane-d4	102			70.0-130

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

(LCS) R4196703-1 04/06/25 04:04 • (LCSD) R4196703-2 04/06/25 04:23

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 %
Benzene	5.00	5.14	5.45	103	109	70.0-123			5.85	20
Ethylbenzene	5.00	4.60	4.74	92.0	94.8	79.0-123			3.00	20
Toluene	5.00	4.71	4.95	94.2	99.0	79.0-120			4.97	20
Xylenes, Total	15.0	13.8	14.8	92.0	98.7	79.0-123			6.99	20
Trichloroethene	5.00	5.03	5.25	101	105	78.0-124			4.28	20
cis-1,2-Dichloroethene	5.00	4.87	5.16	97.4	103	73.0-120			5.78	20
trans-1,2-Dichloroethene	5.00	4.96	5.46	99.2	109	73.0-120			9.60	20
Tetrachloroethene	5.00	4.40	4.97	88.0	99.4	72.0-132			12.2	20
Vinyl chloride	5.00	5.50	5.78	110	116	67.0-131			4.96	20
(S) Toluene-d8				94.4	94.3	80.0-120				
(S) 4-Bromofluorobenzene				99.6	99.8	77.0-126				
(S) 1,2-Dichloroethane-d4				104	104	70.0-130				

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4197129-3 04/08/25 22:39

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Tetrachloroethene	U		0.300	1.00
(S) Toluene-d8	104			80.0-120
(S) 4-Bromofluorobenzene	96.9			77.0-126
(S) 1,2-Dichloroethane-d4	119			70.0-130

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

(LCS) R4197129-1 04/08/25 21:38 • (LCSD) R4197129-2 04/08/25 21:58

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	5.95	5.94	119	119	72.0-132			0.168	20
(S) Toluene-d8				105	103	80.0-120				
(S) 4-Bromofluorobenzene				102	99.4	77.0-126				
(S) 1,2-Dichloroethane-d4				117	117	70.0-130				

1
Cp

2
Tc

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Ss

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Cn

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Sr

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Qc

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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.

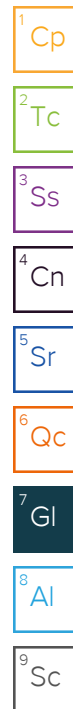
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

Abbreviations and Definitions

MDL	Method Detection Limit.
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

B	The same analyte is found in the associated blank.
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


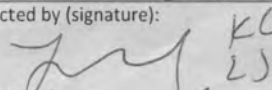
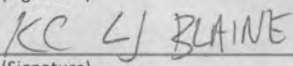
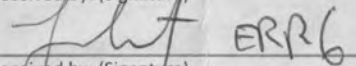
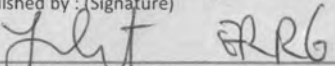
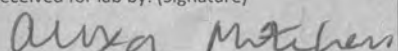
Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	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	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: Engineering/Remediation Resources Group 15333 NE 90th Street Report to: Jennifer Sonnichsen 425-658-5026				Billing Information: Jennifer Sonnichsen Accounts Payable 15333 NE 90th Street Ste 100 Redmond, WA 98053 Email To: jennifer.sonnichsen@errg.com; spencer.slomins				Analysis / Container / Preservative Pres Chk NWTPHGX 40mlAmb HCl NWTPHGX 40mlAmb HCl-Bik V8260BTEX 40mlAmb-HCl V8260BTEX 40mlAmb-HCl-Bik				Chain of Custody Page 2  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								
Project Description: FORMER CIRCLE K				City/State Collected: Seattle WA		Please Circle: <input checked="" type="radio"/> PT <input type="radio"/> MT <input type="radio"/> CT <input type="radio"/> ET		Client Project # 20230065 Lab Project # ENGREMRWA-CIRCLE K Site/Facility ID # 1461 P.O. # 230065-PA-01 Quote # Date Results Needed No. of Cntrs Date Results Needed												
Regulatory Program(DOD,RCRA,DW,etc): ECOLOGY EIM				Client Project # 20230065		Lab Project # ENGREMRWA-CIRCLE K														
Collected by (print): BLAINE				Site/Facility ID # 1461		P.O. # 230065-PA-01														
Collected by (signature): 				Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day <input type="checkbox"/> STD TAT		Quote # Date Results Needed														
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>				Date Results Needed		No. of Cntrs														
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time														
MW-18		GRAB	GW	N/A	3/28/25	0907	6	X		X										
MW-20			GW			0908	6	X		X										
RW-1			GW			0933	6	X		X										
MW-9			GW			0944	6	X		X										
MW-16			GW			1006	6	X		X										
MW-8			GW			1012	6	X		X										
MW-15			GW			1031	6	X		X										
MW-6			GW			1038	6	X		X										
MW-14			GW			1056	6	X		X										
MW-13			GW			1111	6	X		X										
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other				Remarks: VOCs - BTEX + TCE, cDCE, + DCE, PCE ONLY pH _____ Temp _____ Flow _____ Other _____										Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N						
Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier				Tracking # 4257 0929 6150										Trip Blank Received: Yes / No <input checked="" type="checkbox"/> Y <input type="checkbox"/> N HCL / MeOH TBR						
Relinquished by: (Signature) 		Date: 3/28/25	Time: 1215	Received by: (Signature) 		Trip Blank Received: Yes / No <input checked="" type="checkbox"/> Y <input type="checkbox"/> N HCL / MeOH TBR		If preservation required by Login: Date/Time												
Relinquished by: (Signature) 		Date: 3/28/25	Time: 1330	Received by: (Signature) FEDEX		Temp: 71.9 °C 41.4 = 8		Hold:												
Relinquished by: (Signature) 		Date: 3/29/25	Time: 0900	Received for lab by: (Signature) Anna Mathews		Date: 3/29/25		Time: 0900		Condition: NCF / OK		Hold:								

Company Name/Address: Engineering/Remediation Resources Group 15333 NE 90th Street Report to: Jennifer Sonnichsen 425-658-5026		Billing Information: Jennifer Sonnichsen Accounts Payable 15333 NE 90th Street Ste 100 Email To: jennifer.sonnichsen@errg.com;spencer.slomins		Pres Chk <div style="border: 1px solid black; width: 100px; height: 100px; margin: 0 auto;"></div>		Analysis / Container / Preservative <div style="display: flex; justify-content: space-between;"> <div style="width: 20%;">NWTPHGX 40mlAmb HCl</div> <div style="width: 20%;">NWTPHGX 40mlAmb-HCl-BLK</div> <div style="width: 20%;">V8260BTEX 40mlAmb-HCl</div> <div style="width: 20%;">V8260BTEX 40mlAmb-HCl-BLK</div> <div style="width: 20%;"></div> <div style="width: 20%;"></div> </div>										Chain of Custody Page 1 of 2 PEOPLE ADVANCING SCIENCE MT JULIET, TN <small>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/hubs/pas-standard-terms.pdf</small>		
Project Description: FORMER CIRCLE K		City/State Collected: Seal		Please Circle: <input checked="" type="radio"/> PT <input type="radio"/> MT <input type="radio"/> CT <input type="radio"/> ET												SDG # 1841690		
Regulatory Program(DOD,RCRA,DW,etc): ECOLOGY EM		Client Project # 20230065		Lab Project # ENGREMRWA-CIRCLE K												Table #		
Collected by (print): BLAINE		Site/Facility ID # 1461		P.O. # 230065-PA-01												Acctnum: ENGREMRWA Template: T263464		
Collected by (signature): W KC		Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day <input type="checkbox"/> STD TAT		Quote # <div style="border: 1px solid black; height: 20px; width: 100%;"></div>												Prelogin: P1132794 PM: 3500 - Jennifer Gambill		
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>		Date Results Needed		No. of Cntrs												PB:		
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NWTPHGX 40mlAmb HCl	NWTPHGX 40mlAmb-HCl-BLK	V8260BTEX 40mlAmb-HCl	V8260BTEX 40mlAmb-HCl-BLK						Remarks	Sample # (lab only)
MW-19		GRAB	GW		3/28/25	1134	6	X		X								11
MW-21			GW			1139	6	X		X								12
MW-17			GW			1206	6	X		X								13
DUP-1			GW		3/28/25	1200	6	X		X								14
			GW				6	X		X								
			GW				6	X		X								
TRIP BLANK TB-01		GRAB	GW		3/28/29	1210	2		X		X							15
TRIP BLANK TB-02			GW			1211	2		X		X							16
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other		Remarks: <div style="font-size: 2em; font-family: cursive;">SEE PAGE 1</div>										pH _____ Temp _____ Flow _____ Other _____		Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N				
Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier		Tracking # 4257 0929 4650										Trip Blank Received: Yes/No 4 HCL / MeOH TBR		If preservation required by Login: Date/Time				
Relinquished by: (Signature) BLAINE KC		Date: 3/28/25	Time: 1215	Received by: (Signature) Julia ERR6		Temp: 14.9 °C		Bottles Received: 84		Date: 8/29/25		Time: 0900		Hold:		Condition: NCF <input checked="" type="checkbox"/>		
Relinquished by: (Signature) Julia ERR6		Date: 3/28/25	Time: 1330	Received by: (Signature) FEDEX		Date:		Time:		Hold:		Condition:		NCF <input checked="" type="checkbox"/>				
Relinquished by: (Signature) Aluxa mitchell		Date:	Time:	Received for lab by: (Signature)		Date:		Time:		Hold:		Condition:		NCF <input checked="" type="checkbox"/>				

Appendix C.

Data Validation Reports During Reporting Period



LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

ERRG

15333 N.E. 90th Street, Suite 100

Redmond, WA 98052

ATTN: Mr. Fernando Idiarte

fernando.idiarte@errg.com

March 26, 2025

SUBJECT: Circle K - Data Validation

Dear Mr. Idiarte,

Enclosed are the final validation reports for the fraction listed below. This SDG was received on March 19, 2025. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #60725:

SDG #

L1818502

Fraction

Volatile Organic Compound

The data validation was performed under Stage 2A guidelines. The analysis was validated using the following documents, as applicable to each method:

- Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024)
- USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020)

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng

pgeng@lab-data.com

Project Manager/Senior Chemist

LDC #60725 (ERRG - Redmond, WA / Circle K)

LDC	SDG#	Received Date	(21) Due Date	Validation Level	VOCs (TO-15)
Matrix Type:					Air
A	L1818502	3/19/25	4/9/25	Stage 2A	2
Total	PM: PG				2

These sample counts do not include MS/MSD, and DUPs.
EDD: EIM

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Circle K

LDC Report Date: March 25, 2025

Parameters: Volatile Organic Compounds

Validation Level: Stage 2A

Laboratory: Pace Analytical National, Mount Juliet, TN

Sample Delivery Group (SDG): L1818502

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
FALCO-300-INF-20250117	L1818502-01	Air	01/17/25
FALCO-300-EFF-20250117	L1818502-02	Air	01/17/25

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) Method TO-15

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J+ (Estimated, High Bias): The result was an estimated quantity, but the result may be biased high.
- J- (Estimated, Low Bias): The result was an estimated quantity, but the result may be biased low.
- J (Estimated, Bias Indeterminate): The reported result was an estimated quantity value with an unknown bias.
- U (Non-detected): The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
- UJ (Non-detected): The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
- NJ (Tentatively identified): The analyte has been "tentatively identified" or "presumptively identified" as present, and the associated numerical value was the estimated concentration in the sample.
- R (Rejected): The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

The canisters were properly pressurized and handled.

All technical holding time requirements were met.

II. Laboratory Blanks/Canister

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

Canister blank analyses were performed for every sample canister.

III. Field Blanks

No field blanks were identified in this SDG.

IV. Surrogates

Although surrogates were not required by the method, surrogate analysis was performed by the laboratory. Surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (60-140)	Affected Analyte	Flag	A or P
FALCO-300-INF-20250117	1,4-Bromofluorobenzene	345	Benzene Cyclohexane Ethylbenzene 4-Ethyltoluene Heptane n-Hexane Toluene 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene 2,2,4-Trimethylpentane m&p-Xylene o-Xylene Xylenes total TPH as low fraction	J+ (all detects) J+ (all detects) J+ (all detects) J+ (all detects) J+ (all detects) J+ (all detects) J+ (all detects) J+ (all detects) J+ (all detects) J+ (all detects) J+ (all detects) J+ (all detects) J+ (all detects) J+ (all detects)	A

V. Matrix Spike/Matrix Spike Duplicate

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Field Duplicates

No field duplicates were identified in this SDG.

VIII. Target Analyte Quantitation

Raw data were not reviewed for Stage 2A validation.

IX. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Data qualified due to surrogate %R are summarized and presented in the Data Qualification Summary.

