ISCR/ISB INTERIM ACTION WORK PLAN

Former Tux Shop Site Remediation Project

Prepared for: F&N Investment Company, LLC

Project No. 090030 • July 18, 2024 DRAFT

Aspect
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Acronyms

AS	air sparging
Aspect	Aspect Consulting
bgs	below ground surface
BMPs	best management practices
Cascade	Cascade Remediation Services
cis-DCE	cis-1,2-dichloroethene
COCs	contaminants of concern
CSM	conceptual site model
CUL	Cleanup level
CVOCs	chlorinated volatile organic compounds
Ecology	Washington State Department of Ecology
gpm	gallons per minute
HSA	hollow stem auger
IDW	Investigative-derived waste
ISB	in situ bioremediation
ISCR	in situ chemical reduction
lbs.	pounds
mg/kg	milligrams/kilograms
mg/L	milligrams per liter
µg/L	micrograms per liter
MTCA	Model Toxics Control Act
Onsite	OnSite Environmental, Inc.
PCE	tetrachloroethene
PID	photoionization detector
ROI	radius of influence
ROW	right-of-way
SC	specific conductivity

SDS	Safety Data Sheet
SVE	soil vapor extraction
TCE	trichloroethene
TDS	total dissolved solids
TOC	total organic carbon
UIC	Underground Injection Control
VC	vinyl chloride
VOC	volatile organic compound
WAC	Washington Administrative Code
ZVI	zero valent iron

1 Introduction

This in situ chemical reduction (ISCR) and in situ bioremediation (ISB) Interim Action Work Plan (Work Plan) has been prepared by Aspect Consulting (Aspect) on behalf of F&N Investment Company, LLC for the Former Tux Shop Site (Site). The Former Tux Shop is located at 5409 15th Avenue Northwest in the Ballard neighborhood of Seattle, Washington (Property) as shown on Figure 1. The Site encompasses the area impacted by tetrachloroethene (PCE) and associated daughter products, which originated from historical releases from a former dry cleaner that operated on the Property. A Walgreens drugstore has been located on the Property since 1996. Prior interim actions conducted at the Site include soil removal during redevelopment of the Property in 1996 and operation of an air sparging/soil vapor extraction (AS/SVE) system from 1998 to 2010; however, the AS/SVE system reached a point of diminishing effectiveness and elevated concentrations of PCE persist in soil and groundwater. Since 2010, Aspect has been collecting additional data to characterize the Site and select a remedy that meets the requirements of the state Model Toxics Control Act (MTCA: WAC 173-340).

Aspect evaluated potential remedial alternatives to address contaminated media at the Site in accordance with WAC 173-340-351. Pilot testing of two remediation technologies (ISCR and ISB) was determined to be an appropriate step to reduce the uncertainties associated with treatment of chlorinated volatile organic compounds (CVOCs) in groundwater. The initial ISCR/ISB pilot test was implemented in January 2023, and the methods and results of the pilot test are described in the ISCR/ISB Pilot Test Results Memorandum (Aspect, 2024), which is provided in Appendix A. The results of the initial pilot study indicated that ISCR/ISB is a potentially viable remedial technology at the Site; however, additional data is needed to fully evaluate its potential effectiveness for full-scale implementation and complete the evaluation of remedial alternatives.

This Work Plan presents an expanded ISCR/ISB pilot test targeting the southwest area of the Property. The expanded pilot test will also serve as an interim remedial action to address PCE in groundwater migrating off-Property until a final remedy is selected for the Site.

This Work Plan describes the pilot study activities proposed to evaluate the in situ treatment of CVOCs by ISCR and ISB in the Water Table and Shallow Interval groundwater at the Site. The Site layout and the proposed pilot study monitoring well network is presented on Figure 2.

1.1 Report Organization

This report is organized as follows:

- **Section 1** describes the purpose and organization of the Work Plan.
- **Section 2** presents the conceptual site model (CSM) as a basis for pilot testing design including geology, hydrogeology, groundwater biogeochemistry, and nature and extent of CVOC contamination in the pilot test area.

- **Section 3** describes the objectives and approach of the pilot test.
- **Section 4** describes the final pilot study design and is organized by field data collection, reagent injections, monitoring, and contingency considerations. The field data collection section includes injection well installation, soil sampling, and groundwater sampling. The reagent injections subsection includes design, reagent selection, injection system, injection methods, and reagent dosing and batching. The monitoring subsection is organized according to operational and performance monitoring.
- **Section 5** presents the project team's roles and responsibilities, and the schedule and reporting required for the pilot study.
- **Section 6** provides references used in the preparation of this report.

Appendices to this report provide supporting information referenced within the text. These include vendor mixing instructions for the reagents, a Health and Safety Plan (HASP), example operational log for field monitoring, and a manual for operation of the instrument used for methane monitoring.

2 Conceptual Site Model

This section summarizes the CSM including hydrogeologic conditions and the nature and extent of contamination, based on the currently available data.

2.1 Geology

Site soils consist of 1 to 5 feet of surficial fill overlying a thick glacial till (Till) unit, which generally consists of over-consolidated poorly graded, fine- to medium-grained silty sand. The Till unit has been observed to the maximum depth explored at the Site, 90 feet below ground surface (bgs). Below the contact of the fill-Till interface, the Till consistently grades from dense within the first few feet downward to very dense, suggesting the top of the Till unit was slightly weathered during the period where it was exposed as the land surface. Within the Till unit, the silt content varies widely, ranging from a sand with trace amounts of silt (SP) to a sandy silt (ML). Additionally, fine to medium, subrounded to rounded gravel is commonly present in the silty sand or silt matrix, and interbeds of silt and sand lenses have been noted in several borings. It should be noted that the Till unit by nature is exceptionally heterogeneous, and lenses of finer- and coarser-grained deposits within the Till unit are not laterally or vertically continuous over ranges of more than a few feet to tens of feet, at most.

2.2 Hydrogeology

The depth to groundwater varies across the Site due to changing topography and groundwater gradients. Wells are installed at varying depths to characterize water-bearing zones encountered in different intervals; however, based on geology and contaminant distribution, these intervals are interconnected and do not represent separate groundwater units. The following terminology is used for different groundwater depth intervals:

- The **Water Table Interval** is characterized by wells screened across the water table and includes approximately the upper five feet of the saturated zone. The depth to the water table varies from approximately 13 to 22 feet bgs across the Site.
- The **Shallow Interval** is located just below the Water Table Interval and is generally characterized by wells screened to a depth of approximately 25 to 35 feet but varies slightly depending on location.
- The **Intermediate Interval** is generally characterized by wells screened approximately 40 to 50 feet deep.
- The **Deep Interval** is characterized by one well, screened 80 to 90 feet deep.

Groundwater Occurrence and Flow Direction. Prior to remediation activities (which began in 1996), groundwater was encountered at depths ranging from 8 to 13 feet bgs. Shallow groundwater flowed to the south and southeast and slightly downward. Since 1996, the water table has dropped, and is currently observed at depths between 13 to 19 feet bgs. Groundwater flow direction on the Property in the Water Table and Shallow Intervals is currently to the south and southwest. In July 2023, the horizontal hydraulic gradient on the Property ranged between 0.01 and 0.03 foot/foot in the Water Table

Interval and between 0.01 and 0.02 foot/foot in the Shallow Interval. The presumed groundwater flow direction in the Intermediate Interval is also to the southwest, due to the connection between the Shallow and Intermediate Intervals. The planned additional monitoring wells in the Intermediate Interval will be analyzed to confirm the assumed groundwater flow direction.

On the Property, downward hydraulic gradients are observed between the Water Table, Shallow, and Intermediate Intervals. An upward gradient is observed from the Deep to Intermediate Interval, which likely limits migration of contamination beneath the Intermediate Interval.

Hydraulic Conductivity. A limited pumping test was conducted in 2020 at AC-1-25, AC-4-50, AS-35, and IW-1. Results from the pumping test indicates the hydraulic conductivity in the 25-to 35-foot (0.13 to 0.35 ft/day) depth interval is higher than the 15- to 25-foot (0.07 ft/day) and the 40- to 50-foot (0.03 ft/day) depth intervals. This indicates that the 25- to 35- foot depth interval is more permeable and is most likely the zone with the highest groundwater flux and potential for lateral transport. The estimated range of groundwater velocities in the Shallow Interval, based on the range of hydraulic gradients measured on the Property in July 2023, the range of hydraulic conductivities calculated from the pumping tests, and assuming an effective porosity of 0.06, is 8 to 43 feet per year.

2.3 Nature and Extent of CVOCs

The contaminants of concern (COCs) for the Site are PCE, trichloroethene (TCE), cis-1,2-dichloroethene (cis-DCE), and vinyl chloride (VC) in groundwater, and PCE in soil. PCE is the primary Site contaminant for soil and groundwater, with generally low or non-detect concentrations of TCE, cis-DCE, and VC over most of the Site.

Site COCs and applicable screening levels in soil, groundwater, and indoor air are summarized in Table 1. These include preliminary cleanup levels[1] (typically, the lowest applicable cleanup level for a particular medium), as well as other media-specific screening levels that are relevant to specific exposure pathways and the development of remedial alternatives such as vapor intrusion screening levels for groundwater and soil gas (based on protection of indoor air under residential and commercial exposure scenarios) and MTCA Method B direct contact cleanup levels for soil.

The occurrence of COCs in soil, groundwater, soil gas, and air at the Site are summarized below.

2.3.1 COCs in Soil

PCE is the only chemical that has been detected in soil above the MTCA Method A cleanup level for unrestricted use of 0.05 mg/kg. This section summarizes the estimated extent of PCE in soil at the Site after prior interim actions.

[1] For the purposes of this Feasibility Study, we have assumed MTCA Method A cleanup levels apply when available. If no Method A value is available, then the lowest applicable MTCA Method B cleanup level is used.

Soil data was collected during the installation of on- and off-Property monitoring wells between 2019 and 2023. The range of maximum PCE concentrations detected at each location are shown on Figure 3 (vadose zone) and Figure 4 (saturated zone). In summary:

- **Vadose Zone.** PCE was not detected above the preliminary cleanup level in any soil samples above the water table. However, very few samples have been collected beneath the building in the vadose zone.[2]
- **Saturated Zone.** PCE was detected above the preliminary cleanup level at locations on the Property beneath the southern portion of the Walgreens Building, to the west and south of the Walgreens building, and south of the Property in the NW 54th Street right-of-way (ROW). The maximum concentration detected was 5,420 ug/kg at AC-7-35, at a depth of 30 feet.

The highest concentrations of PCE in soil were generally detected between 28 and 33 feet bgs. The maximum depth of PCE exceeding the preliminary cleanup level was 45 feet bgs at AC-4-50.

2.3.2 COCs in Groundwater

Prior to remediation, PCE was the primary chemical detected in groundwater above the MTCA Method A cleanup level for unrestricted use of 5 µg/L. PCE degrades in the environment to other compounds, including TCE, cis-DCE, and VC under reducing conditions (i.e., reductive dechlorination). TCE was also detected in several samples that also contained PCE but was present at much lower concentrations. Concentrations of cis-DCE and VC in groundwater were generally very low or not detected.[3] Therefore, this section describes the occurrence of PCE in Site groundwater.

Current Groundwater Data

Recent groundwater monitoring results are included in Table 1 of Appendix A. The most recent PCE data in groundwater (collected in 2023, unless otherwise noted) is shown on Figure 5 (Water Table Interval), Figure 6 (Shallow Interval), and Figure 7 (Intermediate and Deep Intervals), and a summary of data from all intervals is provided on Figure 8. The occurrence of PCE in each interval is summarized as follows:

- **Water Table Interval.** PCE concentrations exceed the preliminary cleanup level on the Property to the west, south, and southeast of the Walgreens building, with the highest concentration in July 2023 (3,300 ug/L) located west of the building at AC-11-25. The lateral extent of the PCE plume is bounded in these directions by wells AC-18-25, AC-2-25, AC-22-20, AC-24-35, and AC-26-25 (Figure 5).
- **Shallow Interval.** Similar to the Water Table Interval, PCE concentrations exceed the preliminary cleanup level on the Property in the Shallow Interval beneath and to the west, south, and southeast of the Walgreens building, with the

[2] Most of the interior of the Walgreens Building is not accessible for drilling. Angle borings have been installed but these are only able to assess vadose zone conditions near the building edges.
[3] Higher concentrations of PCE degradation products TCE, cis-DCE, and VC have been detected southeast of the Property, at well HC-8, and in other historical explorations on the Mud Bay property. It is suspected that petroleum contamination from historical service stations located downgradient of the Site has resulted in localized conditions that are more conducive to biodegradation.

highest concentrations in July 2023 located east of the building at AC-12-35 (2,900 ug/L) and south of the building at AS-31 (5,460 ug/L) and AS-15-35 (4,300 ug/L). PCE concentrations also exceed the preliminary cleanup level south, southwest, and southeast of the Property in the NW 54th Street ROW. The lateral extent of the PCE plume is bounded in these directions by wells AC-19-35, AC-2-25, AC-23-30, AC-25-35, and AC-27-35 (Figure 6).