Circle K
Volatile Organic Analytes - Data Qualification Summary - SDG L1818502

Sample	Analyte	Flag	A or P	Reason
FALCO-300-INF-20250117	Benzene Cyclohexane Ethylbenzene 4-Ethyltoluene Heptane n-Hexane Toluene 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene 2,2,4-Trimethylpentane m&p-Xylene o-Xylene Xylenes total TPH as low fraction	J+ (all detects) J+ (all detects) J+ (all detects) J+ (all detects) J+ (all detects) J+ (all detects) J+ (all detects) J+ (all detects) J+ (all detects) J+ (all detects) J+ (all detects) J+ (all detects) J+ (all detects) J+ (all detects)	A	Surrogates (%R)

Circle K
Volatile Organic Analytes - Laboratory Blank Data Qualification Summary - SDG L1818502

No Sample Data Qualified in this SDG

Circle K
Volatile Organic Analytes - Field Blank Data Qualification Summary - SDG L1818502

No Sample Data Qualified in this SDG

VALIDATION COMPLETENESS WORKSHEET

LDC #: 60725A
 SDG #: L1818502
 Laboratory: Pace Analytical, Mount Juliet, TN
 Method: Volatiles (EPA TO-15)

Date: 3/20/2025
 Page: 1
 Reviewer: MN
 2nd Reviewer: A

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I	Sample receipt/Technical holding times	A/A	
II	Laboratory Blanks /canister	A/A	
III	Field blanks	N	
IV	Surrogate spikes	SW	
V	Matrix spike/Matrix spike duplicates	N	
VI	Laboratory control samples	A	LCS/D
VII	Field duplicates	N	
VIII	Target analyte quantitation	N	
IX	Overall assessment of data	A	

Note: A = Acceptable ND = Not detected FT = Field triplicate AB = Ambient blank R = Rinsate
 N = Not provided/applicable NQ = Not qualified TB = Trip blank SB = Source blank
 SW = See worksheet FD = Field duplicate FB = Field blank EB = Equipment blank

	Client ID	Lab ID	QC Type	Matrix	Date	Stage
1	1 2 FALCO-300-INF-20250117	L1818502-01		Air	01/17/2025	Stage 2A
2	1 2 FALCO-300-EFF-20250117	L1818502-02		Air	01/17/2025	Stage 2A

Notes:

1 (MB) R4168842-3		
2 (MB) R4169161-3		

VALIDATION FINDINGS WORKSHEET **Surrogate Recovery**

METHOD: GC/MS Volatiles (EPA SW-846 Method TO-15)

Surrogates were added to all samples as required by the method.

All surrogate recoveries (%R) were within QC limits with the exceptions identified below.

#	Sample ID	Surrogate Compound	%R	Limits	Qualifications
	1 (DET+ND)	1,4-Bromofluorobenzene	345	60-140	J+DET/A (Qual all except Benzene, Cyclohexane, Ethylbenzene, 4-Ethyltoluene, Heptane, n-Hexane, Toluene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, 2,2,4-Trimethylpentane, m&p-Xylene, o-Xylene, Xylenes Total, TPH (GC/MS) Low Fraction

DFM = Dibromofluoromethane

DCE = 1,2-Dichloroethane-d4

TOL = Toluene-d8

BFB = Bromofluorobenzene



LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

ERRG

15333 N.E. 90th Street, Suite 100

Redmond, WA 98052

ATTN: Mr. Fernando Idiarte

fernando.idiarte@errg.com

March 19, 2025

SUBJECT: Circle K - Data Validation

Dear Mr. Idiarte,

Enclosed are the final validation reports for the fractions listed below. This SDG was received on January 30, 2025. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #60540:

SDG #

L1818655

Fraction

Volatile Organic Compound, Oil & Grease, Gasoline Range Organics

The data validation was performed under Stage 2A guidelines. The analysis was validated using the following documents, as applicable to each method:

- Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024)
- USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020)
- USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (November 2020)
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014; update VI, July 2018

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng

pgeng@lab-data.com

Project Manager/Senior Chemist

LDC #60540 (ERRG - Redmond, WA / Circle K)

LDC	SDG#	Received Date	(21) Due Date	Validation Level	(9) VOCs (8260D)	GRO (NWTPH-Gx)	Oil & Grease (1664B)
Matrix Type:					Water	Water	Water
A	L1818655	1/30/25	2/21/25	Stage 2A	5	5	6
Total	PM: PG				5	5	6

These sample counts do not include MS/MSD, and DUPs.

EDD: EIM EDD

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Circle K

LDC Report Date: March 19, 2025

Parameters: Volatile Organic Compounds

Validation Level: Stage 2A

Laboratory: Pace Analytical National, Mount Juliet, TN

Sample Delivery Group (SDG): L1818655

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
LG-404-EFF-20250117	L1818655-01	Water	01/17/25
LG-403-MID-20250117	L1818655-02	Water	01/17/25
LG-401-INF-20250117	L1818655-03	Water	01/17/25
DUP-3-20250117	L1818655-04	Water	01/17/25
TB-01-20250117	L1818655-07	Water	01/17/25

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260D

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary reports.

The following are definitions of the data qualifiers utilized during data validation:

- J+ (Estimated, High Bias): The result was an estimated quantity, but the result may be biased high.
- J- (Estimated, Low Bias): The result was an estimated quantity, but the result may be biased low.
- J (Estimated, Bias Indeterminate): The reported result was an estimated quantity value with an unknown bias.
- U (Non-detected): The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
- UJ (Non-detected): The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
- NJ (Tentatively identified): The analyte has been “tentatively identified” or “presumptively identified” as present, and the associated numerical value was the estimated concentration in the sample.
- R (Rejected): The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

III. Field Blanks

Sample TB-01-20250117 was identified as a trip blank. No contaminants were found.

IV. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Field Duplicates

Samples LG-404-EFF-20250117 and DUP-3-20250117 were identified as field duplicates. No results were detected in any of the samples.

VIII. Target Analyte Quantitation

Raw data were not reviewed for Stage 2A validation.

IX. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Circle K
Volatile Organic Compounds - Data Qualification Summary - SDG L1818655**

No Sample Data Qualified in this SDG

**Circle K
Volatile Organic Compounds - Laboratory Blank Data Qualification Summary -
SDG L1818655**

No Sample Data Qualified in this SDG

**Circle K
Volatile Organic Compounds - Field Blank Data Qualification Summary - SDG
L1818655**

No Sample Data Qualified in this SDG

VALIDATION COMPLETENESS WORKSHEET

LDC #: 60540A
 SDG #: L1818655
 Laboratory: Pace Analytical, Mount Juliet, TN
 Method: Volatiles (EPA 8260D)

Date: 2/14/2025
 Page: 1
 Reviewer: MAJ
 2nd Reviewer: Q

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I	Sample receipt/Technical holding times	A / A	
II	Laboratory Blanks	A	
III	Field blanks	ND	TB=5
IV	Surrogate spikes	A	
V	Matrix spike/Matrix spike duplicates	N	
VI	Laboratory control samples	A	LCS/D
VII	Field duplicates	ND	Dup=1+4
VIII	Target analyte quantitation	N	
IX	Overall assessment of data	A	

Note: A = Acceptable ND = Not detected FT = Field triplicate AB= Ambient blank R = Rinsate
 N = Not provided/applicable NQ = Not qualified TB = Trip blank SB = Source blank
 SW = See worksheet FD = Field duplicate FB = Field blank EB = Equipment blank

	Client ID	Lab ID	QC Type	Matrix	Date	Stage
1 12	LG-404-EFF-20250117	L1818655-01		Water	01/17/2025	Stage 2A
2 1	LG-403-MID-20250117	L1818655-02		Water	01/17/2025	Stage 2A
3 1	LG-401-INF-20250117	L1818655-03		Water	01/17/2025	Stage 2A
4 1	DUP-3-20250117	L1818655-04		Water	01/17/2025	Stage 2A
5 1	TB-01-20250117	L1818655-07	TB	Water	01/17/2025	Stage 2A

Notes:

1 MB R4169459-4		
2 MB R4169235-3	(000)	

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Circle K

LDC Report Date: March 19, 2025

Parameters: Gasoline Range Organics

Validation Level: Stage 2A

Laboratory: Pace Analytical National, Mount Juliet, TN

Sample Delivery Group (SDG): L1818655

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
LG-404-EFF-20250117	L1818655-01	Water	01/17/25
LG-403-MID-20250117	L1818655-02	Water	01/17/25
LG-401-INF-20250117	L1818655-03	Water	01/17/25
DUP-3-20250117	L1818655-04	Water	01/17/25
TB-01-20250117	L1818655-07	Water	01/17/25

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Gasoline Range Organics by NWTPH-Gx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary reports.

The following are definitions of the data qualifiers utilized during data validation:

- J+ (Estimated, High Bias): The result was an estimated quantity, but the result may be biased high.
- J- (Estimated, Low Bias): The result was an estimated quantity, but the result may be biased low.
- J (Estimated, Bias Indeterminate): The reported result was an estimated quantity value with an unknown bias.
- U (Non-detected): The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
- UJ (Non-detected): The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
- NJ (Tentatively identified): The analyte has been “tentatively identified” or “presumptively identified” as present, and the associated numerical value was the estimated concentration in the sample.
- R (Rejected): The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

III. Field Blanks

Sample TB-01-20250117 was identified as a trip blank. No contaminants were found.

IV. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

VII. Field Duplicates

Samples LG-404-EFF-20250117 and DUP-3-20250117 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD
	LG-404-EFF-20250117	DUP-3-20250117	
Gasoline range organics	0.100U	0.119	Not calculable

VIII. Target Analyte Quantitation

Raw data were not reviewed for Stage 2A validation.

IX. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Circle K
Gasoline Range Organics - Data Qualification Summary - SDG L1818655**

No Sample Data Qualified in this SDG

**Circle K
Gasoline Range Organics - Laboratory Blank Data Qualification Summary - SDG
L1818655**

No Sample Data Qualified in this SDG

**Circle K
Gasoline Range Organics - Field Blank Data Qualification Summary - SDG
L1818655**

No Sample Data Qualified in this SDG

VALIDATION COMPLETENESS WORKSHEET

LDC #: 60540A
 SDG #: L1818655
 Laboratory: Pace Analytical, Mount Juliet, TN

Date: 2/14/2025
 Page: 1
 Reviewer: MN
 2nd Reviewer: SA

Method: TPH (NWTPH-Gx), GRO

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I	Sample receipt/Technical holding times	A/A	
II	Laboratory Blanks	A	
III	Field blanks	ND	TB = 5
IV	Surrogate spikes	A	
V	Matrix spike/Matrix spike duplicates	N	
VI	Laboratory control samples	A	LCS
VII	Field duplicates	SW	Dup = 1+4
VIII	Target analyte quantitation	N	
IX	Overall assessment of data	A	

Note: A = Acceptable ND = Not detected FT = Field triplicate AB = Ambient blank R = Rinsate
 N = Not provided/applicable NQ = Not qualified TB = Trip blank SB = Source blank
 SW = See worksheet FD = Field duplicate FB = Field blank EB = Equipment blank

	Client ID	Lab ID	QC Type	Matrix	Date	Stage
1	LG-404-EFF-20250117	L1818655-01		Water	01/17/2025	Stage 2A
2	LG-403-MID-20250117	L1818655-02		Water	01/17/2025	Stage 2A
3	LG-401-INF-20250117	L1818655-03		Water	01/17/2025	Stage 2A
4	DUP-3-20250117	L1818655-04		Water	01/17/2025	Stage 2A
5	TB-01-20250117	L1818655-07	TB	Water	01/17/2025	Stage 2A

Notes:

1 MB R4169191-2		

VALIDATION FINDINGS WORKSHEET
Field Duplicates**Method: GC Gasoline Range Organics (Method NWTPH-GX)**

Compound	Concentration (mg/l)		RPD
	1	4	
Gasoline Range Organics-NWTPH	0.100U	0.119	NC

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Circle K

LDC Report Date: March 19, 2025

Parameters: Oil and Grease

Validation Level: Stage 2A

Laboratory: Pace Analytical National, Mount Juliet, TN

Sample Delivery Group (SDG): L1818655

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
LG-404-EFF-20250117	L1818655-01	Water	01/17/25
LG-403-MID-20250117	L1818655-02	Water	01/17/25
LG-401-INF-20250117	L1818655-03	Water	01/17/25
DUP-3-20250117	L1818655-04	Water	01/17/25
DUP-1-20250117	L1818655-05	Water	01/17/25
DUP-2-20250117	L1818655-06	Water	01/17/25
LG-404-EFF-20250117MS	L1818655-01MS	Water	01/17/25

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024) and a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (November 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Oil and Grease by Environmental Protection Agency (EPA) Method 1664B

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary reports.

The following are definitions of the data qualifiers utilized during data validation:

- J+ (Estimated, High Bias): The result was an estimated quantity, but the result may be biased high.
- J- (Estimated, Low Bias): The result was an estimated quantity, but the result may be biased low.
- J (Estimated, Bias Indeterminate): The reported result was an estimated quantity value with an unknown bias.
- U (Non-detected): The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
- UU (Non-detected): The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
- NJ (Tentatively identified): The analyte has been “tentatively identified” or “presumptively identified” as present, and the associated numerical value was the estimated concentration in the sample.
- R (Rejected): The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

III. Field Blanks

No field blanks were identified in this SDG.

IV. Surrogates

Surrogates were not performed for this SDG.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Field Quadruplicate

Samples LG-404-EFF-20250117, DUP-3-20250117, DUP-1-20250117, and DUP-2-20250117 were identified as field quadruplicates. No results were detected in any of the samples.