- **Intermediate Interval.** PCE concentrations exceed the preliminary cleanup level on the Property in the Intermediate Interval to the west and south of the Walgreens building, with the highest concentration in July 2023 (2,100 ug/L) located south of the building at AC-4-50. PCE concentrations also exceed the preliminary cleanup level south of the Property in the NW 54th Street ROW (Figure 7).
- **Deep Interval.** PCE concentrations are below the preliminary cleanup level at the one Deep Interval well, AC-5-90, located on the Property south of the building (Figure 7).

The lateral extent of the PCE plume in the downgradient directions has been characterized in the Water Table and Shallow Intervals. The downgradient extent in the Intermediate Interval has not been defined, but it is assumed to be less than the extent in the Shallow Interval, since the Shallow Interval has been characterized to contain the highest levels of contamination and is the most permeable, and therefore most amenable to contaminant migration, of the Site water bearing zones.

2.3.3 COCs in Soil Gas and Air

Because of the PCE and TCE concentrations detected in groundwater, they are COCs for soil gas and indoor air. COC concentrations in soil gas and indoor air have not been measured on the Property since operation of the AS/SVE system. At the time of building construction, a subslab depressurization system, consisting of a network of vapor extraction piping beneath the foundation slab connected to a ventilation blower, was installed. This system operates continuously and maintains a negative pressure beneath the building, preventing vapor intrusion. Vapor intrusion assessments were conducted in 2021 at the two adjacent properties that contain structures in the vicinity of groundwater exceeding vapor intrusion screening levels in the Water Table Interval and did not identify vapor intrusion concerns.

PCE concentrations in groundwater upgradient of three other structures in the area—the adjacent Fire Station, the Leva on Market building, and the Gallagher Apartments building—are below vapor intrusion screening levels. In addition, the Leva on Market and Gallagher Apartments buildings have underground parking garages that should be ventilated and provide separation between soil gas and occupied spaces. Based on the data, the vapor intrusion pathway is currently not complete at the Site with the ongoing operation of the subslab depressurization system.

2.4 Groundwater Biogeochemistry

A biogeochemical investigation was performed at Site monitoring wells IW-1, HC-4, AS-35, and AC-4-50 to aid in the design of a bioremediation pilot test and evaluation of remedial alternatives. This included the analysis of natural attenuation and conventional

parameters, as well as a microbiological analysis to determine the population of *Dehalococcoides*. Results from this investigation in April 2019, and the ISCR and ISB pilot test in January 2023, are included in the Pilot Test Technical Memorandum. (Aspect, 2024: Appendix A). Sitewide groundwater monitoring has included measurement of field parameters, including dissolved oxygen, which is included in groundwater data tables.

Groundwater geochemical conditions at the Site vary based on depth and location. The Water Table Interval exhibits generally moderate to high levels of dissolved oxygen on and near the Property, whereas the Shallow and Intermediate Intervals exhibit generally reducing conditions but with some exceptions. Several wells that exhibit reducing conditions also contain detectable cis-DCE concentrations (an anaerobic breakdown product of PCE).

The following bullets summarize the key groundwater analytical results from the pilot test area pre- and post-pilot test:

- **Dissolved Oxygen.** Dissolved oxygen is the primary electron acceptor in aerobic aquifers and will be used preferentially before other electron acceptors are consumed in the following order of preference: nitrate, manganese, iron, sulfate, and carbon dioxide. Sulfate reducing conditions are optimal for full reductive dechlorination of PCE to ethane and ethene. Anaerobic bacteria like *Dehalococcoides* generally cannot function at dissolved oxygen concentrations greater than approximately 0.5 milligrams per liter (mg/L). Dissolved oxygen concentrations were greater than 3.0 mg/L at AS-35 and IW-1, during pre-pilot test monitoring. Dissolved oxygen concentrations were less than 0.1 mg/L during post-pilot test monitoring, indicating that anaerobic conditions favorable for biological degradation of PCE were achieved.
- **Nitrate.** Nitrate is the first electron acceptor consumed when the prime electron acceptor, dissolved oxygen, is depleted. Nitrate was detected at concentrations greater than 1.0 mg/L at AS-35 and IW-1 during pre-pilot test monitoring, which does not indicate nitrate-reducing conditions. During post-pilot test monitoring, nitrate was not detected in AS-35 or IW-1, which is indicative of nitrate-reducing conditions.
- **Manganese.** Manganese is typically the next electron acceptor consumed after nitrate in anaerobic environments. Relatively insoluble naturally occurring manganese (IV) is reduced to highly soluble manganese (II). Dissolved manganese was detected at concentrations less than 0.5 mg/L at all wells during pre-pilot test monitoring, which does not indicate that manganese (IV) is being reduced. During post-pilot test monitoring, manganese was detected at 10.5 mg/L and 1.5 mg/L at AS-35 and IW-1, respectively, indicating that manganese reducing conditions were achieved in the pilot test area.
- **Iron.** Under iron-reducing conditions, relatively insoluble and naturally occurring ferric iron (Fe3+) is reduced to more soluble ferrous iron (Fe2+); therefore, greater dissolved iron concentrations in groundwater indicate iron-reducing conditions. During pre-pilot test monitoring iron was present in wells AC-4-50,

AS-35, HC-4, and IW-1 at concentrations lower than 1.0 mg/L, indicating slightly iron-reducing conditions. Post-pilot test monitoring of AS-35, the pilot test dose-response well, showed iron concentrations of greater than 10 mg/L, indicating strongly iron-reducing conditions.

- **Sulfate.** The most rapid biodegradation rates for reductive dechlorination occur under sulfate-reducing conditions. During pre-pilot test monitoring, sulfate concentrations in the pilot test area monitoring wells ranged from 36.4 to 233 mg/L, which do not indicate sulfate-reducing conditions. During post-pilot test monitoring, sulfate concentrations in the injection well (IW-1) and dose-response well (AS-35) ranged from 1 to 18 mg/L, indicating sulfate-reducing conditions were achieved in the pilot test area.
- **Total Organic Carbon.** Total organic carbon (TOC), which represents the electron donor for electron acceptors (iron, sulfate, etc.) in redox reactions, was detected before the pilot test at concentrations below 10 mg/L. These levels of TOC are generally regarded as indicating that reducing conditions are limited by the availability of organic carbon (Wiedemeier et al., 1998). The pilot test injection reagent ELS^{TM} microemulsion contains a high concentration of TOC to support reductive dechlorination metabolic pathways.
- **Ethane and Ethene.** The most direct indication of redox conditions supportive of biodegradation of chlorinated volatile organic compounds (CVOCs) in groundwater is the presence of dechlorination end products ethene and ethane. The detection of ethane at AC-4-50 prior to the pilot test confirms the presence of a native microbial community capable of completely dechlorinating TCE to nontoxic end products. Ethane and ethene were detected at low concentrations in IW-1 and AS-35 during post-pilot test monitoring.
- ***Dehalococcoides*.** The microbiological results confirm *Dehalococcoides* are present at low concentrations in AS-35 and IW-1. *Dehalococcoides* are a bacterial group responsible for complete reductive dechlorination of PCE and TCE to nontoxic end products ethene and ethane. The *Dehalococcoides* concentrations measured in the pilot study area before the pilot test are considered below the threshold where reductive dechlorination will yield a generally useful biodegradation rate (<104 cells/mL). *Dehalococcoides* were also not detected above the threshold in the pilot test wells during post-pilot test monitoring, suggesting that degradation of PCE observed during the pilot test may be due more to abiotic reactions than biodegradation.

Overall, some areas of the Site—particularly in the Shallow and Intermediate Intervals—have ambient conditions conducive to biodegradation, but limited evidence of significant biodegradation has been observed on or near the Property. The pilot test was able to enhance conditions favorable for biodegradation.

3 Pilot Study Overview

3.1 Approach

An expanded field-scale pilot study will be conducted to address contaminant concentrations in groundwater. The injection reagent will be delivered through existing air sparge wells (AS-31 and AS-39) and proposed permanent injection wells IW-2 through IW-15 in the Shallow Interval, located downgradient of the Walgreens building. Four proposed injection wells (IW-3-WT, IW-5-WT, IW-7-WT, and IW-9-WT) will be screened in the Water Table Interval, and ten proposed injection wells (IW-2, IW-4, IW-6, IW-8, IW-10, IW-11, IW-12, IW-13, IW-14, and IW-15) and the existing air sparge wells will be screened in the Shallow Interval.

An injection reagent which supports both biotic and abiotic treatment (ISB and ISCR) was selected for the initial pilot test as likely to be most effective to achieve Site cleanup levels. The baseline data was indicative of slightly reducing conditions and suggests that there is an existing (albeit small) native microbial community capable of reductive dechlorination; however, there is limited evidence that full biodegradation of PCE is occurring. The initial ISCR/ISB pilot test at IW-1 demonstrated the ability of ISCR/ISB to significantly reduce CVOC concentrations, but the ability of this technology to fully dechlorinate PCE to the point of preventing off-Property migration of daughter products is still to be determined (Aspect 2024; Appendix A). Therefore, the combined approach of ISB and ISCR will be the approach implemented during this expanded pilot test.

Based on injection reagent availability and implementability (discussed in Section 4.2.2), a different ISCR reagent comprised of micro-ZVI will be used in the expanded pilot test. Due to the use of this new reagent and ongoing questions about the ability of ISCR to fully biodegrade PCE as described above, the injections will be implemented in two phases:

1. **On-Property (Phase 1):** installation of the on-Property injection wells (IW-2 through IW-10) and injection into the on-Property locations (IW-2 through IW-10 and AS-31 and AS-39); and
2. **Off-Property (Phase 2):** installation of the off-Property injection wells (IW-11 through IW-15), and injection into these off-Property wells.

Performance monitoring will be conducted at 3 months and 6 months after the on-Property injection to evaluate whether the reagent fully degrades PCE. If there is sufficient evidence of cis-DCE and VC degradation, then the off-Property phase will be implemented as outlined in this work plan. If there is not sufficient degradation of cis-DCE and VC at the performance monitoring wells after the first two Phase 1 monitoring events, or other performance issues such as well clogging or poor reagent distribution are encountered, then the injection design will be revisited prior to installing the off-Property injection wells. This phased approach will limit the risk of daughter product accumulation—particularly at off-Property locations.

3.2 Objectives

The pilot study objectives are as follows:

1. **Evaluate the ability to deliver and distribute reagent in the Water Table and Shallow groundwater intervals.** This objective will be evaluated based on the ability to achieve targeted injection volumes and observe reagent breakthrough. This objective also includes assessing logistical considerations of access and utility locations.

2. **Significantly reduce CVOC concentrations and determine if full dechlorination is viable.** Post-injection CVOC trends at wells influenced by injections will be compared to wells not influenced by injections. The presence of nontoxic byproducts of reductive dechlorination (ethene and ethane) will be evaluated, and any potential accumulation of cis-DCE or VC will be assessed.

3. **Estimate design parameters for implementing the selected technology.** This includes the longevity of the desired biogeochemical change and associated injection frequency required to maintain dechlorinating conditions. Other design parameters include radius of influence (ROI)/injection-volume relationship, injection-specific capacity (relationship of injection rate and water level increase), and injection-pressure thresholds.

4. **Evaluate ability to manage secondary effects.** With both the ISCR and ISB technologies, there are secondary effects inherent to the desired change in CVOC concentrations that should be expected and managed. These include the reductive dissolution of redox-sensitive metals such as iron, the generation and potential accumulation of methane, and potential short-circuiting of injection solution. The pilot test design includes management elements such as a redox recovery zone, a buffer between buildings and injection points, and monitoring of these secondary effects.

The initial pilot test was successful in evaluating these parameters at the tested injection well (IW-1); this expanded pilot test will provide additional data for implementation in different areas and depth intervals, including the potential for using existing AS wells as injection points, which will be used to evaluate potential future treatment beneath the existing building.

4 Pilot Study Design

The pilot study will be designed to meet the objectives in the previous section. This section summarizes the elements of design for the reagent injections, describes the operational and performance monitoring, and addresses contingency considerations.

4.1 Field Data Collection

4.1.1 Injection Well Installation

Up to 14 new injection wells (IW-2 through IW-15) will be installed to treat groundwater downgradient of the source area and substantially reduce off-Property migration. Wells IW-2 through IW-10 will be installed during the initial phase of work and, if adequate degradation is confirmed 6 months after the Phase 1 injection, wells IW-11 through IW-15 will be installed. The proposed well locations are on the west and south Property lines and in the ROW on the north side of 5315 15th Ave NW. The final well locations are subject to access based on the field locates and utility clearance (Figure 2). Four of the 14 wells (IW-3-WT, IW-5-WT, IW-7-WT, and IW-9-WT) will be screened in the Water Table Interval between approximately 15 and 25 feet bgs. The remaining 10 injection wells (IW-2, IW-4, IW-6, IW-8, IW-10, IW-11, IW-12, IW-13, IW-14, and IW-15) will be screened in the Shallow Interval between approximately 25 and 35 feet bgs.

All proposed injection wells will be constructed of 4-inch stainless-steel casing with 4-inch stainless-steel wire-wrapped screens to increase well efficiency during the pilot test injection and allow long-term use as necessary. Injection wells will be installed by a Washington State-licensed driller using Hollow Stem-Auger (HSA) drilling methods. Upon the completion of the injection wells, well development will be performed using surge and purge development methods. Well coordinates and top of casing and top of monument elevations will be surveyed by a Washington State-licensed surveyor.

As-built monitoring well construction details, locations, and drilling observations will be documented and summarized in the ISCR/ISB Pilot Technical Memorandum. Soils observed during the injection well drilling will be classified by an Aspect geologist or engineer in accordance with the ASTM International, Inc. (ASTM) Method D2488 Standard Practice for Description and Identification of Soils. Investigative-derived waste (IDW) generated during drilling will be containerized, characterized, and disposed of at an approved off-Site disposal facility.

Five proposed well locations are within NW 54th Street and the associated ROW. A City of Seattle street use permit will be obtained, and although no access agreements are anticipated, the business owner/operators affected by the drilling will be notified of planned activities. A traffic control plan will be required to obtain the street use permit and will be implemented diligently to ensure worker safety and minimize disruptions to local traffic and businesses.

4.1.2 Soil Sampling

Soil samples will be collected at 5-foot depth intervals using EPA Method 5035A and will be field screened with a photoionization detector (PID). If elevated PID readings are

detected from depths not previously characterized at the proposed locations, up to two soil samples per location will be submitted to OnSite Environmental, Inc. (OnSite) in Redmond, Washington for analysis of VOCs by EPA Method 8260. If no elevated PID readings are detected, a minimum of two samples will be collected for waste profiling.

4.1.3 Baseline Groundwater Sampling

Groundwater samples will be collected from new injection wells to provide baseline concentrations for CVOCs. Sampling will be conducted after the wells are installed for each phase (IW-2 through IW-10 for Phase 1 and IW-11 through IW-15 for Phase 2). Sampling will be conducted no sooner than 48 hours after development. This monitoring event will consist of depth to groundwater gauging at both existing and new wells and groundwater sample collection at the new injection wells. Measurement of depth to groundwater will be conducted using an electronic water level tape, relative to the north side of the top of well casing following a minimum of 20 minutes of equilibration with atmospheric pressure. Groundwater sample collection will be completed using low-flow sampling methods, following stabilization of field parameters (temperature, dissolved oxygen, pH, specific conductivity, and oxidation reduction potential) and when turbidity is stable or below 10 NTU. Groundwater samples obtained will be submitted to OnSite for analysis of VOCs by EPA Method 8260.

Additionally, baseline groundwater monitoring will be completed at the dose-response monitoring wells prior to implementation of the injections for each phase. The analytes to be evaluated are listed in Table 3, and the locations and frequency based on each phase are presented in Table 4.

4.2 Reagent Injections

4.2.1 Design

The selected reagent will be injected into each well to evaluate the objectives presented in Section 4.2. Based on the initial pilot test, a ROI of 12 feet at each injection well is targeted with the planned injection volume of 2,000 gallons per well. This injection volume was calculated based on the targeted ROI, an estimated mobile porosity of 6 percent, and the injection well screened interval length of 10 feet (Table 2). This planned ROI is depicted on Figure 2. This total planned injection volume of 2,000 gallons is equal to 6 percent of the total aquifer in the ROI, by volume, or the estimated mobile porosity.

4.2.2 Reagent Selection and Handling

Based on the favorable results of the initial ISCR/ISB pilot study at IW-1, the pilot study will use Evonik EHC® Liquid Reagent (EHC® Liquid), which was used for the initial pilot study. The selection of this reagent was based on the higher solubility relative to other ISCR reagents and, thus, associated ease of delivery in the dense Site geology. The EHC® Liquid includes a controlled-release organic carbon substrate (ELS®), and an iron amendment. The manufacturer has updated the iron amendment to be a 5-micron zero valent iron (micro-ZVI) mix instead of the previous organo-ferrous compound, based on concerns with a new formulation that is less soluble and can cause fouling and reduced reagent delivery in permanent injection wells. The ELS® and micro-ZVI are emulsified, mixed, and diluted on Site for injection. This reagent has demonstrated effectiveness at degradation through abiotic (ISCR) and biologically mediated (ISB) degradation. A

soluble iron reagent (GeoForm™) is also available from Evonik but the longevity of soluble iron is not expected to be as robust as micro-ZVI. If the results of this expanded pilot with micro-ZVI do not suggest an advantage in longevity, or indicate a potential for fouling that may be exacerbated over repeated injections, the iron amendment may be replaced with GeoForm™ for subsequent applications. A limited scale pilot test may be appropriate if GeoForm™ is selected.

The reagent vendor will supply the ELS® as a 100% concentrate in 55-gallon drums and the 5-micron ZVI mix in powder form in 25-lb bags. Upon delivery to the Site, the reagents will be stored on Site in a secure Conex box provided by the injection contractor. The location of the Conex box will be in an agreed-upon location with the Walgreens, likely in the parking spaces on the southeast corner of the Property. The injection-strength reagent will be diluted in smaller batches for sufficient mixing at the time of injections.

The product sheets and the vendor's mixing guidelines are included in Appendix B, and the Safety Data Sheets (SDSs) are included in the HASP in Appendix C.

4.2.3 Injection System

Aspect will use an injection contractor, Cascade Remediation Services (Cascade), to complete the reagent injections. The reagent will be mixed in batches in a 250-gallon tote. The outlet of the tank will be connected to a 2-inch hose with quick-connect fittings for piping to the injection wellhead and will be instrumented with a flow totalizer to gauge total injection volume and injection rate. An injection wellhead will be connected to the 4-inch injection well casing using a threaded connection, which will include an air-release valve to relieve entrained air in the injection piping and well casing, preventing reduction of injection capacity or any off-gassing generated from injections. A pressure gauge will also be part of the injection manifold to monitor if there is any pressure buildup during the injections. Reagent will be injected into up to three wells at once, depending on access limitations. The final setup is subject to change depending on Cascade's equipment.

4.2.4 Injection Methods

Based on the results of the clean water injection during the initial pilot study, pumping head was not necessary to achieve the targeted injection volume. If possible, the injection will be performed without any pumping head and rely on the elevation head in the tote and gravity flow to the injection well. This approach will avoid the risks associated with high pressures, including system leaks, nonporous distribution, and/or potential aquifer formation fracturing.

However, during the injection of the EHC® Liquid reagent during the initial pumping test, a pump was needed to deliver the reagent into the subsurface. If pumping head is necessary to deliver the targeted injection volumes in the planned injection time frame, an in-line centrifugal trash pump will be added to the injection piping via quick-connect fittings to increase the injection rate.

For implementation of Phase 1, Aspect will not interfere with the operation of the Walgreen's drive-through, which is open daily from 8am to 9pm. It is not expected that the injections along the west side of the property line will interfere with drive-through

operations. Injection wells IW-9-WT and IW-10 are located within the exit of the Walgreens' drive-through, and injections will be completed at these wells after business hours if necessary. Air sparge wells AS-31 and AS-39 are located within the Walgreens' delivery zone, and access is limited to Monday, Tuesday, and Thursday after 5pm (subject to change depending on the delivery schedule when the injections are implemented). In order to perform injections at AS-31 and AS-39 during standard business hours, Aspect will coordinate with the Walgreens' store manager for the space required to implement the injections.

For implementation of Phase 2, Aspect will obtain a City of Seattle street use permit to inject into wells in the ROW. No access agreements are anticipated, but the business owner/operators affected by the injections will be notified of planned activities. A traffic control plan will be implemented diligently to protect workers and minimize disruptions to local traffic and businesses.

Assuming an average injection rate of 3 gallons per minute (gpm), a total active injection time of 11 hours per injection well is estimated. Delivery to more than one injection well at a time (up to a maximum of five at once) may be conducted if feasible, depending on property logistics and access.

4.2.5 Reagent Dosing and Batching

The reagent dosing calculations are presented in Table 2. A total of 800 lbs. of ELS® Concentrate reagent and 47 lbs. of EHC® Liquid reagent will be diluted into 2,000 gallons of water. To facilitate thorough mixing, the reagent formulation will be prepared in 250-gallon batches consisting of 247 gallons of makeup water, 3.1 gallons of ELS® (100 percent) Concentrate, and 0.27 24.5-pound bag of EHC® Liquid powder. Additionally, 2.5 lbs. of potassium bicarbonate buffer will be added per 250-gallon batch, to manage the adverse secondary effect of pH change. The vendor mixing procedures are included in Appendix B. The ELS® Concentrate will be emulsified by Cascade, the EHC® Liquid is soluble, and the buffer is soluble; therefore, the reagents will readily dissolve. Each batch will be mixed for a minimum of 10 minutes before injections are commenced. Following injection of the full 2,000 gallons of injection solution, 200 gallons of clean chase water will be injected to flush the well and filter pack.

Cascade will provide water for mixing and clean water flushes. A Seattle Public Utilities hydrant permit cannot be secured for a property with a City of Seattle water supply.

Reagent batches will be injected completely before demobilizing for the day and no batch solutions will be stored overnight or for any extended period of time. A total of 128 250-gallon batches will be necessary to achieve the targeted injection volume and delivery of total reagent quantities.

Secondary containment will be installed and maintained around the footprint of the injection system (tanks, pumps, reagent, and header) for the entirety of the injection event and will be the responsibility of Cascade. Any stormwater inlets or drains in the vicinity of the pilot test (within the area shown on Figure 2) will be protected using best management practices (BMPs) to prevent release of any accidental spills to the surface water, as also discussed in more detail in Section 4.1.1.

4.3 Monitoring

4.3.1 Operational Monitoring

Operational monitoring will be conducted during the injections to guide the injection operations and modify as necessary. Example operational monitoring logs are included in Appendix D. The injection rate and injected volume will be gauged at the flow totalizer at a minimum frequency of every hour. As discussed in Section 4.2.4, injections will be accomplished with tank head and gravity flow if possible and little pressure is anticipated at the wellhead. If measurable pressures are observed or pumping head is added to the injection system, the injection pressure (at the injection wellhead) will be monitored at the same frequency as injection rate and volume. The total injection volume will also be recorded. Observations will be recorded on the Injection Monitoring Log (Appendix D).