VIII. Target Analyte Quantitation

Raw data were not reviewed for Stage 2A validation.

IX. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Circle K

Oil and Grease - Data Qualification Summary - SDG L1818655

No Sample Data Qualified in this SDG

Circle K

Oil and Grease - Laboratory Blank Data Qualification Summary - SDG L1818655

No Sample Data Qualified in this SDG

Circle K

Oil and Grease - Field Blank Data Qualification Summary - SDG L1818655

No Sample Data Qualified in this SDG

VALIDATION COMPLETENESS WORKSHEET

LDC #: 60540A
 SDG #: L1818655
 Laboratory: Pace Analytical, Mount Juliet, TN
 Method: Oil and Grease (EPA 1664B)

Date: 2/14/2025
 Page: 1/1
 Reviewer: MR/NF
 2nd Reviewer: [Signature]

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I	Sample receipt/Technical holding times	A/A	
II	Laboratory Blanks	A	
III	Field blanks	N	
IV	Surrogate spikes	N	
V	Matrix spike/Matrix spike duplicates	A	
VI	Laboratory control samples	A	LC5/LCSD
VII	Field duplicates/FQ	ND	
VIII	Target analyte quantitation	N	
IX	Overall assessment of data	A	

Note: A = Acceptable ND = Not detected FT = Field triplicate AB = Ambient blank R = Rinsate
 N = Not provided/applicable NQ = Not qualified TB = Trip blank SB = Source blank FQ = Field Quadruplicate
 SW = See worksheet FD = Field duplicate FB = Field blank EB = Equipment blank

	Client ID	Lab ID	QC Type	Matrix	Date	Stage
1	LG-404-EFF-20250117	L1818655-01	FQ	Water	01/17/2025	Stage 2A
2	LG-403-MID-20250117	L1818655-02		Water	01/17/2025	Stage 2A
3	LG-401-INF-20250117	L1818655-03		Water	01/17/2025	Stage 2A
4	DUP-3-20250117	L1818655-04	FQ	Water	01/17/2025	Stage 2A
5	DUP-1-20250117	L1818655-05	FQ	Water	01/17/2025	Stage 2A
6	DUP-2-20250117	L1818655-06	FQ	Water	01/17/2025	Stage 2A
7	LG-404-EFF-20250117MS	L1818655-01MS	MS	Water	01/17/2025	Stage 2A

Notes:

[illegible]



LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

ERRG

May 16, 2025

15333 N.E. 90th Street, Suite 100

Redmond, WA 98052

ATTN: Mr. Fernando Idiarte

fernando.idiarte@errg.com

SUBJECT: Circle K - Data Validation

Dear Mr. Idiarte,

Enclosed are the final validation reports for the fractions listed below. This SDG was received on February 6, 2025. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #60566_RV1:

SDG #

Fraction

L1818670

Volatile Organic Compound, Gasoline Range Organics

The data validation was performed under Stage 2A guidelines. The analysis was validated using the following documents, as applicable to each method:

- Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024)
- USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020)
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014; update VI, July 2018

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng

pgeng@lab-data.com

Project Manager/Senior Chemist

LDC #60566 (ERRG - Redmond, WA / Circle K)

LDC	SDG#	Received Date	(21) Due Date	Validation Level	BTEX (8260D)	GRO (NWTPH-Gx)
Matrix Type:					Water	Water
A	L1818670	2/6/25	2/28/25	Stage 2A	15	15
Total	PM: PG				15	15

These sample counts do not include MS/MSD, and DUPs.
EDD: EIM EDD

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Circle K

LDC Report Date: May 16, 2025

Parameters: Volatile Organic Compounds

Validation Level: Stage 2A

Laboratory: Pace Analytical National, Mount Juliet, TN

Sample Delivery Group (SDG): L1818670

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-21	L1818670-01	Water	01/17/25
MW-9	L1818670-02	Water	01/17/25
MW-8	L1818670-03	Water	01/17/25
MW-13	L1818670-04	Water	01/17/25
MW-20	L1818670-05	Water	01/17/25
MW-6	L1818670-06	Water	01/17/25
MW-19	L1818670-07	Water	01/17/25
MW-14	L1818670-08	Water	01/17/25
MW-16	L1818670-09	Water	01/17/25
MW-15	L1818670-10	Water	01/17/25
MW-17	L1818670-11	Water	01/17/25
MW-18	L1818670-12	Water	01/17/25
RW-1	L1818670-13	Water	01/17/25
DUP-1	L1818670-14	Water	01/17/25
TB-01	L1818670-15	Water	01/17/25

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) which are Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) by Environmental Protection Agency (EPA) SW 846 Method 8260D

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary reports.

The following are definitions of the data qualifiers utilized during data validation:

- J+ (Estimated, High Bias): The result was an estimated quantity, but the result may be biased high.
- J- (Estimated, Low Bias): The result was an estimated quantity, but the result may be biased low.
- J (Estimated, Bias Indeterminate): The reported result was an estimated quantity value with an unknown bias.
- U (Non-detected): The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
- UJ (Non-detected): The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
- NJ (Tentatively identified): The analyte has been "tentatively identified" or "presumptively identified" as present, and the associated numerical value was the estimated concentration in the sample.
- R (Rejected): The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

III. Field Blanks

Sample TB-01 was identified as a trip blank. No contaminants were found.

IV. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Field Duplicates

Samples MW-9 and DUP-1 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD
	MW-9	DUP-1	
Ethylbenzene	0.156	0.198	24
Xylenes, Total	0.203	0.247	20

VIII. Target Analyte Quantitation

Raw data were not reviewed for Stage 2A validation.

IX. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Circle K
Volatile Organic Compounds - Data Qualification Summary - SDG L1818670

No Sample Data Qualified in this SDG

Circle K
Volatile Organic Compounds - Laboratory Blank Data Qualification Summary - SDG L1818670

No Sample Data Qualified in this SDG

Circle K
Volatile Organic Compounds - Field Blank Data Qualification Summary - SDG L1818670

No Sample Data Qualified in this SDG

VALIDATION COMPLETENESS WORKSHEET

LDC #: 60566A
 SDG #: L1818670
 Laboratory: Pace Analytical, Mount Juliet, TN
 Method: Volatiles (EPA 8260D), BTEX

Date: 2/21/2025
 Page: 1
 Reviewer: MAN
 2nd Reviewer: CF

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I	Sample receipt/Technical holding times	A/A	
II	Laboratory Blanks	A	
III	Field blanks	ND	TB=15, R=15
IV	Surrogate spikes	A	
V	Matrix spike/Matrix spike duplicates	N	
VI	Laboratory control samples	A	LCS/D
VII	Field duplicates	SW	Dup= 32 + 14
VIII	Target analyte quantitation	N	
IX	Overall assessment of data	A	

Note: A = Acceptable ND = Not detected FT = Field triplicate AB = Ambient blank R = Rinsate
 N = Not provided/applicable NQ = Not qualified TB = Trip blank SB = Source blank
 SW = See worksheet FD = Field duplicate FB = Field blank EB = Equipment blank

	Client ID	Lab ID	QC Type	Matrix	Date	Stage
1	MW-21	L1818670-01		Water	01/17/2025	Stage 2A
2	MW-9	L1818670-02		Water	01/17/2025	Stage 2A
3	MW-8	L1818670-03		Water	01/17/2025	Stage 2A
4	MW-13	L1818670-04		Water	01/17/2025	Stage 2A
5	MW-20	L1818670-05		Water	01/17/2025	Stage 2A
6	MW-6	L1818670-06		Water	01/17/2025	Stage 2A
7	MW-19	L1818670-07		Water	01/17/2025	Stage 2A
8	MW-14	L1818670-08		Water	01/17/2025	Stage 2A
9	MW-16	L1818670-09		Water	01/17/2025	Stage 2A
10	MW-15	L1818670-10		Water	01/17/2025	Stage 2A
11	MW-17	L1818670-11		Water	01/17/2025	Stage 2A
12	MW-18	L1818670-12		Water	01/17/2025	Stage 2A
13	RW-1	L1818670-13	Rinsate	Water	01/17/2025	Stage 2A
14	DUP-1	L1818670-14	FD	Water	01/17/2025	Stage 2A
15	TB-01	L1818670-15	TB	Water	01/17/2025	Stage 2A

Notes:

1 MB R4168690-3		
2 MB R4169437-3		
3 MB R4169436-3		

LDC #: 60566A

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: MN

METHOD: GC/MS Volatiles (EPA SW-846 Method 8260D)

Compound	Concentration (mg/L)		RPD
	2	14	
Ethylbenzene	0.156	0.198	24
Xylenes, Total	0.203	0.247	20

Laboratory Data Consultants, Inc.

Data Validation Report

Project/Site Name: Circle K

LDC Report Date: May 16, 2025

Parameters: Gasoline Range Organics

Validation Level: Stage 2A

Laboratory: Pace Analytical National, Mount Juliet, TN

Sample Delivery Group (SDG): L1818670

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-21	L1818670-01	Water	01/17/25
MW-9	L1818670-02	Water	01/17/25
MW-8	L1818670-03	Water	01/17/25
MW-13	L1818670-04	Water	01/17/25
MW-20	L1818670-05	Water	01/17/25
MW-6	L1818670-06	Water	01/17/25
MW-19	L1818670-07	Water	01/17/25
MW-14	L1818670-08	Water	01/17/25
MW-16	L1818670-09	Water	01/17/25
MW-15	L1818670-10	Water	01/17/25
MW-17	L1818670-11	Water	01/17/25
MW-18	L1818670-12	Water	01/17/25
RW-1	L1818670-13	Water	01/17/25
DUP-1	L1818670-14	Water	01/17/25
TB-01	L1818670-15	Water	01/17/25

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Gasoline Range Organics by NWTPH-Gx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary reports.

The following are definitions of the data qualifiers utilized during data validation:

- J+ (Estimated, High Bias): The result was an estimated quantity, but the result may be biased high.
- J- (Estimated, Low Bias): The result was an estimated quantity, but the result may be biased low.
- J (Estimated, Bias Indeterminate): The reported result was an estimated quantity value with an unknown bias.
- U (Non-detected): The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
- UJ (Non-detected): The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
- NJ (Tentatively identified): The analyte has been “tentatively identified” or “presumptively identified” as present, and the associated numerical value was the estimated concentration in the sample.
- R (Rejected): The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analysis Date	Analyte	Concentration (mg/L)	Associated Samples
(MB) R4169122-4	01/21/25	Gasoline range organics	0.0995	All samples in SDG L1818670

Sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration (mg/L)	Modified Final Concentration (mg/L)
MW-6	Gasoline range organics	0.263	0.263J+
MW-17	Gasoline range organics	0.300	0.300J+
MW-18	Gasoline range organics	0.117	0.117J+
RW-1	Gasoline range organics	0.167	0.167J+

III. Field Blanks

Sample TB-01 was identified as a trip blank. No contaminants were found.

IV. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Field Duplicates

Samples MW-9 and DUP-1 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD
	MW-9	DUP-1	
Gasoline range organics	3.85	5.27	31

VIII. Target Analyte Quantitation

Raw data were not reviewed for Stage 2A validation.

IX. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Data qualified due to laboratory blank contamination are summarized and presented in the Data Qualification Summary.

**Circle K
Gasoline Range Organics - Data Qualification Summary - SDG L1818670**

No Sample Data Qualified in this SDG

**Circle K
Gasoline Range Organics - Laboratory Blank Data Qualification Summary - SDG
L1818670**

Sample	Analyte	Modified Final Concentration (mg/L)
MW-6	Gasoline range organics	0.263J+
MW-17	Gasoline range organics	0.300J+
MW-18	Gasoline range organics	0.117J+
RW-1	Gasoline range organics	0.167J+

**Circle K
Gasoline Range Organics - Field Blank Data Qualification Summary - SDG
L1818670**

No Sample Data Qualified in this SDG

VALIDATION COMPLETENESS WORKSHEET

LDC #: 60566A
 SDG #: L1818670
 Laboratory: Pace Analytical, Mount Juliet, TN

Date: 2/21/2025
 Page: 1
 Reviewer: MN
 2nd Reviewer: [Signature]

Method: TPH (NWTPH-Gx), GRO

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I	Sample receipt/Technical holding times	A/A	
II	Laboratory Blanks	SW	
III	Field blanks	SW	TB=15 R=13
IV	Surrogate spikes	A	
V	Matrix spike/Matrix spike duplicates	N	
VI	Laboratory control samples	A	LCS/D
VII	Field duplicates	SW	Dup = 32 + 14
VIII	Target analyte quantitation	N	
IX	Overall assessment of data	A	

Note: A = Acceptable ND = Not detected FT = Field triplicate AB = Ambient blank R = Rinsate
 N = Not provided/applicable NQ = Not qualified TB = Trip blank SB = Source blank
 SW = See worksheet FD = Field duplicate FB = Field blank EB = Equipment blank

	Client ID	Lab ID	QC Type	Matrix	Date	Stage
1	1	MW-21		Water	01/17/2025	Stage 2A
2	1	MW-9		Water	01/17/2025	Stage 2A
3	1	MW-8		Water	01/17/2025	Stage 2A
4	1	MW-13		Water	01/17/2025	Stage 2A
5	1	MW-20		Water	01/17/2025	Stage 2A
6	1	MW-6		Water	01/17/2025	Stage 2A
7	1	MW-19		Water	01/17/2025	Stage 2A
8	1	MW-14		Water	01/17/2025	Stage 2A
9	1	MW-16		Water	01/17/2025	Stage 2A
10	1	MW-15		Water	01/17/2025	Stage 2A
11	1	MW-17		Water	01/17/2025	Stage 2A
12	1	MW-18		Water	01/17/2025	Stage 2A
13	1	RW-1	Rinsate	Water	01/17/2025	Stage 2A
14	1	DUP-1	FD	Water	01/17/2025	Stage 2A
15	1	TB-01	TB	Water	01/17/2025	Stage 2A

Notes:

1 MB R4169122-4		

VALIDATION FINDINGS WORKSHEET
Blanks**Method: GC Gasoline Range Organics (EPA Method NWTPH-GX)**

Method blanks were performed at the required frequency and sequence.