- **Reagent dosing.** A minimum of one sample will be collected from each batch of injection solution and will be analyzed for TOC and total iron by OnSite.
- **Water level monitoring.** Manual water levels will be measured at monitoring wells AC-10-40, AC-11-25, AC-12-35, AC-15-35, and AS-35 (Phase 1) and AC-7-35, AC-21-35 (Phase 2) at least twice daily while injections are occurring. Observations will be recorded on the Breakthrough Monitoring Log (Appendix D).
- **Dose-response (DR) monitoring.** DR monitoring will be conducted at wells AC-10-40, AC-11-25, AC-12-35, AC-15-35, and AS-35 (Phase 1) and AC-7-35, AC-21-35 (Phase 2) during active injections at nearby injection wells. DR monitoring will consist of the following:
  - **Reagent Tracer.** The high total dissolved solids (TDS) of the injection reagent allows for specific conductivity (SC) to be used as a surrogate tracer to indicate breakthrough at dose response monitoring wells during injection. For the purposes of this Work Plan, the term “breakthrough” refers to when concentrations/measurements of a constituent (or tracer) indicate the arrival of the injection solution at that monitoring point.
  - **Breakthrough monitoring.** Breakthrough monitoring samples will be collected every half hour, or every 125 gallons injected, whichever is more frequent. Breakthrough monitoring at the DR monitoring well will consist of measuring the SC with a multiparameter meter from a flow-through cell. Any visual evidence of the injection reagent at the DR well will be noted. After reagent breakthrough as indicated by an increase in SC, one sample will be collected after a one-well-volume purge for analysis of total organic carbon (TOC) and dissolved iron. Observations will be recorded on the Breakthrough Monitoring Log (Appendix D).

4.3.2 Performance Monitoring

Performance monitoring will be initiated at the end of the pilot study injections to evaluate the objectives described in Section 3.2. The analytes to be evaluated are listed in Table 3, and the locations and frequency presented in Table 4.

Nearby monitoring wells AC-10-40, AC-11-25, AC-12-35, AC-15-35, and AS-35 (Phase 1) and AC-7-35 and AC-21-35 (Phase 2) will be monitored to determine the area of influence of the injection and its effectiveness at reducing PCE concentrations in groundwater. During the injection, surrounding wells will be monitored for field parameters only to evaluate potential changes in groundwater chemistry. Downgradient monitoring wells AC-28-35 and AC-2-25 (Phase 1) and AC-23-30 (Phase 2) will be monitored for iron and nitrate to comply with the expected conditions of the Underground Injection Control (UIC) permit, based on the initial pilot test UIC authorization. Groundwater samples will be collected 3 months, 6 months, and 12 months after injection. At 12 months, one additional downgradient well will be monitored (AC-1-25).

4.4 Contingency Considerations

The application of in situ remediation technologies requires the careful management of nontarget, secondary reactions and effects that require monitoring and contingency actions, if conditions warrant. The pilot study is designed at a scale to minimize the secondary effect footprint and provide information necessary for full-scale design (see Pilot Study Objectives in Section 3.2). This section discusses all considerations that may warrant a contingency action and includes best practices, which are a comprehensive list of all contingency considerations not identified in this Work Plan.

These considerations will also affect whether Phase 2 is implemented; if issues arise that require mitigation as described below, this will be factored into the design of Phase 2 (e.g., alternative reagents may be considered). If significant concerns arise, or performance from Phase 1 is poor and may not be corrected through redesign, then Phase 2 may not be implemented, and alternative remedial approaches would be considered.

4.4.1 Best Practices

This section provides a comprehensive list of considerations for the pilot testing and associated best practices to prevent any condition that may warrant a contingency action. Many of the considerations are included for comprehension and intended to be evaluated during pilot-scale testing, and the understanding gained will be considered in final remedial selection.

- The first consideration is the recognition and monitoring of pH change associated with organic carbon fermentation and generation of volatile fatty acids, which can reduce groundwater pH to levels toxic (<5 standard units [s.u.]) to biological processes (Lutes et al, 2004). The performance monitoring during the pilot test at IW-1 indicated that there was insufficient buffering capacity of the aquifer to manage the decrease in pH. The pH at IW-1 decreased below 5 standard units during the first performance monitoring event. An engineered pH buffer consisting of potassium bicarbonate will be added to the injection solution during the expanded ISCR/ISB pilot test, as described in Section 4.2.5.
- A significant increase and accumulation of cis-DCE may indicate that reductive dechlorination has “stalled out” and there are not sufficient bacterial populations to achieve complete degradation to ethene and ethane. Bioaugmentation can enhance complete treatment of PCE by supplementing the native microbial population through the injection of commercially grown bacteria. If incomplete

degradation is observed, an additional injection event may be conducted to inject *Dehalococcoides* into the aquifer once redox conditions are favorable for biodegradation.

- There is a potential that VC may accumulate due to incomplete reductive dechlorination, although this issue will be controlled through managing the scale and reagent dosing to reduce potential impacts. If a significant increase in VC concentrations is observed that would potentially expand off-Property impacts, the existing AS system could be restarted temporarily to mitigate VC and prevent off-Property migration.
- The generation and accumulation of methane is another consideration, as methane is produced by bacteria under ideal conditions for enhanced reductive dechlorination. The potential for methane to accumulate in the vadose zone in the vicinity of structures is an explosive hazard that warrants a contingency trigger. If elevated concentrations (greater than 20,000 µg/L) of dissolved methane in groundwater are observed at shallow monitoring well HC-4, this will trigger additional monitoring to determine the potential migration of methane to the vadose zone, and include the installation of a permanent soil gas monitoring point in the pilot test area to monitor vadose zone methane concentrations.
- As with all injection-based technologies, there is potential for injection solution or groundwater to surface or daylight. The proximity of utilities in the injection area results in an increased risk of the injection reagent short-circuiting to these preferential pathways. There is a 12-inch drainage line in the sidewalk to the south of the Walgreens building at a depth of 7.6 feet bgs with an 8-inch-wide connection to the catch basins near the injection area, as shown on the sewer card in Appendix E. Water levels at shallow well HC-4, located between the injection well and the drainage line, will be monitored, and if water levels increase to less than 10 feet bgs, the injection will be halted. As another precaution, nearby catch basins will be checked every half hour for any visual indication that the injection reagent is present. If there is visual confirmation of infiltration of the injection reagent into the catch basin, the injections will be stopped immediately, and Aspect staff will notify the Project Manager.
- A sudden increase in injection rate or drop in injection pressure are also indications of short-circuiting, and injections will be stopped if these conditions are encountered. Reagent levels in the injection well will be monitored to avoid surface “daylighting” of the injection reagent; if reagent levels rise to less than 5 feet bgs, injection will be paused until the water level has decreased to at least 5 feet bgs. A lower injection rate than planned may be required to complete the injections if elevated reagent levels is an ongoing issue.
- Spills or releases of injection solution, or raw reagent and tracer, are potential occurrences during the implementation of the pilot test. Best practices (secondary containment and stormwater BMPs) will be used to address any spills or releases.
- Significant mounding is a potential when injecting fluids into the subsurface and can result in changes in groundwater flow direction. The primary means of fluid accommodation in the subsurface is mounding, therefore it is expected. However,

the changes in groundwater flow direction would be temporary (limited to the period of injection or shortly thereafter) and is not expected to be significant in magnitude, spatial extent, or longevity due to the total volume of injection compared to the volume of groundwater in the aquifer.

5 Project Organization

5.1 Roles and Responsibilities

The project organization is led by Aspect, who will engage the necessary subcontractors to complete the pilot study. All team members are responsible for execution of work in accordance with the Work Plan. The key individuals and their roles on this project are as follows:

- **Project Manager – Jeremy Porter, PE**. The Project Manager is responsible for the successful completion of all aspects of this project, including day-to-day management, production of reports, liaison with client and regulatory agencies, and coordination with the project team members. The Project Manager is also responsible for resolution of nonconformance issues, is the lead author on project plans and reports, and will provide regular, up-to-date progress reports and other requested information to project team and the client.
- **Field Manager – Delia Massey, PE.** The Field Manager is responsible for overseeing the pilot study outlined in this Work Plan, including oversight and management of field personnel and subcontractors, ensuring conformance with the Work Plan. The Field Manager will procure necessary field supplies, ensure that monitoring equipment is operational and calibrated in accordance with the specifications provided herein, and act as the Site Health and Safety Officer.
- **Injection Contractor.** Aspect will contract with Cascade, a Washington State-licensed driller, to implement the reagent injections. Cascade is responsible for providing the necessary injection equipment and implementing the reagent injections according to the Work Plan. Cascade will also be responsible for complying with all SPU requirements. Contracting will occur after the Work Plan is approved by the client.
- **Other Contractors.** Other contractors are necessary to complete the pilot testing activities, including analytical laboratories (OnSite), investigative derived waste (IDW) disposal,[4] and the reagent vendor, Evonik. These contractors are responsible for conforming to the Work Plan and the agreed-to scope with Aspect.

5.2 Reporting

After performance monitoring is completed, a technical memorandum will be prepared that includes:

- A description of pilot test activities
- A summary of pilot test results
- An evaluation of bioremediation effectiveness
- A description of conceptual approaches to bioremediation at the site (if effective)

[4] IDW disposal will be contracted directly with the Property owner, and not through Aspect.

- Recommendations for next steps

5.3 Schedule

Phase 1 pilot test activities will commence after the Site has been accepted into Ecology's VCP program, and the Ecology Site Manager has reviewed and approved this Work Plan. Additionally, the injection wells must be registered with Ecology's UIC Program (WAC 173-218), using their online registration tool. The proposed injection wells are considered Class V underground injection wells, which is subject to the UIC program. Injections will not be implemented until the UIC coordinator has reviewed and approved the registration.

6 References

Aspect Consulting (Aspect), 2024, ISCR/ISB Pilot Test Results, Former Tux Shop, Seattle, Washington. June 4, 2024.

Lutes, C., A. Frizzel, S. Suthersan, 2004, "Enhanced Reductive Dechlorination of CAHs using Soluble Carbohydrates – A Summary of Detailed Data from 50 Sites," Principles and Practices of Enhanced Anaerobic Bioremediation of Chlorinated Solvents, Appendix E, AFCEE/NFESC/ESTCP, Brooks City-Base, TX, August 2004.

Wiedemeier, T.H., M.A. Swanson, D.E. Moutoux, E.K. Gordon, J.T. Wilson, B.H. Wilson, D.H. Kampbell, P.E. Haas, R.N. Miller, J.E. Hansen, and F.H. Chapelle (Wiedemeier, et al.), 1998, Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water, EPA/600/R-98/128. U.S. Environmental Protection Agency, Office of Research and Development, National Risk Management Research Laboratory, Cincinnati, OH, <https://clu-in.org/download/remed/protocol.pdf>

7 Limitations

Work for this project was performed for the F&N Investment Company, LLC (Client), and this report was prepared in accordance with generally accepted professional practices for the nature and conditions of work completed in the same or similar localities, at the time the work was performed. This report does not represent a legal opinion. No other warranty, expressed or implied, is made.

All reports prepared by Aspect Consulting for the Client apply only to the services described in the Agreement(s) with the Client. Any use or reuse by any party other than the Client is at the sole risk of that party, and without liability to Aspect Consulting. Aspect Consulting's original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

TABLES

Table 1. Screening Levels for Site Contaminants of Concern

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Project No. 090030, Former Tux Shop Site, Seattle, WA

	Soil Cleanup Level (mg/kg)			Groundwater Screening Levels (µg/L)		Indoor Air Screening Levels (µg/m^3)	
	MTCA Method A for unrestricted use	MTCA Method B for protection of groundwater[2]	MTCA Method B for direct-contact	MTCA Method A CUL for unrestricted use	MTCA Method B Target Criterion[3]	MTCA Method B for unrestricted use	Commercial Screening Level[1]
Volatile Organic Compounds							
Tetrachloroethene (PCE)	**0.05**	0.003	480	**5**	**5**	**9.62**	44.9
Trichloroethene (TCE)	**0.03**	0.002	12	**5**	4	**0.33**	2.85
cis-Dichloroethene (cis-DCE)	--	**0.025**	160	--	**16**	**18.3**	156
Vinyl Chloride (VC)	--	**0.025**	0.67	**0.2**	0.029	**0.28**	1.33

Notes:

[1] Commercial screening levels calculated by adjusting exposure frequency for both noncarcinogens and carcinogens to a 9-hour, 5-day work week, 50 weeks per year, and average body weight and breathing rate for noncarcinogens to 70 kg and 20 m3/day, respectively. These adjustments are in accordance with MTCA Equations 750-1 and 750-2 and Ecology's Implementation Memorandum No. 21 (FAQs Regarding VI and Ecology's 2009 Draft VI Guidance) and Implementation Memorandum No. 22 (VI Investigations and Short-term TCE Toxicity).

[2]Practical quantitation limit adjusted up from site-specific MTCA Method B Value protective of saturated groundwater.

[3]From Ecology's CLARC Workbook (August 2023)

Table 2. Injection Design

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Project No. 090030, Former Tux Shop, Seattle, WA

Parameter	Value	Units	Notes
Injection Point Layout			
Number of Injection Wells	16	wells	14 injection wells in Water Table and Shallow Intervals; 2 air sparge wells
Distance to Dose-Response MW	12	feet	
Target ROI	12	feet	ROI confirmed in pilot test
Target Treatment Interval	25-35	feet bgs	Water Table (15-25 ft) or Shallow (25-35 ft), but consistently 10' depth
Target Treatment Thickness	10	feet	
Estimated Aquifer Volume in ROI	541,420	gallons	
Injection Point Hydraulics			
Design Mobile Porosity	0.06		Estimated for fine to medium sand with silt
Estimated Pore Volume	2,030	gallons/target ROI	
Target Pore Volume	100%		As percentage of total pore volume.
Target Injection Volume	2,000	gallons/point	Rounded down to simplify batch quantities.
Total Injection Volume	32,400	gallons/point	Rounded down to simplify batch quantities.
Reagent Batching			
Selected Reagent	Evonik EHC Liquid		Includes both ELS Concentrate and EHC Liquid Mix (5 micron ZVI)
ELS Concentrate TOC Content	100	%	Vendor Formulations
Volume Water	247	gallons/batch	
Volume ELS	3.1	gallons/batch	
Total batch volume	250	gallons	
# batches	130	batches/well	
ELS Dilution with Water	5%	by volume	
EHC Liquid Mix	0.27	bags/well	4.4x 25-lb bag per 50 gal of ELS 100% concentrate
Estimated TOC in Solution	14,000	mg/L	Assumes ELS Concentrate is 100% TOC content and 8.4 lbs/gal.
Estimated EHC-L in Solution	3,000	mg/L	
$KHCO_3$ buffer	2.5	lbs	25 lb per 50 gal of EHC Liquid
Total Quantities			
Total ELS Concentrate Reagent	400	gallons	8 drums
Total EHC Powder Reagent	862	lbs	35 bags
Total $KHCO_3$ buffer	329	lbs	
Total Water	32,000	gallons	

Notes:

% - percent
lbs - pounds
g - grams
mg - milligrams
mg/L - milligrams per liter
MW - monitoring well
ROI - radius of influence
TOC - total organic carbon

Table 3. Monitoring Program - Analyte List

DRAFT

Project No. 090030, Former Tux Shop, Seattle, WA

Analyte	Analytical Method	Purpose
CVOCs and Degradation Products		
Volatile Organic Compounds (VOCs)	EPA 8260B	
Dissolved gases; ethane, ethene, methane	RSK-175	Degradation end-product (ethene and ethane); redox indicator (methane)
General Chemistry		
Total Organic Carbon (TOC)	SM 5310B	Electron donor
Chloride	SM 4500-Cl E	ERD reaction product
Nitrate	EPA 353.2	Electron acceptor/ Redox Indicator
Sulfate	ASTM D516-11	Electron acceptor/ Redox Indicator
Iron (Dissolved)[1]	EPA 6010D	Electron acceptor/redox indicator
Redox-Sensitive Metals		
Calcium, Magnesium, and Manganese (Dissolved)[1]	EPA 6010D	Redox-sensitive COCs
Field Parameters		
Fe(II)/Fe(III)[2]	Hach ferrous iron kit, in field	Electron acceptor/Redox Indicator
Specific conductance	Multimeter	Field parameter
Dissolved oxygen	Multimeter	Field parameter
pH	Multimeter	Field parameter
ORP	Multimeter	Field parameter
Turbidity	Turbidimeter	Field parameter

Notes:

1. Dissolved metals analysis will be field-filtered using a 0.45 micron filter. Reagent solution samples will be analyzed for total iron.
2. Fe(III) is a calculated value from the difference between total iron and ferrous iron.

ASTM - American Society for Testing and Materials
EPA - Environmental Protection Agency
ERD - Enhanced Reductive Dechlorination
SM - Standard Method

Table 4. Groundwater Monitoring Program

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Project No. 090030, Former Tux Shop, Seattle, WA

Phase	Monitoring Event	Baseline	Time Elapsed Postinjection		
		Pre-Pilot	Month 3	Month 6[1]	Month 12[2]
Phase 1	**Monitoring**				
	IW-2	1	--	--	--
	IW-3-WT	1	--	--	--
	IW-4	1	--	--	--
	IW-5-WT	1	--	--	--
	IW-6	1	--	--	--
	IW-7-WT	1	--	--	--
	IW-8	1	--	--	--
	IW-9-WT	1	--	--	--
	IW-10	1	--	--	--
	Performance Monitoring				
	AC-10-40	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5
	AC-11-25	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5
	AC-12-35	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5
	AC-15-35	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5
	AS-35	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5
	AC-1-25	1,2,3,4,5	--	--	1,2,3,4,5
	AC-13-50	1,2,3,4,5	--	--	1,2,3,4,5
	Downgradient Monitoring				
	AC-28-35	3,5[3]	3,5[3]	3,5[3]	3,5[3]
	AC-2-25	3,5[3]	3,5[3]	3,5[3]	3,5[3]
Phase 2	**Monitoring**				
	IW-11	1	--	--	--
	IW-12	1	--	--	--
	IW-13	1	--	--	--
	IW-14	1	--	--	--
	IW-15	1	--	--	--
	Performance Monitoring				
	AC-7-35	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5
	AC-21-35	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5
	Downgradient Monitoring				
	AC-23-30	3,5[3]	3,5[3]	3,5[3]	3,5[3]

Analytes (see Table 3):

1 - CVOCs
2 - Dissolved Gases
3 - General Chemistry Parameters
4 - Field Parameters
5 - Redox Sensitive Metals

Notes:

1) After the Phase 1 6-month sampling event, the data will be reviewed and it will be decided whether Phase 2 will be implemented or if design changes are needed.

2) After the 12-month sampling event, the data will be reviewed and it will be determined whether additional monitoring beyond the planned 12 months is necessary to fully evaluate effectiveness.

3) Downgradient monitoring wells will only be sampled for dissolved iron and nitrate.

FIGURES

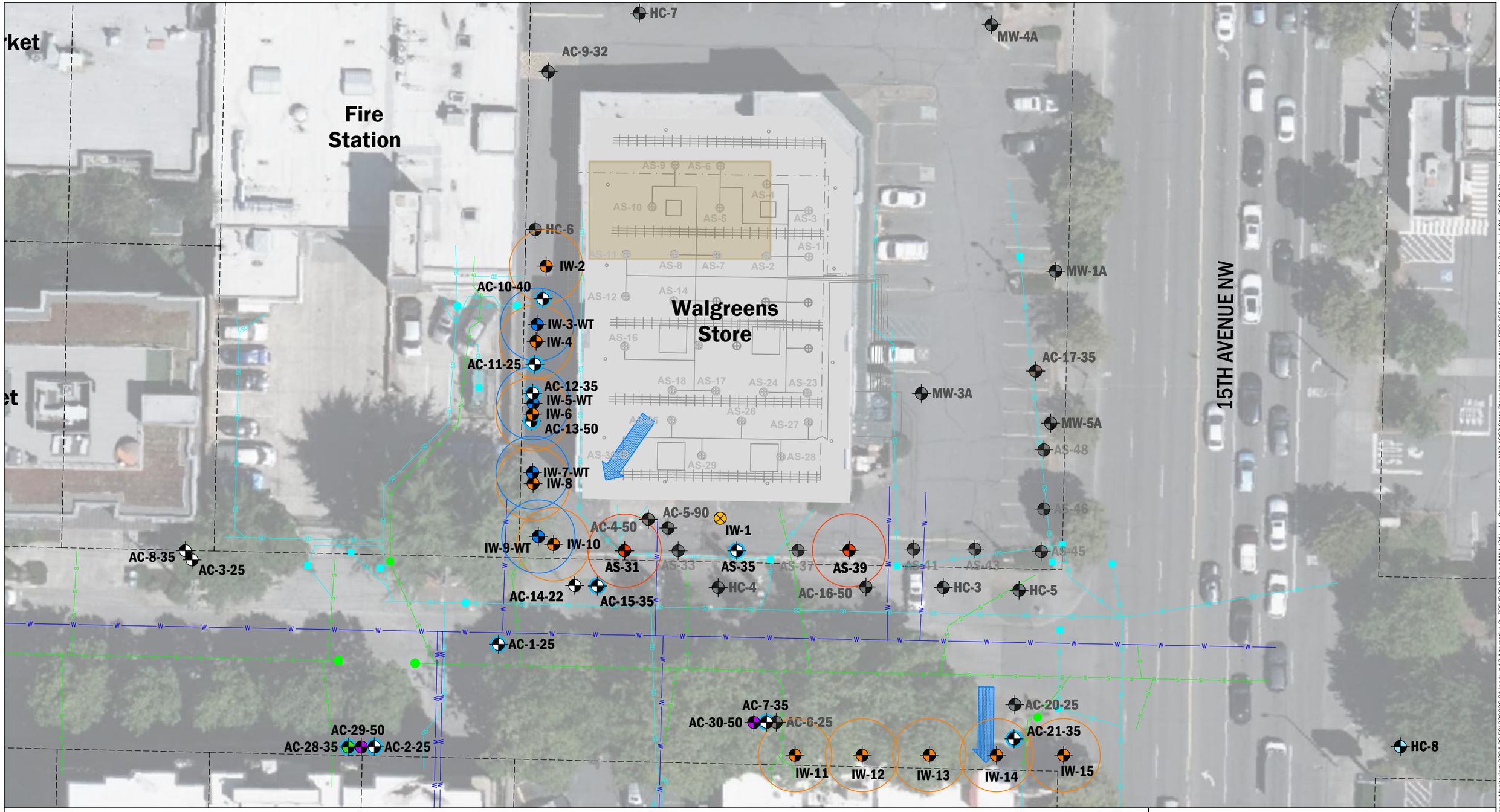
Site Location Map

ISCR/ISB Interim Action Work Plan
Former Tux Shop
Seattle, Washington

Aspect CONSULTING	JUN-2024	BY: DIM / NLK	FIGURE NO. 1
	PROJECT NO. AS090030A	REVISED BY: ---/---	

GIS Path: G:\projects\Former Tux Shop\090030\Project Former Tux Shop\090030.aprx | Layout: 01 Site Location Map | User: Nora Kosche | Print Date: 6/3/2024

Data source credits: None | | Basemap Service Layer Credits: Airbus,USGS,NGA,NASA,CGIAR,NCEAS,NLS,OS,NMA,Geodatastyrelsen,GSA,GSI and the GIS User Community, Esri, HERE, Garmin, USGS, EPA, NPS



AC-11-25 Monitoring Well or Air Sparging Well Location

IW-1 Injection Well Location

Approximate Groundwater Flow Direction

Water Line

Storm Drain Line

Sanitary Sewer Line

Performance Monitoring Well

Proposed Intermediate Interval Monitoring Well

Proposed Shallow Interval Monitoring Well

Proposed Shallow Interval Injection Well with Radius of Influence

Existing Well to be used for Injections with Radius of Influence

Proposed Water Table Interval Injection Well with Radius of Influence

DRAFT

N

0 30 60 Feet

Expanded Pilot Test Layout

ISCR/ISB Interim Action Work Plan
Former Tux Shop
Seattle, Washington

Aspect Consulting	Jul-2024	BY: BBC/SCC	FIGURE NO. 2
	PROJECT NO. 090030	REV BY: DIM/JPR	

CAD Path: Q:\Former Tux Shop\090030 Performance Monitoring\2024-02 FS\090030-04 jpr.dwg 13 Alternative 2 - PRB ISCR-ISB and MNA (31) || Coordinate System: NAD 1983 State Plane Washington North FIPS 4601 Feet || Date Saved: Jul 01, 2024 2:47pm || User: Jacqueline.Reinhardt