No contaminants were found in the method blanks with the exceptions identified below.

Blank analysis date: 1/21/25**Associated samples:** ALL (DET> 5X)(ND)**Conc. units:** mg/L

Compound	Blank ID	Sample Identification							
	(MB) R4169122-4	6	11	12	13				
Gasoline Range Organics	0.0995	0.263/J+	0.300/J+	0.117/J+	0.167/J+				

Blank extraction date: _____**Blank analysis date:** _____**Associated samples:** _____**Conc. units:** _____

Compound	Blank ID	Sample Identification							

VALIDATION FINDINGS WORKSHEET
Field Duplicates**Method: GC Gasoline Range Organics (EPA Method NWTPH-GX)**

Compound	Concentration (mg/L)		RPD
	2	14	
Gasoline Range Organics-NWTPH	3.85	5.27	31



LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

ERRG

March 25, 2025

15333 N.E. 90th Street, Suite 100

Redmond, WA 98052

ATTN: Mr. Fernando Idiarte

fernando.idiarte@errg.com

SUBJECT: Circle K - Data Validation

Dear Mr. Idiarte,

Enclosed are the final validation reports for the fraction listed below. This SDG was received on February 24, 2025. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #60662:

SDG #

L1827337

Fraction

Volatile Organic Compound

The data validation was performed under Stage 2A guidelines. The analysis was validated using the following documents, as applicable to each method:

- Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024)
- USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020)

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng

pgeng@lab-data.com

Project Manager/Senior Chemist

LDC #60662 (ERRG - Redmond, WA / Circle K)

LDC	SDG#	Received Date	(21) Due Date	Validation Level	VOCs (TO-15)
Matrix Type:					Air
A	L1827337	2/24/25	3/17/25	Stage 2A	4
Total	PM: PG				4

These sample counts do not include MS/MSD, and DUPs.
EDD: EIM EDD

PO 230065-LD-01
Project 20230065

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Circle K

LDC Report Date: March 20, 2025

Parameters: Volatile Organic Compounds

Validation Level: Stage 2A

Laboratory: Pace Analytical National, Mount Juliet, TN

Sample Delivery Group (SDG): L1827337

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
FALCO-300-INF-20250213	L1827337-01	Air	02/13/25
FALCO-300-EFF-20250213	L1827337-02	Air	02/13/25
VP-3-20250213	L1827337-03	Air	02/13/25
VP-4-20250213	L1827337-04	Air	02/13/25

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) Method TO-15

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J+ (Estimated, High Bias): The result was an estimated quantity, but the result may be biased high.
- J- (Estimated, Low Bias): The result was an estimated quantity, but the result may be biased low.
- J (Estimated, Bias Indeterminate): The reported result was an estimated quantity value with an unknown bias.
- U (Non-detected): The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
- UU (Non-detected): The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
- NJ (Tentatively identified): The analyte has been “tentatively identified” or “presumptively identified” as present, and the associated numerical value was the estimated concentration in the sample.
- R (Rejected): The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

The canisters were properly pressurized and handled.

All technical holding time requirements were met.

II. Laboratory Blanks/Canister

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analysis Date	Analyte	Concentration (ppbv)	Associated Samples
(MB) R4177872-3	02/16/25	Acetone	0.657	FALCO-300-INF-20250213 FALCO-300-EFF-20250213 VP-3-20250213 VP-4-20250213

Canister blank analyses were performed for every sample canister.

Sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration (ppbv)	Modified Final Concentration (ppbv)
FALCO-300-EFF-20250213	Acetone	6.29	6.29J+
VP-3-20250213	Acetone	3.54	3.54J+
VP-4-20250213	Acetone	2.77	2.77J+

III. Field Blanks

No field blanks were identified in this SDG.

IV. Surrogates

Although surrogates were not required by the method, surrogate analysis was performed by the laboratory. Surrogate recoveries (%R) were within QC limits.

V. Matrix Spike/Matrix Spike Duplicate

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Field Duplicates

No field duplicates were identified in this SDG.

VIII. Target Analyte Quantitation

Raw data were not reviewed for Stage 2A validation.

IX. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Data qualified due to laboratory blank contamination are summarized and presented in the Data Qualification Summary.

Circle K**Volatile Organic Analytes - Data Qualification Summary - SDG L1827337**

No Sample Data Qualified in this SDG

Circle K**Volatile Organic Analytes - Laboratory Blank Data Qualification Summary - SDG L1827337**

Sample	Analyte	Modified Final Concentration (ppbv)
FALCO-300-EFF-20250213	Acetone	6.29J+
VP-3-20250213	Acetone	3.54J+
VP-4-20250213	Acetone	2.77J+

Circle K**Volatile Organic Analytes - Field Blank Data Qualification Summary - SDG L1827337**

No Sample Data Qualified in this SDG

VALIDATION COMPLETENESS WORKSHEET

LDC #: 60662A
 SDG #: L1827337
 Laboratory: Pace Analytical, Mount Juliet, TN

Date: 3/12/2025
 Page: 1
 Reviewer: MAN
 2nd Reviewer:

Method: Volatiles (EPA TO-15)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I	Sample receipt/Technical holding times	A/A	
II	Laboratory Blanks /canister	BW/	per sample
III	Field blanks	N	
IV	Surrogate spikes	A	
V	Matrix spike/Matrix spike duplicates	N	
VI	Laboratory control samples	A	LCS/D
VII	Field duplicates	N	
VIII	Target analyte quantitation	N	
IX	Overall assessment of data	A	

Note: A = Acceptable ND = Not detected FT = Field triplicate AB = Ambient blank R = Rinsate
 N = Not provided/applicable NQ = Not qualified TB = Trip blank SB = Source blank
 SW = See worksheet FD = Field duplicate FB = Field blank EB = Equipment blank

	Client ID	Lab ID	QC Type	Matrix	Date	Stage
1 5	FALCO-300-INF-20250213	L1827337-01		Air	02/13/2025	Stage 2A
2 14	FALCO-300-EFF-20250213	L1827337-02		Air	02/13/2025	Stage 2A
3 12	VP-3-20250213	L1827337-03		Air	02/13/2025	Stage 2A
4 12	VP-4-20250213	L1827337-04		Air	02/13/2025	Stage 2A

Notes:

1 (MB) R417872-3 (fude)	
2 (MB) R4178400-3 (Tet)	
4 (MB) R4178377-3 (fude) (partial)	
5 (MB) R4178428-3	
6 (MB) R4178586-3 (n-Hex)	

VALIDATION FINDINGS WORKSHEET

Blanks

METHOD: GC/MS Volatiles (EPA Method TO-15)

Method blanks were performed at the required frequency and sequence.

No contaminants were found in the method blanks with the exceptions identified below.

Blank analysis date: ___2/16/25___

Associated samples: ___1-4___

Conc. units: ___ppbv___

Compound	Blank ID	Sample Identification							
	(MB) R4177872-3	2	3	4					
Acetone	0.657	6.29/J+	3.54/J+	2.77/J+					

Blank extraction date: _____

Blank analysis date: _____

Associated samples: _____

Conc. units: _____

Compound	Blank ID	Sample Identification							



LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

ERRG

15333 N.E. 90th Street, Suite 100

Redmond, WA 98052

ATTN: Mr. Fernando Idiarte

fernando.idiarte@errg.com

April 10, 2025

SUBJECT: Circle K - Data Validation

Dear Mr. Idiarte,

Enclosed are the final validation reports for the fractions listed below. This SDG was received on March 13, 2025. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #60707:

SDG #

L1831494

Fraction

Volatile Organic Compound, Gasoline Range Organics, Oil and Grease

The data validation was performed under Stage 2A guidelines. The analysis was validated using the following documents, as applicable to each method:

- Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024)
- USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020)
- USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (November 2020)
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014; update VI, July 2018

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng

pgeng@lab-data.com

Project Manager/Senior Chemist

LDC #60707 (ERRG - Redmond, WA / Circle K)

LDC	SDG#	Received Date	(21) Due Date	Validation Level	(9) VOCs (8260D)	GRO (NWTPH-Gx)	Oil & Grease (1664B)
Matrix Type:					Water	Water	Water
A	L1831494	3/13/25	4/3/25	Stage 2A	5	5	5
Total	PM: PG				5	5	5

These sample counts do not include MS/MSD, and DUPs.

EDD: EIM

PO 230065-LD-01

Project 20230065

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Circle K

LDC Report Date: April 10, 2025

Parameters: Volatile Organic Compounds

Validation Level: Stage 2A

Laboratory: Pace Analytical National, Mount Juliet, TN

Sample Delivery Group (SDG): L1831494

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
LG-404-EFF-20250227	L1831494-01	Water	02/27/25
LG-403-MID-20250227	L1831494-02	Water	02/27/25
LG-401-INF-20250227	L1831494-03	Water	02/27/25
DUP-1-2025027	L1831494-04	Water	02/27/25
TB-1-20250228	L1831494-06	Water	02/27/25

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260D

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary reports.

The following are definitions of the data qualifiers utilized during data validation:

- J+ (Estimated, High Bias): The result was an estimated quantity, but the result may be biased high.
- J- (Estimated, Low Bias): The result was an estimated quantity, but the result may be biased low.
- J (Estimated, Bias Indeterminate): The reported result was an estimated quantity value with an unknown bias.
- U (Non-detected): The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
- UJ (Non-detected): The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
- NJ (Tentatively identified): The analyte has been “tentatively identified” or “presumptively identified” as present, and the associated numerical value was the estimated concentration in the sample.
- R (Rejected): The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

III. Field Blanks

Sample TB-1-20250228 was identified as a trip blank. No contaminants were found.

IV. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

VII. Field Duplicates

Samples LG-404-EFF-20250227 and DUP-1-2025027 were identified as field duplicates. No results were detected in any of the samples.

VIII. Target Analyte Quantitation

Raw data were not reviewed for Stage 2A validation.

IX. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Circle K
Volatile Organic Compounds - Data Qualification Summary - SDG L1831494**

No Sample Data Qualified in this SDG

**Circle K
Volatile Organic Compounds - Laboratory Blank Data Qualification Summary -
SDG L1831494**

No Sample Data Qualified in this SDG

**Circle K
Volatile Organic Compounds - Field Blank Data Qualification Summary - SDG
L1831494**

No Sample Data Qualified in this SDG

VALIDATION COMPLETENESS WORKSHEET

LDC #: 60707A
 SDG #: L1831494
 Laboratory: Pace Analytical, Mount Juliet, TN
 Method: Volatiles (EPA 8260D)

Date: 3/18/2025
 Page: 1
 Reviewer: MN
 2nd Reviewer: 9

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I	Sample receipt/Technical holding times	A/A	
II	Laboratory Blanks	A	
III	Field blanks	ND	TB=5
IV	Surrogate spikes	A	
V	Matrix spike/Matrix spike duplicates	N	
VI	Laboratory control samples	A	LCS
VII	Field duplicates	ND	Dup=1 + 45
VIII	Target analyte quantitation	N	
IX	Overall assessment of data	A	

Note: A = Acceptable ND = Not detected FT = Field triplicate AB= Ambient blank R = Rinsate
 N = Not provided/applicable NQ = Not qualified TB = Trip blank SB = Source blank
 SW = See worksheet FD = Field duplicate FB = Field blank EB = Equipment blank

	Client ID	Lab ID	QC Type	Matrix	Date	Stage
1	LG-404-EFF-20250227	L1831494-01		Water	02/27/2025	Stage 2A
2	LG-403-MID-20250227	L1831494-02		Water	02/27/2025	Stage 2A
3	LG-401-INF-20250227	L1831494-03		Water	02/27/2025	Stage 2A
4	DUP-1-2025027	L1831494-04	FD1	Water	02/27/2025	Stage 2A
5	TB-1-20250228	L1831494-06	TB	Water	02/27/2025	Stage 2A

Notes:

1 (MB) R4183796-2		

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Circle K

LDC Report Date: April 10, 2025

Parameters: Gasoline Range Organics

Validation Level: Stage 2A

Laboratory: Pace Analytical National, Mount Juliet, TN

Sample Delivery Group (SDG): L1831494

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
LG-404-EFF-20250227	L1831494-01	Water	02/27/25
LG-403-MID-20250227	L1831494-02	Water	02/27/25
LG-401-INF-20250227	L1831494-03	Water	02/27/25
DUP-1-2025027	L1831494-04	Water	02/27/25
TB-1-20250228	L1831494-06	Water	02/27/25

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Gasoline Range Organics by NWTPH-Gx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary reports.