AC-11-25 Monitoring Well or Air Sparging Well Location

IW-1 Injection Well Location

Approximate Groundwater Flow Direction

Soil Analytical Data

- < 0.05 mg/kg
- 0.05 - 0.5 mg/kg
- > 0.5 mg/kg

DRAFT

N

0 30 60 Feet

PCE Concentrations in Vadose Zone Soil (2019 to 2023)

ISCR/ISB Interim Action Work Plan
Former Tux Shop
Seattle, Washington

Aspect Consulting	Feb-2024	BY: BBC/SCC	FIGURE NO. 2
	PROJECT NO. 090030	REV BY: JJP/SCC	

CAD Path: Q:\Former Tux Shop\090030 Performance Monitoring\2024-02 FS\090030-04.dwg 05 PCE Concentrations in Vadose Zone Soil (2019 to 2023) (30) || Coordinate System: NAD 1983 State Plane Washington North FIPS 4601 Feet || Date Saved: Feb 05, 2024 10:41am || User: Steve.Cudd

HC-7
MW-4A
AC-9-32
AC-28-39
AC-29-35
Fire Station
AS-9
AS-6
AS-4
AS-10
AS-5
AS-3
HC-6
AS-1
AC-32-50
AS-11
AS-8
AS-7
AS-2
MW-1A
AC-10-40
AS-12
AS-14
Walgreens Store
AS-16
AC-17-35
AC-11-25
AS-18
AS-17
AS-24
AS-23
MW-3A
AC-12-35
AS-26
AS-27
MW-5A
AC-13-50
AS-48
AS-30
AS-28
AC-30-34
AC-5-90[1]
AC-31-45
AS-46
AC-4-50
IW-1
AS-45
AC-8-35
AS-31
AS-33
AS-35
AS-37
AS-39
AS-41
AS-43
AC-3-25
AC-14-22
HC-4
HC-3
HC-5
AC-15-35
AC-16-50
AC-1-25
AC-7-35
AC-20-25
AC-6-25
AC-21-35
AC-2-25
HC-8
15TH AVENUE NW

AC-11-25 Monitoring Well or Air Sparging Well Location

IW-1 Injection Well Location

Approximate Groundwater Flow Direction

Soil Analytical Data

< 0.05 mg/kg

0.05 - 0.5 mg/kg

> 0.5 mg/kg

1 AC-5-90 was only sampled at depths below 50 feet.

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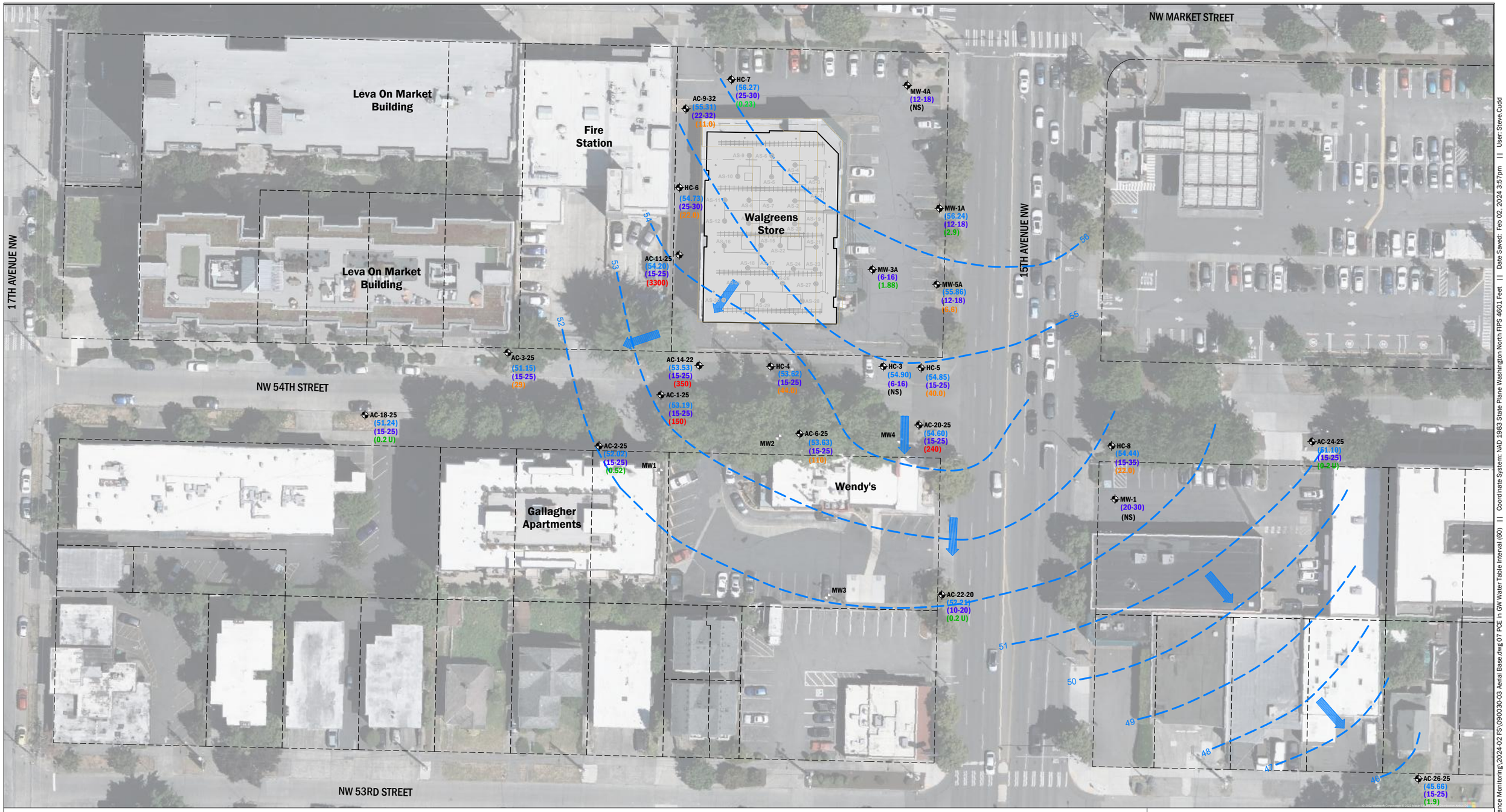
0 30 60 Feet

PCE Concentrations in Saturated Zone Soil (2019 to 2023)

ISCR/ISB Interim Action Work Plan
Former Tux Shop
Seattle, Washington

Aspect Consulting	Feb-2024	BY: BBC/SCC	FIGURE NO. 4
	PROJECT NO. 090030	REV BY: JJP/SCC	

CAD Path: Q:\Former Tux Shop\090030 Performance Monitoring\2024-02 FS\090030-04.dwg 06 PCE Concentrations in Saturated Zone Soil (2019 to 2023) (30) || Coordinate System: NAD 1983 State Plane Washington North FIPS 4601 Feet || Date Saved: Feb 06,2024 1:50pm || User:Steve.Cudd



AC-6-25 — Monitoring Well or Air Sparging Well Location

52 — Groundwater Elevation Contour in Feet (07/2023)

Approximate Groundwater Flow Direction

(52.83) Groundwater Elevation in Feet (07/2023)

(15-25) Well Screen Interval Depth in Feet

PCE Concentration (07/2023 or most recent sampling event if not sampled in 07/2023)

(150) >120 µg/L

(22.0) >5 to <120 µg/L

(2.9) <5 µg/L

(NS) Not Sampled

(U) Not Detected

* Monitoring wells with asterisk were not used to define groundwater elevation contours.

DRAFT

0 60 120 Feet

PCE Concentrations in Groundwater Water Table Interval

ISCR/ISB Interim Action Work Plan

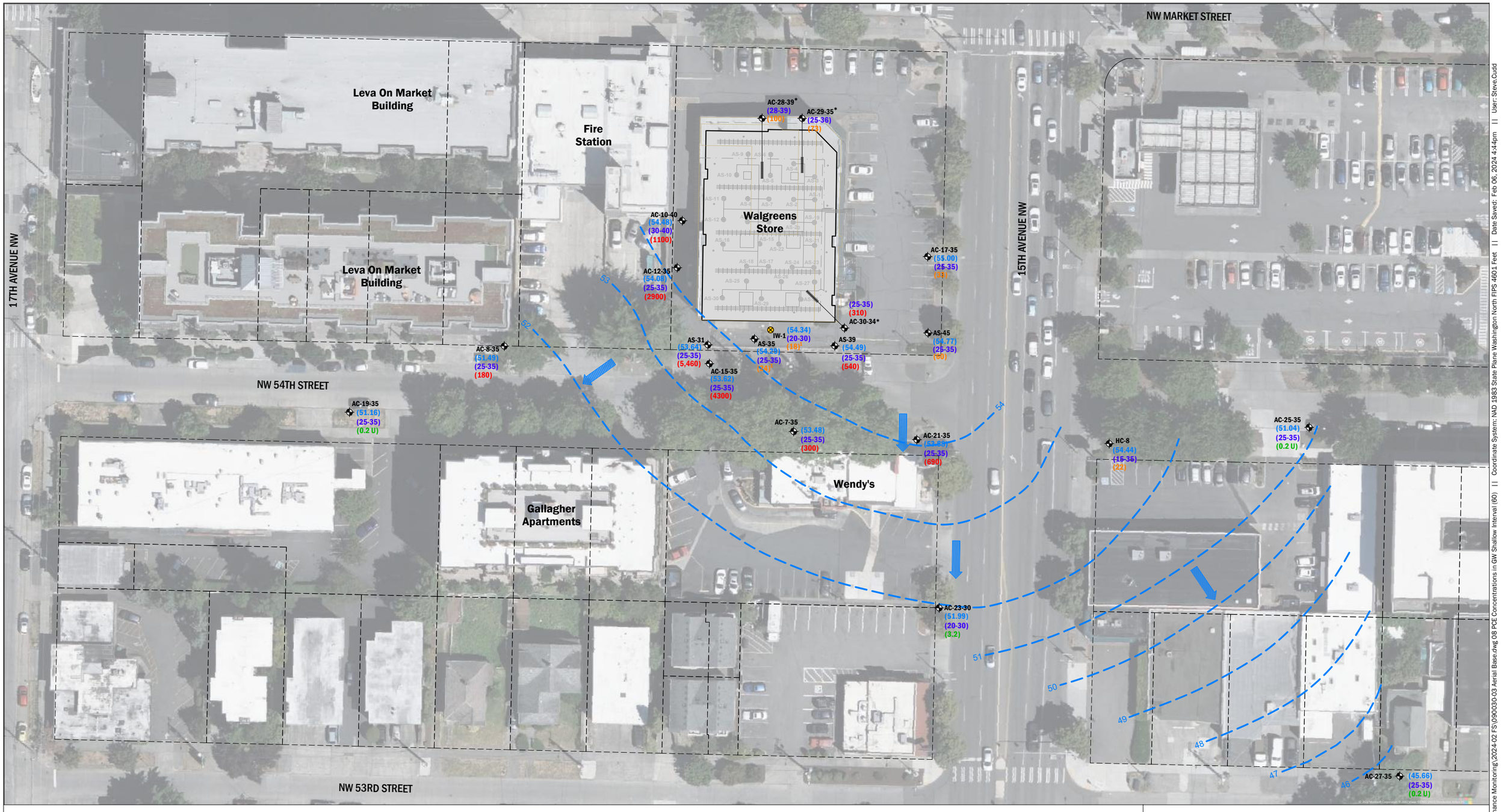
Former Tux Shop

Seattle, Washington

Aspect Consulting

	Feb-2024	BY: BBC/SCC	FIGURE NO. 5
	PROJECT NO. 090030	REV BY: JJP/SCC	

CAD Path: Q:\Former Tux Shop\090030 Performance Monitoring\2024-02 FS\090030-03 Aerial Base.dwg GW Water Table Interval (60) || Coordinate System: NAD 1983 State Plane Washington North FIPS 4601 Feet || Date Saved: Feb 02, 2024 3:57pm || User: Steve.Cudd



AC-7-35 — Monitoring Well or Air Sparging Well Location

IW-1 — Injection Well Location

52 — Groundwater Elevation Contour in Feet (07/2023)

Approximate Groundwater Flow Direction

(52.83) Groundwater Elevation in Feet (07/2023)

(15-25) Well Screen Interval Depth in Feet

PCE Concentration (07/2023 or most recent sampling event if not sampled in 07/2023)

(150) >120 µg/L

(22.0) >5 to <120 µg/L

(2.9) <5 µg/L

(NS) Not Sampled

(U) Not Detected

* Monitoring wells with asterisk were not used to define groundwater elevation contours.

1 Data from July 2023 at IW-1 and AS-35 reflect treatment from ISCR/ISB pilot test injections at IW-1 in January 2023.

DRAFT

N

0 60 120 Feet

PCE Concentrations in Groundwater Shallow Interval

ISCR/ISB Interim Action Work Plan

Seattle, Washington

Aspect Consulting	Feb-2024	BY: DWU/SCC	FIGURE NO. 6
	PROJECT NO. 090030	REV BY: JJP/SCC	

CAD Path: Q:\Former Tux Shop\090030 Performance Monitoring\2024-02 FS\090030-03 Aerial Base.dwg 08 PCE Concentrations in GW Shallow Interval (60) || Coordinate System: NAD 1983 State Plane Washington North FIPS 4601 Feet || Date Saved: Feb 06, 2024 4:44pm || User: Steve.Cudd

AC-16-50 Monitoring Well or Air Sparging Well Location

(52.83)	Groundwater Elevation in Feet (07/2023)
(15-25)	Well Screen Interval Depth in Feet

PCE Concentration (07/2023 or most recent sampling event if not sampled in 07/2023)

(150)	>120 µg/L
(22.0)	>5 to <120 µg/L
(2.9)	<5 µg/L
(NS)	Not Sampled
(U)	Not Detected

DRAFT

N

0 60 120 Feet

PCE Concentrations in Groundwater Intermediate and Deep Intervals

ISCR/ISB Interim Action Work Plan
Seattle, Washington

Aspect Consulting	Feb-2024	BY: DWU/SCC	FIGURE NO. 7
	PROJECT NO. 090030	REV BY: BBC/SCC	

CAD Path: Q:\Former Tux Shop\090030 Performance Monitoring\2024-02 FS\090030-03 Aerial Base.dwg 09 PCE Concentrations in GW Intermediate and Deep Interval (60) || Coordinate System: NAD 1983 State Plane Washington North FIPS 4601 Feet || Date Saved: Feb 06, 2024 4:47pm || User: Steve.Cudd

AC-3-25 Monitoring Well or Air Sparging Well Location

IW-1 Injection Well Location

MW1 Historical Well Approximate Location

Screened Interval
Horizontal Projection
Angled Boring and Well Screen Alignment

Groundwater Analytical Data

- 0 - 5 µg/L
- 5 - 120 µg/L
- > 120 µg/L

DRAFT

N

0 60 120 Feet

Extent of PCE in Groundwater

ISCR/ISB Interim Action Work Plan
Former Tux Shop
Seattle, Washington

Aspect Consulting	Feb-2024	BY: BBC/SCC	FIGURE NO. 8
	PROJECT NO. 090030	REV BY: JJP/SCC	

CAD Path: Q:\Former Tux Shop\090030 Performance Monitoring\2024-02 FS \090030-04.dwg 10 Extent of PCE in GW (60) || Coordinate System: NAD 1983 State Plane Washington North FIPS 4601 Feet || Date Saved: Feb 05, 2024 11:14am || User: Steve.Cudd

APPENDIX A

Pilot Test Tech Memo

DRAFT MEMORANDUM

Project No. 090030

June 14, 2024

To: F&N Investment Co. LLC

From:

Jeremy Porter, PE
Senior Principal Engineer
Jeremy.porter@aspectconsulting.com

Delia Massey, PE
Senior Engineer
delia.massey@aspectconsulting.com

Re: **ISCR/ISB Pilot Test Results**

Aspect Consulting (Aspect) prepared this In Situ Chemical Reduction (ISCR)/In Situ Bioremedation (ISB) Pilot Test Results memorandum (Pilot Test Memo) for the Former Tux Shop Site (Site) on behalf of F&N Investment Company, LLC. The Site is located at 5409 15th Avenue Northwest in the Ballard district of Seattle, Washington (Property). From the early 1950s to the early 1990s, a dry cleaning facility operated on the western portion of the Property. The Property was redeveloped in 1996 and is currently occupied by a Walgreen's store and pharmacy. Tetrachloroethene (PCE) occurrences in soil and groundwater above the Washington State Model Toxics Control Act (MTCA) Method A cleanup level are present in the south and west portions of the Property and in the adjacent rights-of-way.

Based on the investigations and evaluations to date, prior remedial actions have significantly reduced contamination at the Site, but additional remedial actions will be needed to meet the requirements of MTCA. The Feasibility Study (FS) Work Plan (Aspect, 2020a) identified data needs required to develop and evaluate remedial alternatives to address PCE at the Site, which included testing in situ bioremediation (ISB) and in situ chemical reduction (ISCR). The Pilot Test Work Plan (Aspect, 2020b) described the scope of a field-scale pilot test. This technical memorandum presents the methods and results from the pilot test and evaluates the potential effectiveness of ISB/ISCR at the Site.

Pre-Pilot Test Activities

Pre-pilot test activities included installing an injection well, obtaining necessary permits, and collecting groundwater quality and hydrogeologic information to inform the pilot test injection design. Details and results of pre-pilot test activities are included in the Pilot Test Work Plan. Below is a summary of completed pre-pilot test activities:

- Injection well (IW-1) was installed on the south side of the Walgreens building on February 7, 2019. The well location is shown on Figure 1.

- Groundwater monitoring data, including cVOC concentrations and geochemical data, was collected to inform the pilot testing injection design and establish baseline conditions for performance evaluation. Groundwater samples and water levels were collected at the injection well, existing wells AS-35, HC-4, and new monitoring well AC-4-50 on April 1, 2019. The baseline groundwater analytical results are included in Table 1.

- Limited short-term pumping tests were performed at AC-1-25, AC-4-50, AS-35, and IW-1 during a February 2020 groundwater sampling event to assess the hydraulic conductivity of soils at varying depths, confirm the interval proposed for injection, and to provide an assessment of feasible injection rates for the pilot test.

- The injection well was registered with the Washington State Department of Ecology's (Ecology) underground injection control (UIC) program. The registration was authorized by Ecology on June 2, 2020 (UIC site number 35107).

- A hydraulic evaluation was conducted at IW-1 on June 16, 2020, to assess the injection flow rate and pressure, and determine whether the injections could be completed by tank head and gravity flow.

Pilot Test Activities

Pilot test injections were completed at injection well IW-1 between January 30 and January 31, 2023. The injections were performed by Cascade Drilling, Inc. (Cascade) using an in-line pump, under direction by Aspect. Injections were initiated using gravity flow as specified in the Pilot Test Work Plan. However, gravity flow was observed to deliver a maximum injection reagent flow rate of 1 gallon per minute (gpm), substantially lower than the pilot test injection design flow rate of 3 gpm. Aspect requested the addition of an in-line centrifugal trash pump to the injection piping to increase injection rate. The in-line pump Cascade provided was single speed, operating at approximately 10 gpm. In order to achieve the injection design flow rate of 3 gpm the pump was cycled during injections. Injection monitoring data is included in Table 2.

Prior to the pilot test, manual water levels were measured at select monitoring wells (AC-4-50, AS-31, AS-35, AS-39, and HC-4) adjacent to the injection well IW-1. During active injections water level measurements were collected at AS-35, the closest monitoring well to IW-1, approximately every 30 minutes to monitor groundwater mounding. Reagent breakthrough, as defined by an increase in specific conductance (SC) or visual evidence of injection reagent, was monitored during active injections at dose-response wells AC-4-50, AS-35, and HC-4. Breakthrough monitoring readings were collected approximately every 30 minutes during active injections. Manual water levels and breakthrough monitoring results are included in Table 3.

Injection reagents were mixed onsite in 250-gallon batches by Cascade for a minimum of 10 minutes before commencing injections. A total of seven 250-gallon reagent batches were mixed and injected into IW-1. Batches #1 through #6 were mixed according to the injection design detailed in the Pilot Test Work Plan (Aspect, 2020b), with one exception. The ELS® was supplied as the 100% concentrate instead of the 25% microemulsion, so the dosing was adjusted for this 4-fold change. Each batch consisted of 3 gallons of ELS® (100 percent) microemulsion, 4.9 pounds of EHC® Liquid powder, and 247 gallons of water. Batch #7 was mixed with double reagent concentrations, 6 gallons of ELS® (100 percent) concentrate, 9.8 pounds of EHC® Liquid powder, and 244 gallons of water. Aspect doubled the reagent concentrations for Batch #7 to ensure the delivery of the design amount of reagent, a total of 25 gallons of ELS® (100 percent) microemulsion and 47 pounds of EHC® Liquid power, were injected within the available timeframe for pilot test activities. The product sheets and vendor's mixing guidelines, and the Safety Data Sheets (SDSs) are included in Attachment A.

The average injection flow rate achieved during the pilot test was approximately 2 gpm, less than the design flow rate of 3 gpm, which necessitated the concentration adjustment to Batch #7 and elimination of Batch #8 from the injection schedule. One sample from each reagent batch was analyzed for total organic carbon (TOC) and total iron by Analytical Resources, LLC Laboratories (ARI) in Tukwila, WA. Additionally, a reagent breakthrough sample from AS-35 was collected at the completion of the pilot test injections and analyzed for TOC and dissolved iron by ARI. Reagent batch and AS-35 breakthrough sample analytical reports are included in Attachment B, and results are presented in Table 4. Following completion of the full injection reagent amount, 200 gallons of clean water were injected into IW-1 to flush the well and filter pack.

Performance groundwater monitoring was initiated at the end of the pilot study injections to evaluate changes in field parameters[1] and groundwater chemistry. Field parameters were measured in select performance monitoring wells (AC-4-50, AS-35, and HC-4) two weeks post-injection on February 14, 2023. Field parameters and performance monitoring analytes[2] were recorded and analyzed at all performance monitoring wells (AC-4-50, AS-35, HC-4, and IW-1) and select analytes were tested at the furthest downgradient performance monitoring well AS-31,[3] at one month (February 27, 2023), three months (April 27, 2023), six months (July 27, 2023), and one year[4] (January 9, 2024) post-injection. One-month and three-month post-injection samples were analyzed by ARI. Six-month and one-year post-injection samples were analyzed by OnSite Environmental, Inc (OnSite) in Redmond, WA. Additionally, six-month post-injection samples from AC-4-50, AS-35, HC-4, and IW-1 were analyzed for microbiological populations of dechlorinating bacteria (*Dehalococcoides*) by Microbial Insights, Inc in Knoxville, TN.

[1] Field parameters monitored as part of post-injection performance monitoring included: Temperature, specific conductance, dissolved oxygen, pH, oxidation reduction potential (ORP), turbidity, and ferrous iron.
[2] Performance monitoring analytes included cVOCs, dissolved gases, general chemistry parameters, and redox sensitive metals.
[3] Per the conditions of the UIC permit authorization, monitoring of a downgradient well located close to the property line or plume boundary was required to demonstrate compliance with the Water Quality Standards for Groundwaters of the State of Washington, chapter 173-200 WAC (GWQS) criterion for dissolved iron (0.3 mg/L) and nitrate (10 mg/L). AS-31 was monitored to fulfill this permit requirement and met the compliance criteria.
[4] The Pilot Test Work Plan called for 6 months of post-injection monitoring; an additional monitoring round was added after one year to further assess longevity and effectiveness of treatment.

Performance monitoring analytical reports are included in Attachment B, and field parameters and analytical results are presented in Table 1.

Pilot Test Analysis and Results

Pilot test performance monitoring data from the injection well and nearby monitoring wells AC-4-50, AS-35, and HC-4 was analyzed to determine the area of influence of the injection and its effectiveness at reducing PCE concentrations in groundwater. Results of breakthrough monitoring at AS-35, the closest well downgradient from the injection well, confirm that the pilot test injections achieved the planned radius of influence (ROI) of 12 feet. Although there was no increase in specific conductivity in AS-35 during breakthrough monitoring, both TOC and dissolved iron (indicators of the presence of injection reagents) in the injection completion sample increased by more than 100 percent over the baseline values.