The following are definitions of the data qualifiers utilized during data validation:

- J+ (Estimated, High Bias): The result was an estimated quantity, but the result may be biased high.
- J- (Estimated, Low Bias): The result was an estimated quantity, but the result may be biased low.
- J (Estimated, Bias Indeterminate): The reported result was an estimated quantity value with an unknown bias.
- U (Non-detected): The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
- UJ (Non-detected): The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
- NJ (Tentatively identified): The analyte has been “tentatively identified” or “presumptively identified” as present, and the associated numerical value was the estimated concentration in the sample.
- R (Rejected): The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

III. Field Blanks

Sample TB-1-20250228 was identified as a trip blank. No contaminants were found.

IV. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Field Duplicates

Samples LG-404-EFF-20250227 and DUP-1-2025027 were identified as field duplicates. No results were detected in any of the samples.

VIII. Target Analyte Quantitation

Raw data were not reviewed for Stage 2A validation.

IX. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Circle K
Gasoline Range Organics - Data Qualification Summary - SDG L1831494**

No Sample Data Qualified in this SDG

**Circle K
Gasoline Range Organics - Laboratory Blank Data Qualification Summary - SDG
L1831494**

No Sample Data Qualified in this SDG

**Circle K
Gasoline Range Organics - Field Blank Data Qualification Summary - SDG
L1831494**

No Sample Data Qualified in this SDG

VALIDATION COMPLETENESS WORKSHEET

LDC #: 60707A
 SDG #: L1831494
 Laboratory: Pace Analytical, Mount Juliet, TN

Date: 3/18/2025
 Page: 1
 Reviewer: MW
 2nd Reviewer: Q

Method: GRO (NWTPH-Gx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I	Sample receipt/Technical holding times	A / A	
II	Laboratory Blanks	A	
III	Field blanks	ND	TB=5
IV	Surrogate spikes	A	
V	Matrix spike/Matrix spike duplicates	N	
VI	Laboratory control samples	A	LCS/D
VII	Field duplicates	ND	Dup = 1 + 4
VIII	Target analyte quantitation	N	
IX	Overall assessment of data	A	

Note: A = Acceptable ND = Not detected FT = Field triplicate AB= Ambient blank R = Rinsate
 N = Not provided/applicable NQ = Not qualified TB = Trip blank SB = Source blank
 SW = See worksheet FD = Field duplicate FB = Field blank EB = Equipment blank

	Client ID	Lab ID	QC Type	Matrix	Date	Stage
1	LG-404-EFF-20250227	L1831494-01		Water	02/27/2025	Stage 2A
2	LG-403-MID-20250227	L1831494-02		Water	02/27/2025	Stage 2A
3	LG-401-INF-20250227	L1831494-03		Water	02/27/2025	Stage 2A
4	DUP-1-2025027	L1831494-04	FD1	Water	02/27/2025	Stage 2A
5	TB-1-20250228	L1831494-06	TB	Water	02/27/2025	Stage 2A

Notes:

1 (MB) R418 3187-3		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Circle K

LDC Report Date: April 10, 2025

Parameters: Oil and Grease

Validation Level: Stage 2A

Laboratory: Pace Analytical National, Mount Juliet, TN

Sample Delivery Group (SDG): L1831494

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
LG-404-EFF-20250227	L1831494-01	Water	02/27/25
LG-403-MID-20250227	L1831494-02	Water	02/27/25
LG-401-INF-20250227	L1831494-03	Water	02/27/25
DUP-1-2025027	L1831494-04	Water	02/27/25
DUP-2	L1831494-05	Water	02/27/25
DUP-1-2025027MS	L1831494-04MS	Water	02/27/25

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024) and a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (November 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Oil and Grease by Environmental Protection Agency (EPA) Method 1664B

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary reports.

The following are definitions of the data qualifiers utilized during data validation:

- J+ (Estimated, High Bias): The result was an estimated quantity, but the result may be biased high.
- J- (Estimated, Low Bias): The result was an estimated quantity, but the result may be biased low.
- J (Estimated, Bias Indeterminate): The reported result was an estimated quantity value with an unknown bias.
- U (Non-detected): The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
- UJ (Non-detected): The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
- NJ (Tentatively identified): The analyte has been “tentatively identified” or “presumptively identified” as present, and the associated numerical value was the estimated concentration in the sample.
- R (Rejected): The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

III. Field Blanks

Samples LG-404-EFF-20250227, DUP-1-2025027, and DUP-2 were identified as field triplicates. No contaminants were found.

IV. Surrogates

Surrogates were not performed for this SDG.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	%R (78-114)	Flag	A or P
DUP-1-2025027MS (All samples in SDG L1831494)	Oil and grease	64	J- (all detects) UJ (all non-detects)	A

VI. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Field Triplicate

Samples LG-404-EFF-20250227, DUP-1-2025027, and DUP-2 were identified as field triplicates. No results were detected in any of the samples.

VIII. Target Analyte Quantitation

Raw data were not reviewed for Stage 2A validation.

IX. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Data qualified due to MS/MSD %R are summarized and presented in the Data Qualification Summary.

Circle K**Oil and Grease - Data Qualification Summary - SDG L1831494**

Sample	Analyte	Flag	A or P	Reason
LG-404-EFF-20250227 LG-403-MID-20250227 LG-401-INF-20250227 DUP-1-2025027 DUP-2	Oil and grease	J- (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)

Circle K**Oil and Grease - Laboratory Blank Data Qualification Summary - SDG L1831494**

No Sample Data Qualified in this SDG

Circle K**Oil and Grease - Field Blank Data Qualification Summary - SDG L1831494**

No Sample Data Qualified in this SDG

VALIDATION COMPLETENESS WORKSHEET

LDC #: 60707A
 SDG #: L1831494
 Laboratory: Pace Analytical, Mount Juliet, TN

Date: 3/18/2025
 Page: 1
 Reviewer: SDG
 2nd Reviewer: Q

Method: Oil and Grease (EPA 1664B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I	Sample receipt/Technical holding times	A/A	
II	Laboratory Blanks	A	
III	Field blanks	N	
IV	Surrogate spikes	N	
V	Matrix spike/Matrix spike duplicates	SW	
VI	Laboratory control samples	A	LCS / LCSD
VII	Field duplicates / TRP	ND	
VIII	Target analyte quantitation	N	
IX	Overall assessment of data	N	

Note: A = Acceptable ND = Not detected FT = Field triplicate AB = Ambient blank R = Rinsate
 N = Not provided/applicable NQ = Not qualified TB = Trip blank SB = Source blank FT = Field
 SW = See worksheet FD = Field duplicate FB = Field blank EB = Equipment blank Triplicate

	Client ID	Lab ID	QC Type	Matrix	Date	Stage
1	LG-404-EFF-20250227	L1831494-01	FT	Water	02/27/2025	Stage 2A
2	LG-403-MID-20250227	L1831494-02		Water	02/27/2025	Stage 2A
3	LG-401-INF-20250227	L1831494-03		Water	02/27/2025	Stage 2A
4	DUP-1-2025027	L1831494-04	FT	Water	02/27/2025	Stage 2A
5	DUP-2	L1831494-05	FT	Water	02/27/2025	Stage 2A
6	DUP-1-2025027MS	L1831494-04MS		Water	02/27/2025	Stage 2A

Notes:

Sample Calculation Verification

Reviewer: SDG

All elements are applicable to each sample as noted below.

Sample ID	Target Analyte List
1-5	Oil & Grease
QC	
6	Oil & Grease

METHOD: Inorganics

MS analysis was performed by the laboratory. All MS percent recoveries (%R) were within the acceptable limits with the following exceptions:

MS ID	Matrix	Analyte	MS %R (%R limit)	Associated Samples	Qualification	Det/ND
6	w	Oil & G	64 (78-114)	all	J-/UJ/A	Det/ND

Comments:



LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

ERRG

15333 N.E. 90th Street, Suite 100

Redmond, WA 98052

ATTN: Mr. Fernando Idiarte

fernando.idiarte@errg.com

April 10, 2025

SUBJECT: Circle K - Data Validation

Dear Mr. Idiarte,

Enclosed are the final validation reports for the fractions listed below. This SDG was received on March 4, 2025. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #60696:

SDG #

L1829173

Fraction

Volatile Organic Compound, Gasoline Range Organics

The data validation was performed under Stage 2A guidelines. The analysis was validated using the following documents, as applicable to each method:

- Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024)
- USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020)
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014; update VI, July 2018

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng

pgeng@lab-data.com

Project Manager/Senior Chemist

LDC #60696 (ERRG - Redmond, WA / Circle K)

LDC	SDG#	Received Date	(21) Due Date	Validation Level	VOCs (8260D)	GRO (NWTPH-Gx)
Matrix Type:					Water	Water
A	L1829173	3/4/25	3/25/25	Stage 2A	16	16
Total	PM: PG				16	16

These sample counts do not include MS/MSD, and DUPs.
EDD: EIM EDD

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Circle K

LDC Report Date: April 10, 2025

Parameters: Volatile Organic Compounds

Validation Level: Stage 2A

Laboratory: Pace Analytical National, Mount Juliet, TN

Sample Delivery Group (SDG): L1829173

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
RW-1	L1829173-01	Water	02/21/25
MW-13	L1829173-02	Water	02/21/25
MW-18	L1829173-03	Water	02/21/25
MW-9	L1829173-04	Water	02/21/25
MW-16	L1829173-05	Water	02/21/25
MW-8	L1829173-06	Water	02/21/25
MW-14	L1829173-07	Water	02/21/25
MW-6	L1829173-08	Water	02/21/25
MW-15	L1829173-09	Water	02/21/25
MW-17	L1829173-10	Water	02/21/25
MW-21	L1829173-11	Water	02/21/25
MW-20	L1829173-12	Water	02/21/25
TB-1	L1829173-13	Water	02/21/25
TB-2	L1829173-14	Water	02/21/25
MW-19	L1829173-15	Water	02/21/25
DUP-1	L1829173-16	Water	02/21/25

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) which are Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) by Environmental Protection Agency (EPA) SW 846 Method 8260D

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary reports.

The following are definitions of the data qualifiers utilized during data validation:

- J+ (Estimated, High Bias): The result was an estimated quantity, but the result may be biased high.
- J- (Estimated, Low Bias): The result was an estimated quantity, but the result may be biased low.
- J (Estimated, Bias Indeterminate): The reported result was an estimated quantity value with an unknown bias.
- U (Non-detected): The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
- UJ (Non-detected): The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
- NJ (Tentatively identified): The analyte has been “tentatively identified” or “presumptively identified” as present, and the associated numerical value was the estimated concentration in the sample.
- R (Rejected): The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

III. Field Blanks

Samples TB-1 and TB-2 were identified as trip blanks. No contaminants were found.

IV. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Field Duplicates

Samples MW-8 and DUP-1 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD
	MW-8	DUP-1	
Ethylbenzene	1.07	1.14	6
Toluene	0.178	0.186	4
Xylenes, Total	4.06	4.21	4

VIII. Target Analyte Quantitation

Raw data were not reviewed for Stage 2A validation.

IX. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Circle K
Volatile Organic Compounds - Data Qualification Summary - SDG L1829173**

No Sample Data Qualified in this SDG

**Circle K
Volatile Organic Compounds - Laboratory Blank Data Qualification Summary -
SDG L1829173**

No Sample Data Qualified in this SDG

**Circle K
Volatile Organic Compounds - Field Blank Data Qualification Summary - SDG
L1829173**

No Sample Data Qualified in this SDG

VALIDATION COMPLETENESS WORKSHEET

LDC #: 60696A
 SDG #: L1829173
 Laboratory: Pace Analytical, Mount Juliet, TN

Date: 3/17/2025
 Page: 1
 Reviewer: MAJ
 2nd Reviewer: MAJ

Method: BTEX (EPA 8260D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I	Sample receipt/Technical holding times	A / A	
II	Laboratory Blanks	A	
III	Field blanks	ND	TB= 13, 14
IV	Surrogate spikes	A	
V	Matrix spike/Matrix spike duplicates	N	
VI	Laboratory control samples	A	LCS/D
VII	Field duplicates		Dup= 6 + 16
VIII	Target analyte quantitation	N	
IX	Overall assessment of data	A	

Note: A = Acceptable ND = Not detected FT = Field triplicate AB= Ambient blank R = Rinsate
 N = Not provided/applicable NQ = Not qualified TB = Trip blank SB = Source blank
 SW = See worksheet FD = Field duplicate FB = Field blank EB = Equipment blank

	Client ID	Lab ID	QC Type	Matrix	Date	Stage
1	1	RW-1		Water	02/21/2025	Stage 2A
2	1	MW-13		Water	02/21/2025	Stage 2A
3	1	MW-18		Water	02/21/2025	Stage 2A
4	2	MW-9		Water	02/21/2025	Stage 2A
5	2	MW-16		Water	02/21/2025	Stage 2A
6	2	MW-8		Water	02/21/2025	Stage 2A
7	2	MW-14		Water	02/21/2025	Stage 2A
8	2	MW-6		Water	02/21/2025	Stage 2A
9	2	MW-15		Water	02/21/2025	Stage 2A
10	2	MW-17		Water	02/21/2025	Stage 2A
11	2	MW-21		Water	02/21/2025	Stage 2A
12	2	MW-20		Water	02/21/2025	Stage 2A
13	2	TB-1	TB	Water	02/21/2025	Stage 2A
14	2	TB-2	TB	Water	02/21/2025	Stage 2A
15	2	MW-19		Water	02/21/2025	Stage 2A
16	2	DUP-1	FD	Water	02/21/2025	Stage 2A

Notes:

1 (MB) R4179828-3		
2 (MB) R4179942-3		

LDC #: 60696A

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: MN

METHOD: GC/MS Volatiles (EPA SW-846 Method 8260D)

Compound	Concentration (mg/L)		RPD
	6	16	
Ethylbenzene	1.07	1.14	6
Toluene	0.178	0.186	4
Xylenes, Total	4.06	4.21	4

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Circle K

LDC Report Date: April 10, 2025

Parameters: Gasoline Range Organics

Validation Level: Stage 2A

Laboratory: Pace Analytical National, Mount Juliet, TN

Sample Delivery Group (SDG): L1829173

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
RW-1	L1829173-01	Water	02/21/25
MW-13	L1829173-02	Water	02/21/25
MW-18	L1829173-03	Water	02/21/25
MW-9	L1829173-04	Water	02/21/25
MW-16	L1829173-05	Water	02/21/25
MW-8	L1829173-06	Water	02/21/25
MW-14	L1829173-07	Water	02/21/25
MW-6	L1829173-08	Water	02/21/25
MW-15	L1829173-09	Water	02/21/25
MW-17	L1829173-10	Water	02/21/25
MW-21	L1829173-11	Water	02/21/25
MW-20	L1829173-12	Water	02/21/25
TB-1	L1829173-13	Water	02/21/25
TB-2	L1829173-14	Water	02/21/25
MW-19	L1829173-15	Water	02/21/25
DUP-1	L1829173-16	Water	02/21/25

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Gasoline Range Organics by NWTPH-Gx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary reports.

The following are definitions of the data qualifiers utilized during data validation:

- J+ (Estimated, High Bias): The result was an estimated quantity, but the result may be biased high.
- J- (Estimated, Low Bias): The result was an estimated quantity, but the result may be biased low.
- J (Estimated, Bias Indeterminate): The reported result was an estimated quantity value with an unknown bias.
- U (Non-detected): The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
- UJ (Non-detected): The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
- NJ (Tentatively identified): The analyte has been “tentatively identified” or “presumptively identified” as present, and the associated numerical value was the estimated concentration in the sample.
- R (Rejected): The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analysis Date	Analyte	Concentration (mg/L)	Associated Samples
(MB) R4180407-2	02/25/25	Gasoline range organics-NWTPH	0.0647	RW-1 MW-13 MW-18 MW-9 MW-16 MW-8 MW-14 MW-6 MW-17 MW-21 MW-20 TB-1 TB-2 MW-19 DUP-1

Sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration (mg/L)	Modified Final Concentration (mg/L)
RW-1	Gasoline range organics-NWTPH	0.223	0.223J+
MW-18	Gasoline range organics-NWTPH	0.110	0.110J+
MW-16	Gasoline range organics-NWTPH	0.112	0.112J+
MW-6	Gasoline range organics-NWTPH	0.109	0.109J+
MW-17	Gasoline range organics-NWTPH	0.323	0.323J+

III. Field Blanks

Samples TB-1 and TB-2 were identified as trip blanks. No contaminants were found.

IV. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Field Duplicates

Samples MW-8 and DUP-1 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD
	MW-8	DUP-1	
Gasoline range organics-NWTPH	23.4	23.5	0

VIII. Target Analyte Quantitation

Raw data were not reviewed for Stage 2A validation.

IX. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Data qualified due to laboratory blank contamination are summarized and presented in the Data Qualification Summary.

Circle K**Gasoline Range Organics - Data Qualification Summary - SDG L1829173**

No Sample Data Qualified in this SDG

Circle K**Gasoline Range Organics - Laboratory Blank Data Qualification Summary - SDG L1829173**

Sample	Analyte	Modified Final Concentration (mg/L)
RW-1	Gasoline range organics-NWTPH	0.223J+
MW-18	Gasoline range organics-NWTPH	0.110J+
MW-16	Gasoline range organics-NWTPH	0.112J+
MW-6	Gasoline range organics-NWTPH	0.109J+
MW-17	Gasoline range organics-NWTPH	0.323J+

Circle K**Gasoline Range Organics - Field Blank Data Qualification Summary - SDG L1829173**

No Sample Data Qualified in this SDG

VALIDATION COMPLETENESS WORKSHEET

LDC #: 60696A
 SDG #: L1829173
 Laboratory: Pace Analytical, Mount Juliet, TN

Date: 3/17/2025
 Page: 1
 Reviewer: MN
 2nd Reviewer: [Signature]

Method: Gasoline Range Organics (NWTPH-Gx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I	Sample receipt/Technical holding times	A/A	
II	Laboratory Blanks	SW	
III	Field blanks	ND	TB = 13, 14
IV	Surrogate spikes	A	
V	Matrix spike/Matrix spike duplicates	N	
VI	Laboratory control samples	A	LCS/D
VII	Field duplicates		Dup = 6 + 116
VIII	Target analyte quantitation	N	
IX	Overall assessment of data	A	

Note: A = Acceptable ND = Not detected FT = Field triplicate AB = Ambient blank R = Rinsate
 N = Not provided/applicable NQ = Not qualified TB = Trip blank SB = Source blank
 SW = See worksheet FD = Field duplicate FB = Field blank EB = Equipment blank

	Client ID	Lab ID	QC Type	Matrix	Date	Stage
1	RW-1	L1829173-01		Water	02/21/2025	Stage 2A
2	MW-13	L1829173-02		Water	02/21/2025	Stage 2A
3	MW-18	L1829173-03		Water	02/21/2025	Stage 2A
4	MW-9	L1829173-04		Water	02/21/2025	Stage 2A
5	MW-16	L1829173-05		Water	02/21/2025	Stage 2A
6	MW-8	L1829173-06		Water	02/21/2025	Stage 2A
7	MW-14	L1829173-07		Water	02/21/2025	Stage 2A
8	MW-6	L1829173-08		Water	02/21/2025	Stage 2A
9	MW-15	L1829173-09		Water	02/21/2025	Stage 2A
10	MW-17	L1829173-10		Water	02/21/2025	Stage 2A
11	MW-21	L1829173-11		Water	02/21/2025	Stage 2A
12	MW-20	L1829173-12		Water	02/21/2025	Stage 2A
13	TB-1	L1829173-13	TB	Water	02/21/2025	Stage 2A
14	TB-2	L1829173-14	TB	Water	02/21/2025	Stage 2A
15	MW-19	L1829173-15		Water	02/21/2025	Stage 2A
16	DUP-1	L1829173-16	FD	Water	02/21/2025	Stage 2A

Notes:

1 (MB) R4180407-2		
2 (MB) R4180754-3		

VALIDATION FINDINGS WORKSHEET
Blanks**Method: GC Gasoline Range Organics (EPA Method NWTPHGx)**

Method blanks were performed at the required frequency and sequence.

No contaminants were found in the method blanks with the exceptions identified below.

Blank analysis date: 2/25/25**Associated samples:** 1-8,10-16**Conc. units:** mg/L

Compound	Blank ID	Sample Identification							
	(MB) R4180407-2	1	3	5	8	10			
Gasoline Range Organics-NWTPH	0.0647	0.223/J+	0.110/J+	0.112/J+	0.109/J+	0.323/J+			

Blank extraction date: _____**Blank analysis date:** _____**Associated samples:** _____**Conc. units:** _____

Compound	Blank ID	Sample Identification							

LDC#: 60478A

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page 1 of 1
Reviewer: MN

Method: GC Gasoline Range Organics (EPA Method NWTPHGx)

Compound	Concentration (mg/L)		RPD
	6	16	
Gasoline Range Organics-NWTPH	23.4	23.5	0



LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

ERRG

15333 N.E. 90th Street, Suite 100

Redmond, WA 98052

ATTN: Mr. Fernando Idiarte

fernando.idiarte@errg.com

May 8, 2025

SUBJECT: Circle K - Data Validation

Dear Mr. Idiarte,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on April 3, 2025. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #60811:

SDG #

L1839238

L1839621

Fraction

Volatile Organic Compound, Gasoline Range Organics, Oil and Grease

The data validation was performed under Stage 2A guidelines. The analysis was validated using the following documents, as applicable to each method:

- Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024)
- USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020)
- USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (November 2020)
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014; update VI, July 2018

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng

pgeng@lab-data.com

Project Manager/Senior Chemist

LDC #60811 (ERRG - Redmond, WA / Circle K)

LDC	SDG#	Received Date	(21) Due Date	Validation Level	VOCs (TO-15)	(9) VOCs (8260B)	GRO (NWTPH-Gx)	Oil & Grease (1664B)
Matrix Type:					Air	Water	Water	Water
A	L1839238	4/3/25	4/24/25	Stage 2A		5	5	5
B	L1839621	4/3/25	4/24/25	Stage 2A	2			
Total	PM: PG				2	5	5	5

These sample counts do not include MS/MSD, and DUPs.
 EDD: EIM

PO 230065-LD-01

Project 20230065

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Circle K

LDC Report Date: May 7, 2025

Parameters: Volatile Organic Compounds

Validation Level: Stage 2A

Laboratory: Pace Analytical National, Mount Juliet, TN

Sample Delivery Group (SDG): L1839238

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
LG-404-EFF-20250321	L1839238-01	Water	03/21/25
LG-404-DUP1-20250321	L1839238-02	Water	03/21/25
LG-402-MID-20250321	L1839238-04	Water	03/21/25
LG-401-INF-20250321	L1839238-05	Water	03/21/25
TB-01-20250321	L1839238-06	Water	03/21/25

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260D

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary reports.

The following are definitions of the data qualifiers utilized during data validation:

- J+ (Estimated, High Bias): The result was an estimated quantity, but the result may be biased high.
- J- (Estimated, Low Bias): The result was an estimated quantity, but the result may be biased low.
- J (Estimated, Bias Indeterminate): The reported result was an estimated quantity value with an unknown bias.
- U (Non-detected): The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
- UJ (Non-detected): The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
- NJ (Tentatively identified): The analyte has been “tentatively identified” or “presumptively identified” as present, and the associated numerical value was the estimated concentration in the sample.
- R (Rejected): The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

III. Field Blanks

Sample TB-01-20250321 was identified as a trip blank. No contaminants were found.

IV. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Field Duplicates

Samples LG-404-EFF-20250321 and LG-404-DUP1-20250321 were identified as field duplicates. No results were detected in any of the samples.

VIII. Target Analyte Quantitation

Raw data were not reviewed for Stage 2A validation.

IX. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Circle K
Volatile Organic Compounds - Data Qualification Summary - SDG L1839238**

No Sample Data Qualified in this SDG

**Circle K
Volatile Organic Compounds - Laboratory Blank Data Qualification Summary -
SDG L1839238**

No Sample Data Qualified in this SDG

**Circle K
Volatile Organic Compounds - Field Blank Data Qualification Summary - SDG
L1839238**

No Sample Data Qualified in this SDG

VALIDATION COMPLETENESS WORKSHEET

LDC #: 60811A
 SDG #: L1839238
 Laboratory: Pace Analytical, Mount Juliet, TN
 Method: Volatiles (EPA 8260B)

Date: 4/3/2025
 Page: 1
 Reviewer: MAJ
 2nd Reviewer: [Signature]

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I	Sample Receipt/Technical Holding Time	A / A	
II	Laboratory Blanks	A	
III	Field Blank	ND	TB=5
IV	Surrogate Spikes	A	
V	Matrix Spike/Matrix Spike Duplicate	N	
VI	Laboratory Control Sample	A	LCS/D
VII	Field Duplicate	ND	Dup=1+2
VIII	Target Analyte Quantitation	N	
IX	Overall Assessment of Data	A	

Note: A = Acceptable ND = Not detected FT = Field triplicate AB= Ambient blank R = Rinsate
 N = Not provided/applicable NQ = Not qualified TB = Trip blank SB = Source blank
 SW = See worksheet FD = Field duplicate FB = Field blank EB = Equipment blank

	Client ID	Lab ID	QC Type	Matrix	Date	Stage
1	LG-404-EFF-20250321	L1839238-01		Water	03/21/2025	Stage 2A
2	LG-404-DUP1-20250321	L1839238-02		Water	03/21/2025	Stage 2A
3	LG-402-MID-20250321	L1839238-04		Water	03/21/2025	Stage 2A
4	LG-401-INF-20250321	L1839238-05		Water	03/21/2025	Stage 2A
5	TB-01-20250321	L1839238-06	TB	Water	03/21/2025	Stage 2A

Notes:

1 MB R4193025-3		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Circle K

LDC Report Date: May 7, 2025

Parameters: Gasoline Range Organics

Validation Level: Stage 2A

Laboratory: Pace Analytical National, Mount Juliet, TN

Sample Delivery Group (SDG): L1839238

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
LG-404-EFF-20250321	L1839238-01	Water	03/21/25
LG-404-DUP1-20250321	L1839238-02	Water	03/21/25
LG-402-MID-20250321	L1839238-04	Water	03/21/25
LG-401-INF-20250321	L1839238-05	Water	03/21/25
TB-01-20250321	L1839238-06	Water	03/21/25

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Gasoline Range Organics by NWTPH-Gx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary reports.

The following are definitions of the data qualifiers utilized during data validation:

- J+ (Estimated, High Bias): The result was an estimated quantity, but the result may be biased high.
- J- (Estimated, Low Bias): The result was an estimated quantity, but the result may be biased low.
- J (Estimated, Bias Indeterminate): The reported result was an estimated quantity value with an unknown bias.
- U (Non-detected): The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
- UU (Non-detected): The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
- NJ (Tentatively identified): The analyte has been “tentatively identified” or “presumptively identified” as present, and the associated numerical value was the estimated concentration in the sample.
- R (Rejected): The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analysis Date	Analyte	Concentration (ug/L)	Associated Samples
(MB) R4190797-2	03/24/25	Gasoline range organics (NWTPH)	37.7	LG-404-DUP1-20250321
(MB) R4191224-4	03/25/25	Gasoline range organics (NWTPH)	38.5	LG-404-EFF-20250321
(MB) R4191224-4	03/26/25	Gasoline range organics (NWTPH)	38.5	LG-402-MID-20250321 LG-401-INF-20250321 TB-01-20250321

Sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration (ug/L)	Modified Final Concentration (ug/L)
LG-401-INF-20250321	Gasoline range organics (NWTPH)	180	180J+

III. Field Blanks

Sample TB-01-20250321 was identified as a trip blank. No contaminants were found.

IV. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Field Duplicates

Samples LG-404-EFF-20250321 and LG-404-DUP1-20250321 were identified as field duplicates. No results were detected in any of the samples.

VIII. Target Analyte Quantitation

Raw data were not reviewed for Stage 2A validation.

IX. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Data qualified due to laboratory blank contamination are summarized and presented in the Data Qualification Summary.

Circle K
Gasoline Range Organics - Data Qualification Summary - SDG L1839238

No Sample Data Qualified in this SDG

Circle K
Gasoline Range Organics - Laboratory Blank Data Qualification Summary - SDG L1839238

Sample	Analyte	Modified Final Concentration (ug/L)
LG-401-INF-20250321	Gasoline range organics (NWTPH)	180J+

Circle K
Gasoline Range Organics - Field Blank Data Qualification Summary - SDG L1839238

No Sample Data Qualified in this SDG

VALIDATION COMPLETENESS WORKSHEET

LDC #: 60811A
 SDG #: L1839238
 Laboratory: Pace Analytical, Mount Juliet, TN

Date: 4/3/2025
 Page: 1
 Reviewer: MN
 2nd Reviewer: Q

Method: Gasoline Range Organics (NWTPH-Gx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I	Sample Receipt/Technical Holding Time	A / A	
II	Laboratory Blanks	SW	
III	Field Blank	ND	TB = 5
IV	Surrogate Spikes	A	
V	Matrix Spike/Matrix Spike Duplicate	N	
VI	Laboratory Control Sample	A	LCS/D
VII	Field Duplicate	ND	Dup: 1 r 2
VIII	Target Analyte Quantitation	N	
IX	Overall Assessment of Data	A	

Note: A = Acceptable ND = Not detected FT = Field triplicate AB = Ambient blank R = Rinsate
 N = Not provided/applicable NQ = Not qualified TB = Trip blank SB = Source blank
 SW = See worksheet FD = Field duplicate FB = Field blank EB = Equipment blank

	Client ID	Lab ID	QC Type	Matrix	Date	Stage
1	LG-404-EFF-20250321	L1839238-01		Water	03/21/2025	Stage 2A
2	LG-404-DUP1-20250321	L1839238-02		Water	03/21/2025	Stage 2A
3	LG-402-MID-20250321	L1839238-04		Water	03/21/2025	Stage 2A
4	LG-401-INF-20250321	L1839238-05		Water	03/21/2025	Stage 2A
5	TB-01-20250321	L1839238-06	TB	Water	03/21/2025	Stage 2A

Notes:

1 (MB) R4190197-2		

VALIDATION FINDINGS WORKSHEET **Blanks**

Method: GC Gasoline Range Organic (NWTPHGX)

Method blanks were performed at the required frequency and sequence.

No contaminants were found in the method blanks with the exceptions identified below.

Blank extraction date: 3/24/25 **Blank analysis date:** 3/24/25 **Associated samples:** 2 (ND)

Conc. units: ug/L

Compound	Blank ID	Sample Identification							
	(MB) R4190797-2								
Gasoline Range	37.7								
Organics-NWTPH									

Blank extraction date: 3/25/25 **Blank analysis date:** 3/25/25 **Associated samples:** 1(ND)

Conc. units: _____

Compound	Blank ID	Sample Identification							
	(MB) R4191224-4								
Gasoline Range	38.5								
Organics-NWTPH									

Blank extraction date: 3/26/25 **Blank analysis date:** 3/26/25 **Associated samples:** 3-5

Conc. units: _____

Compound	Blank ID	Sample Identification							
	(MB) R4191224-4	4							
Gasoline Range	38.5	180/J+							
Organics-NWTPH									

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Circle K
LDC Report Date: May 7, 2025
Parameters: Oil and Grease
Validation Level: Stage 2A
Laboratory: Pace Analytical National, Mount Juliet, TN
Sample Delivery Group (SDG): L1839238

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
LG-404-EFF-20250321	L1839238-01	Water	03/21/25
LG-404-DUP1-20250321	L1839238-02	Water	03/21/25
LG-404-DUP2-20250321	L1839238-03	Water	03/21/25
LG-402-MID-20250321	L1839238-04	Water	03/21/25
LG-401-INF-20250321	L1839238-05	Water	03/21/25

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024) and a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review (November 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Oil and Grease by Environmental Protection Agency (EPA) Method 1664B

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary reports.

The following are definitions of the data qualifiers utilized during data validation:

- J+ (Estimated, High Bias): The result was an estimated quantity, but the result may be biased high.
- J- (Estimated, Low Bias): The result was an estimated quantity, but the result may be biased low.
- J (Estimated, Bias Indeterminate): The reported result was an estimated quantity value with an unknown bias.
- U (Non-detected): The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
- UJ (Non-detected): The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
- NJ (Tentatively identified): The analyte has been “tentatively identified” or “presumptively identified” as present, and the associated numerical value was the estimated concentration in the sample.
- R (Rejected): The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

III. Field Blanks

No field blanks were identified in this SDG.

IV. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

V. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VI. Field Triplicate

Samples LG-404-EFF-20250321, LG-404-DUP1-20250321, and LG-404-DUP2-20250321 were identified as field triplicates. No results were detected in any of the samples.

VII. Target Analyte Quantitation

Raw data were not reviewed for Stage 2A validation.

VIII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Circle K

Oil and Grease - Data Qualification Summary - SDG L1839238

No Sample Data Qualified in this SDG

Circle K

Oil and Grease - Laboratory Blank Data Qualification Summary - SDG L1839238

No Sample Data Qualified in this SDG

Circle K

Oil and Grease - Field Blank Data Qualification Summary - SDG L1839238

No Sample Data Qualified in this SDG

VALIDATION COMPLETENESS WORKSHEET

LDC #: 60811A
 SDG #: L1839238
 Laboratory: Pace Analytical, Mount Juliet, TN
 Method: Oil and Grease (EPA 1664B)

Date: 4/3/2025
 Page: 1/1
 Reviewer: SG
 2nd Reviewer: Q

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I	Sample Receipt/Technical Holding Time	A/A	
II	Laboratory Blanks	A	
III	Field Blank	N	
IV	Surrogate Spikes		
V	Matrix Spike/Matrix Spike Duplicate	N	
VI	Laboratory Control Sample	A	LCS / LCSD
VII	Field Duplicate / TRP	ND	
VIII	Target Analyte Quantitation	N	
IX	Overall Assessment of Data	A	

Note: A = Acceptable ND = Not detected FT = Field triplicate AB = Ambient blank R = Rinsate
 N = Not provided/applicable NQ = Not qualified TB = Trip blank SB = Source blank
 SW = See worksheet FD = Field duplicate FB = Field blank EB = Equipment blank

	Client ID	Lab ID	QC Type	Matrix	Date	Stage
1	LG-404-EFF-20250321	L1839238-01	FT	Water	03/21/2025	Stage 2A
2	LG-404-DUP1-20250321	L1839238-02	FT	Water	03/21/2025	Stage 2A
3	LG-404-DUP2-20250321	L1839238-03	FT	Water	03/21/2025	Stage 2A
4	LG-402-MID-20250321	L1839238-04		Water	03/21/2025	Stage 2A
5	LG-401-INF-20250321	L1839238-05		Water	03/21/2025	Stage 2A

Notes:

Sample Calculation Verification

Reviewer: SDG

All elements are applicable to each sample as noted below.

Sample ID	Target Analyte List
1-5	Oil & Grease

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Circle K

LDC Report Date: May 7, 2025

Parameters: Volatile Organic Compounds

Validation Level: Stage 2A

Laboratory: Pace Analytical National, Mount Juliet, TN

Sample Delivery Group (SDG): L1839621

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
FALCO-300-INF-20250324	L1839621-01	Air	03/24/25
FALCO-300-EFF-20250324	L1839621-02	Air	03/24/25

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) Method TO-15

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J+ (Estimated, High Bias): The result was an estimated quantity, but the result may be biased high.
- J- (Estimated, Low Bias): The result was an estimated quantity, but the result may be biased low.
- J (Estimated, Bias Indeterminate): The reported result was an estimated quantity value with an unknown bias.
- U (Non-detected): The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
- UU (Non-detected): The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
- NJ (Tentatively identified): The analyte has been “tentatively identified” or “presumptively identified” as present, and the associated numerical value was the estimated concentration in the sample.
- R (Rejected): The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

The canisters were properly pressurized and handled.

All technical holding time requirements were met.

II. Laboratory Blanks/Canister

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

Canister blank analyses were performed for every sample canister.

III. Field Blanks

No field blanks were identified in this SDG.

IV. Surrogates

Although surrogates were not required by the method, surrogate analysis was performed by the laboratory. Surrogate recoveries (%R) were within QC limits.

V. Matrix Spike/Matrix Spike Duplicate

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Field Duplicates

No field duplicates were identified in this SDG.

VIII. Target Analyte Quantitation

Raw data were not reviewed for Stage 2A validation.

IX. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Circle K
Volatile Organic Analytes - Data Qualification Summary - SDG L1839621**

No Sample Data Qualified in this SDG

**Circle K
Volatile Organic Analytes - Laboratory Blank Data Qualification Summary - SDG
L1839621**

No Sample Data Qualified in this SDG

**Circle K
Volatile Organic Analytes - Field Blank Data Qualification Summary - SDG
L1839621**

No Sample Data Qualified in this SDG

VALIDATION COMPLETENESS WORKSHEET

LDC #: 60811B
 SDG #: L1839621
 Laboratory: Pace Analytical, Mount Juliet, TN

Date: 4/3/2025
 Page: 1
 Reviewer: MN
 2nd Reviewer: OK

Method: Volatiles (EPA TO-15)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I	Sample Receipt/Technical Holding Time	A / A	
II	Laboratory Blanks / canister	A / A	per sample
III	Field Blank	N	
IV	Surrogate Spikes	A	
V	Matrix Spike/Matrix Spike Duplicate	N	
VI	Laboratory Control Sample	A	LCS/D
VII	Field Duplicate	N	
VIII	Target Analyte Quantitation	N	
IX	Overall Assessment of Data	A	

Note: A = Acceptable ND = Not detected FT = Field triplicate AB = Ambient blank R = Rinsate
 N = Not provided/applicable NQ = Not qualified TB = Trip blank SB = Source blank
 SW = See worksheet FD = Field duplicate FB = Field blank EB = Equipment blank

	Client ID	Lab ID	QC Type	Matrix	Date	Stage
1	FALCO-300-INF-20250324	L1839621-01		Air	03/24/2025	Stage 2A
2	FALCO-300-EFF-20250324	L1839621-02		Air	03/24/2025	Stage 2A

Notes:

1 (MB) R491358-3		



LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

ERRG

May 12, 2025

15333 N.E. 90th Street, Suite 100

Redmond, WA 98052

ATTN: Mr. Fernando Idiarte

fernando.idiarte@errg.com

SUBJECT: Circle K - Data Validation

Dear Mr. Idiarte,

Enclosed are the final validation reports for the fractions listed below. This SDG was received on April 11, 2025. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #60855:

SDG #

Fraction

L1841690

Volatile Organic Compound, Gasoline Range Organics

The data validation was performed under Stage 2A guidelines. The analysis was validated using the following documents, as applicable to each method:

- Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024)
- USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020)
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014; update VI, July 2018

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng

pgeng@lab-data.com

Project Manager/Senior Chemist

LDC #60855 (ERRG - Redmond, WA / Circle K)

LDC	SDG#	Received Date	(21) Due Date	Validation Level	(9) VOCs (8260B)	GRO (NWTPH-Gx)
Matrix Type:					Water	Water
A	L1841690	4/11/25	5/2/25	Stage 2A	16	16
Total	PM: PG				16	16

These sample counts do not include MS/MSD, and DUPs.

EDD: EIM

PO 230065-LD-01

Project 20230065

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Circle K

LDC Report Date: May 9, 2025

Parameters: Volatile Organic Compounds

Validation Level: Stage 2A

Laboratory: Pace Analytical National, Mount Juliet, TN

Sample Delivery Group (SDG): L1841690

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-18	L1841690-01	Water	03/28/25
MW-20	L1841690-02	Water	03/28/25
RW-1	L1841690-03	Water	03/28/25
MW-9	L1841690-04	Water	03/28/25
MW-16	L1841690-05	Water	03/28/25
MW-8	L1841690-06	Water	03/28/25
MW-15	L1841690-07	Water	03/28/25
MW-6	L1841690-08	Water	03/28/25
MW-14	L1841690-09	Water	03/28/25
MW-13	L1841690-10	Water	03/28/25
MW-19	L1841690-11	Water	03/28/25
MW-21	L1841690-12	Water	03/28/25
MW-17	L1841690-13	Water	03/28/25
DUP-1	L1841690-14	Water	03/28/25
TB-01	L1841690-15	Water	03/28/25
TB-02	L1841690-16	Water	03/28/25

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary reports.

The following are definitions of the data qualifiers utilized during data validation:

- J+ (Estimated, High Bias): The result was an estimated quantity, but the result may be biased high.
- J- (Estimated, Low Bias): The result was an estimated quantity, but the result may be biased low.
- J (Estimated, Bias Indeterminate): The reported result was an estimated quantity value with an unknown bias.
- U (Non-detected): The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
- UJ (Non-detected): The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
- NJ (Tentatively identified): The analyte has been “tentatively identified” or “presumptively identified” as present, and the associated numerical value was the estimated concentration in the sample.
- R (Rejected): The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

III. Field Blanks

Samples TB-01 and TB-02 were identified as trip blanks. No contaminants were found.

IV. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Field Duplicates

Samples MW-6 and DUP-1 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (ug/L)		RPD
	MW-6	DUP-1	
Benzene	19.1	10.0U	Not calculable
Ethylbenzene	1.22	10.0U	Not calculable
Trichloroethene	3.02	10.0U	Not calculable
cis-1,2-Dichloroethene	6.70	10.0U	Not calculable
Vinyl chloride	13.2	10.0U	Not calculable

VIII. Target Analyte Quantitation

Raw data were not reviewed for Stage 2A validation.

IX. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

**Circle K
Volatile Organic Compounds - Data Qualification Summary - SDG L1841690**

No Sample Data Qualified in this SDG

**Circle K
Volatile Organic Compounds - Laboratory Blank Data Qualification Summary -
SDG L1841690**

No Sample Data Qualified in this SDG

**Circle K
Volatile Organic Compounds - Field Blank Data Qualification Summary - SDG
L1841690**

No Sample Data Qualified in this SDG

VALIDATION COMPLETENESS WORKSHEET

LDC #: 60855A
 SDG #: L1841690
 Laboratory: Pace Analytical, Mount Juliet, TN
 Method: Volatiles (EPA 8260B)

Date: 4/14/2025
 Page: 1
 Reviewer: MAI
 2nd Reviewer: CL

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I	Sample Receipt/Technical Holding Time	A/A	
II	Laboratory Blanks	A	
III	Field Blank	ND	TB = 15, 16
IV	Surrogate Spikes	A	
V	Matrix Spike/Matrix Spike Duplicate	N	
VI	Laboratory Control Sample	A	LCS/D
VII	Field Duplicate		Dup = 8 + 14
VIII	Target Analyte Quantitation	N	
IX	Overall Assessment of Data	A	

Note: A = Acceptable ND = Not detected FT = Field triplicate AB = Ambient blank R = Rinsate
 N = Not provided/applicable NQ = Not qualified TB = Trip blank SB = Source blank
 SW = See worksheet FD = Field duplicate FB = Field blank EB = Equipment blank

	Client ID	Lab ID	QC Type	Matrix	Date	Stage
1	MW-18	L1841690-01		Water	03/28/2025	Stage 2A
2	MW-20	L1841690-02		Water	03/28/2025	Stage 2A
3	RW-1	L1841690-03		Water	03/28/2025	Stage 2A
4	MW-9	L1841690-04		Water	03/28/2025	Stage 2A
5	MW-16	L1841690-05		Water	03/28/2025	Stage 2A
6	MW-8	L1841690-06		Water	03/28/2025	Stage 2A
7	MW-15	L1841690-07		Water	03/28/2025	Stage 2A
8	MW-6	L1841690-08		Water	03/28/2025	Stage 2A
9	MW-14	L1841690-09		Water	03/28/2025	Stage 2A
10	MW-13	L1841690-10		Water	03/28/2025	Stage 2A
11	MW-19	L1841690-11		Water	03/28/2025	Stage 2A
12	MW-21	L1841690-12		Water	03/28/2025	Stage 2A
13	MW-17	L1841690-13		Water	03/28/2025	Stage 2A
14	DUP-1	L1841690-14	FD	Water	03/28/2025	Stage 2A
15	TB-01	L1841690-15	TB	Water	03/28/2025	Stage 2A
16	TB-02	L1841690-16	TB	Water	03/28/2025	Stage 2A

Notes:

1 MB R4196703-3		
2 MB R4197129-3 (TCE)		

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC/MS Volatiles (EPA SW-846 Method 8260D)

Compound	Concentration (ug/L)		RPD
	8	14	
Benzene	19.1	10.0U	NC
Ethylbenzene	1.22	10.0U	NC
Trichloroethene	3.02	10.0U	NC
cis-1,2-Dichloroethene	6.70	10.0U	NC
Vinyl chloride	13.2	10.0U	NC

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Circle K

LDC Report Date: May 9, 2025

Parameters: Gasoline Range Organics

Validation Level: Stage 2A

Laboratory: Pace Analytical National, Mount Juliet, TN

Sample Delivery Group (SDG): L1841690

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-18	L1841690-01	Water	03/28/25
MW-20	L1841690-02	Water	03/28/25
RW-1	L1841690-03	Water	03/28/25
MW-9	L1841690-04	Water	03/28/25
MW-16	L1841690-05	Water	03/28/25
MW-8	L1841690-06	Water	03/28/25
MW-15	L1841690-07	Water	03/28/25
MW-6	L1841690-08	Water	03/28/25
MW-14	L1841690-09	Water	03/28/25
MW-13	L1841690-10	Water	03/28/25
MW-19	L1841690-11	Water	03/28/25
MW-21	L1841690-12	Water	03/28/25
MW-17	L1841690-13	Water	03/28/25
DUP-1	L1841690-14	Water	03/28/25
TB-01	L1841690-15	Water	03/28/25
TB-02	L1841690-16	Water	03/28/25

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Revised Draft Sampling and Analysis Plan/Quality Assurance Project Plan, Circle K, Seattle, Washington (August 2024) and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (November 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Gasoline Range Organics by NWTPH-Gx

All sample results were subjected to Stage 2A data validation, which comprises an evaluation of quality control (QC) summary reports.

The following are definitions of the data qualifiers utilized during data validation:

- J+ (Estimated, High Bias): The result was an estimated quantity, but the result may be biased high.
- J- (Estimated, Low Bias): The result was an estimated quantity, but the result may be biased low.
- J (Estimated, Bias Indeterminate): The reported result was an estimated quantity value with an unknown bias.
- U (Non-detected): The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
- UU (Non-detected): The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
- NJ (Tentatively identified): The analyte has been “tentatively identified” or “presumptively identified” as present, and the associated numerical value was the estimated concentration in the sample.
- R (Rejected): The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analysis Date	Analyte	Concentration (ug/L)	Associated Samples
(MB) R4196111-2	04/04/25	Gasoline range organics (NWTPH)	42.4	MW-18 MW-20 RW-1 MW-9 MW-16 MW-8 MW-15 MW-6 MW-14 MW-13 MW-19 MW-21 MW-17 TB-01 TB-02
(MB) R4196334-2	04/08/25	Gasoline range organics (NWTPH)	32.8	DUP-1

Sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration (ug/L)	Modified Final Concentration (ug/L)
RW-1	Gasoline range organics (NWTPH)	128	128J+

III. Field Blanks

Samples TB-01 and TB-02 were identified as trip blanks. No contaminants were found.

IV. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

VII. Field Duplicates

Samples MW-6 and DUP-1 were identified as field duplicates. No results were detected in any of the samples.

VIII. Target Analyte Quantitation

Raw data were not reviewed for Stage 2A validation.

IX. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Data qualified due to laboratory blank contamination are summarized and presented in the Data Qualification Summary.

Circle K
Gasoline Range Organics - Data Qualification Summary - SDG L1841690

No Sample Data Qualified in this SDG

Circle K
Gasoline Range Organics - Laboratory Blank Data Qualification Summary - SDG L1841690

Sample	Analyte	Modified Final Concentration (ug/L)
RW-1	Gasoline range organics (NWTPH)	128J+

Circle K
Gasoline Range Organics - Field Blank Data Qualification Summary - SDG L1841690

No Sample Data Qualified in this SDG

VALIDATION COMPLETENESS WORKSHEET

LDC #: 60855A
SDG #: L1841690
Laboratory: Pace Analytical, Mount Juliet, TN

Date: 4/14/2025
Page: 1
Reviewer: MN
2nd Reviewer: 4

Method: Gasoline Range Organics (NWTPH-Gx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I	Sample Receipt/Technical Holding Time	A/A	
II	Laboratory Blanks	SW	
III	Field Blank	ND	TB = 15, 16
IV	Surrogate Spikes	A	
V	Matrix Spike/Matrix Spike Duplicate	N	
VI	Laboratory Control Sample	A	LCS
VII	Field Duplicate	ND	Dup = 8 + 14
VIII	Target Analyte Quantitation	N	
IX	Overall Assessment of Data	A	

Note: A = Acceptable ND = Not detected FT = Field triplicate AB = Ambient blank R = Rinsate
N = Not provided/applicable NQ = Not qualified TB = Trip blank SB = Source blank
SW = See worksheet FD = Field duplicate FB = Field blank EB = Equipment blank

	Client ID	Lab ID	QC Type	Matrix	Date	Stage
1	MW-18	L1841690-01		Water	03/28/2025	Stage 2A
2	MW-20	L1841690-02		Water	03/28/2025	Stage 2A
3	RW-1	L1841690-03		Water	03/28/2025	Stage 2A
4	MW-9	L1841690-04		Water	03/28/2025	Stage 2A
5	MW-16	L1841690-05		Water	03/28/2025	Stage 2A
6	MW-8	L1841690-06		Water	03/28/2025	Stage 2A
7	MW-15	L1841690-07		Water	03/28/2025	Stage 2A
8	MW-6	L1841690-08		Water	03/28/2025	Stage 2A
9	MW-14	L1841690-09		Water	03/28/2025	Stage 2A
10	MW-13	L1841690-10		Water	03/28/2025	Stage 2A
11	MW-19	L1841690-11		Water	03/28/2025	Stage 2A
12	MW-21	L1841690-12		Water	03/28/2025	Stage 2A
13	MW-17	L1841690-13		Water	03/28/2025	Stage 2A
14	DUP-1	L1841690-14	FD	Water	03/28/2025	Stage 2A
15	TB-01	L1841690-15	TB	Water	03/28/2025	Stage 2A
16	TB-02	L1841690-16	TB	Water	03/28/2025	Stage 2A

Notes:

1 (MB) R419611-2		
2 (MB) R4196334-2		

VALIDATION FINDINGS WORKSHEET
Blanks**Method: GC Gasoline Range Organic (NWTPHGX)**

Method blanks were performed at the required frequency and sequence.

No contaminants were found in the method blanks with the exceptions identified below.

Blank extraction date: 4/4/25**Blank analysis date:** 4/4/25**Associated samples:** 1-13,15,16_(DET>5X)_**Conc. units:** ug/L

Compound	Blank ID	Sample Identification							
	(MB) R4196111-2	3							
Gasoline Range	42.4	128/J+							
Organics-NWTPH									

Blank extraction date: 4/8/25**Blank analysis date:** 4/8/25**Associated samples:** 14 (ND)**Conc. units:** ug/L

Compound	Blank ID	Sample Identification							
	(MB) R4196334-2								
Gasoline Range	32.8								
Organics-NWTPH									