Performance monitoring indicates effective and consistent reduction of PCE concentrations in groundwater at the injection well (IW-1) and AS-35, which are screened in the Shallow Interval. No significant effect was observed at Water Table Interval well HC-4 or Intermediate Interval well AC-4-50.[5] These wells are also partly cross-gradient from the injection well and may not be directly affected by the treated area. Performance monitoring trends in IW-1 and AS-35 are presented in Figure 2, and analytical results for cVOCs and geochemical parameters in all wells tested are included in Table 1. Results at these wells are discussed below.

IW-1 Performance Monitoring Results

After one year, IW-1 performance monitoring samples show a reduction in total chlorinated ethenes of greater than 90 percent compared to baseline values. There was an observed increase in ethene and ethane during the one-, and three-month post-injection monitoring samples. PCE breakdown intermediates (trichloroethene (TCE), cis-1,2-dichloroethene (DCE), and vinyl chloride (VC)) were not detected in IW-1 performance monitoring samples until the year 1 sample.

Geochemical parameters in IW-1 show that injections induced highly reducing conditions, which are ideal for complete reductive dechlorination by abiotic and biotic pathways. Specifically:

- Dissolved oxygen was present at well over 1 mg/L during baseline sampling and has been consistently under 0.2 mg/L during all four performance monitoring events.
- Oxidation Reduction Potential (ORP) decreased from a baseline of 45.9 mV to -74.3 mV during the 12-month post-injection monitoring event.
- Reductive dechlorination by iron oxidation and biodegradation releases hydrogen ions, making pH another geochemical performance indicator. pH in IW-1 decreased significantly from baseline values of approximately 7.1 to 4.9 during the 6-month post-injection monitoring event, but partly rebounded to 5.9 at the one-year event. The low pH (less than

[5] There is an increasing trend of PCE and breakdown intermediates in AC-4-50, and of PCE in HC-4 during the post-injection performance monitoring period. However, evaluation of baseline groundwater quality on a longer timescale from April 2019 through October 2022 shows variability in CVOC concentrations in both wells greater than the increases observed during the performance monitoring. Historical groundwater trends for AC-4-50 and HC-4 are included in Table 5. Additionally, there are no apparent trends in geochemical parameters at AC-4-50 and HC-4 that would suggest influence by injection reagents.

5) observed from Month 1 to Month 6 can inhibit biodegradation of PCE; this effect is discussed further in the Conclusions and Recommendations section below.

- Nitrate and sulfate have been reduced from their baseline concentrations of 5.86 and 233 mg/L, respectively, to very low or non-detect results during performance monitoring.

- Dissolved iron and manganese have increased from near non-detect to very high levels (92,000 ug/L and 7,500 ug/L, respectively, after one year), although the presence of iron-rich EHC® Liquid Powder reagent is likely dominating the increase in iron.

- Methane increased from non-detect in IW-1 during baseline sampling to 4,300 ug/L during the one-year post-injection monitoring event, indicating sustained methanogenic conditions.

AS-35 Performance Monitoring Results

Results from AS-35 performance monitoring samples show substantial treatment at the far extent of the injection ROI. After one year, PCE concentrations were reduced greater than 99 percent, although total chlorinated ethenes were reduced only 45 percent due to an increase in cis-DCE. The progression of dechlorination appears to still be developing at the one-year mark, with cis-DCE and TCE peaking at Month 6 and vinyl chloride first detected at one year.

Similar to IW-1, geochemical parameters at AS-35 indicate that injections induced a highly reducing condition conducive for reductive dechlorination. Specifically:

- Dissolved oxygen was rapidly depleted from a baseline of approximately 4 mg/L to less than 0.2 mg/L. ORP similarly declined from a baseline of 65 mV to a highly reducing condition, ranging between -41 and -165 mV after 3 months.

- pH decreased from a baseline of 6.9 to 5.7, but has rebounded to 6.5.

- Nitrate and sulfate concentrations fell from baseline values of 6.5 and 222 mg/L, respectively, to very low or non-detect results during the three-month post-injection sampling event.

- Manganese and iron concentrations increased from a baseline of non-detect or nearly non-detect to sustained concentrations greater than 5,000 ug/L manganese and 9,300 ug/L iron.

- Methane concentrations at Month 1 and Month 3 were very low, but increased to 8,700 ug/L during the one-year post-injection monitoring event.

Microbiological Testing Results

Microbiological results (see Table 1) from the baseline monitoring and 6-month post-injection performance monitoring event were compared to evaluate the effectiveness of ISB at the injection well, and downgradient monitoring wells AS-35 and HC-4. The comparison showed no apparent increase in the population of *Dehalococcoides* (DHC), a bacterial group responsible for complete reductive dechlorination of PCE and TCE to nontoxic end products ethene and ethane, in any of the samples collected. The DHC concentrations in the pilot study area are considered below the threshold where reductive dechlorination will yield a generally useful biodegradation rate (<104

cells/mL). However, DHC is not the only microbial strain that dechlorinates PCE, so the results are not conclusive regarding the mechanism for treatment.

Conclusions and Recommendations

The effectiveness of ISB and ISCR technologies at the Site is determined by the ability to meet the pilot study objectives, as defined in the Pilot Test Work Plan.

1. Evaluate the ability to deliver and distribute reagent in the 20-to 30-foot groundwater interval.

   The results of the pilot study show that injection technology at the Site can deliver and distribute reagent in the 20-to 30-foot groundwater interval and meets pilot study objective number one. Although the achievable injection flow rate in the field was lower than the design injection flow rate of 3 gpm, the pilot test injections were able to deliver the entire design reagent volume in a timely manner, and reagent breakthrough was observed at the target ROI.

2. Significantly reduce CVOC concentration and determine if full dechlorination is viable.

   Analysis of post-injection groundwater quality trends at IW-1 shows that the pilot study significantly reduced the CVOC concentrations and achieved full dechlorination in the injection well. Evidence of full dechlorination has also been observed at AS-35, but accumulation of intermediates—primarily cis-DCE—was observed at the six-month and one-year intervals. It is unclear how quickly these intermediates will degrade as they migrate downgradient. The ability of ISCR/ISB to significantly reduce CVOC concentrations has been confirmed, but the ability of this technology to fully dechlorinate PCE to the point of preventing off-Property migration of daughter products is still to be determined.

3. Estimate design parameters for implementing the selected technology.

   The pilot test results are useful in estimating certain design parameters such as injection pressure, flowrate, and radius of influence for full-scale implementation of ISB/ISCR via injection, and so meet pilot study objective number three. The longevity of desired biogeochemical changes in the pilot test area is at least 1 year, based on sustained reducing conditions and elevated TOC concentrations that can support biodegradation. Additional monitoring would be helpful in further assessing reagent longevity.

4. Evaluate the ability to manage secondary effects.

   During the post-injection performance monitoring period Aspect monitored for potential secondary effects from treatment, as follows:

   - pH change. Organic carbon fermentation and generation of volatile fatty acids can reduce groundwater pH to levels toxic (<5 standard units [s.u.]) to biological processes. The pH at IW-1 decreased to 4.79 s.u. during the Month 1 performance monitoring event, indicating that that there was insufficient buffering capacity of the aquifer to balance the reagent dosing. Engineered pH buffering is recommend for future injection events to prevent any adverse effects on the bacterial population.
   - Methane accumulation. There has been no observed accumulation of methane in HC-4, the shallow monitoring well identified in the Pilot Test Work Plan as the point for evaluation of

contingency methane management, during the post-injection performance monitoring period. However, this well may not be directly downgradient of the injection. Based on the one-year results at AC-39, it would be beneficial to monitoring the nearest downgradient Water Table Interval well (AC-14-22) for methane to determine the extent of elevated methane at the water table.

- Daylighting of Reagent. There were no observed instances of injection reagent daylighting in nearby monitoring wells or stormwater catch basins, and no indication of short-circuiting to preferential pathways associated with nearby utilities during injection monitoring.

In summary, aside from a decrease in pH which can be managed with engineered buffering, no other adverse secondary effects were observed. Additional methane monitoring is recommended for future events.

Recommendations

The ISCR/ISB pilot study indicated that this technology is a potentially viable remedial technology at the Site. The ISCR/ISB technology can treat PCE via two different pathways—abiotic and biotic reductive dechlorination—although both processes are likely ongoing, the relative contribution of each pathway to overall treatment is not certain. Additional monitoring at the 18-month mark, including existing performance monitoring wells and at the next two wells downgradient of the injection area (AC-14-22 and AC-15-35), is recommended to further evaluate the ability to achieve full dechlorination, sustain treatment, and not create adverse effects from methane generation.

References

Aspect Consulting, LLC (Aspect), 2020a, Feasibility Study Work Plan, Former Tux Shop, Seattle, Washington, August 19, 2020.

Aspect Consulting, LLC (Aspect), 2020b, Pilot Test Work Plan, Former Tux Shop, Seattle, Washington, November 20, 2020.

Limitations

Work for this project was performed for the F&N Investment Company, LLC (Client), and this memorandum was prepared in accordance with generally accepted professional practices for the nature and conditions of work completed in the same or similar localities, at the time the work was performed. This memorandum does not represent a legal opinion. No other warranty, expressed or implied, is made.

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Attachments: Table 1 – Pilot Test Groundwater Monitoring Results
Table 2 – Operational Monitoring
Table 3 – Breakthrough Monitoring
Table 4 – Operational Monitoring
Table 5 – Historical Trends for Downgradient Wells

V:\090030 Former Tux Shop\Deliverables\Interim Action Work Plan\Ecology Review Draft\Appendices\App A\Draft Pilot Test Tech Memo_20240614.docx

TABLES

Table 1. Pilot Test Groundwater Monitoring Results

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Project No. 090030, Former Tux Shop Site, Seattle, WA

Analyte	Unit	MTCA Method A[1], Groundwater (ug/L)	Injection Well IW-1 Shallow Interval						Performance Monitoring Well AS-35 Shallow Interval					
			Baseline 4/1/2019	Baseline 10/27/2022	Month 1 2/27/2023	Month 3 4/27/2023	Month 6 7/27/2023	Month 12 1/9/2024	Baseline 4/1/2019	Baseline 10/27/2022	Month 1 2/27/2023	Month 3 4/27/2023	Month 6 7/27/2023	Month 12 1/9/2024
VOCs														
1,1,1,2-Tetrachloroethane	ug/L		< 0.2 U	< 10 U	< 10 U	< 2 U	< 8.0 U	< 1 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2.0 U	< 1 U
1,1,1-Trichloroethane	ug/L	200	< 0.2 U	< 10 U	< 10 U	< 2 U	< 8.0 U	< 1 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2.0 U	< 1 U
1,2-Dichloroethane (EDC)	ug/L	5	< 0.2 U	< 10 U	< 10 U	< 2 U	< 8.0 U	< 1 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2.0 U	< 1 U
Chloroform	ug/L		< 0.2 U	< 10 U	**11.4**	**6.36**	< 8.0 U	< 1 U	< 2 U	< 2 U	**6.25**	< 2 U	< 2.0 U	< 1 U
cis-1,2-Dichloroethene (cDCE)	ug/L	16	**5.99**	**15.8**	< 10 U	< 2 U	< 8.0 U	**88**	**7.18**	**6.67**	**2.15**	**17.3**	**230**	**200**
Tetrachloroethene (PCE)	ug/L	5	**438**	**2500**	**21.2**	**10.1**	**18**	**66**	**693**	**630**	**207**	**90.3**	**24**	**3.6**
Trichloroethene (TCE)	ug/L	5	**5.1**	**20**	< 10 U	< 2 U	< 8.0 U	**14**	**5**	**4.13**	**2.71**	**4.03**	**17**	< 1 U
Vinyl Chloride	ug/L	0.2	< 0.20 U	< 10 U	< 10 U	< 2 U	< 8.0 U	**5.4**	< 2.00 U	< 2 U	< 2 U	< 2 U	< 2.0 U	**4.9**
Total Chlorinated Ethenes	umol/L		3.4	15.4	0.13	0.061	0.11	1.5	5.38	3.90	1.29	0.75	2.65	2.16
Dissolved Gases														
Ethane	ug/L		< 1.23 U	--	**6.77**	**1.64**	< 0.22 U	< 0.56 U	< 1.23 U	--	**1.41**	**1.25**	< 0.22 U	< 0.56 U
Ethene	ug/L		< 1.14 U	--	**1.22**	< 1.14 U	< 0.29 U	< 0.58 U	< 1.14 U	--	< 1.14 U	< 1.14 U	< 0.29 U	< 0.58 U
Methane	ug/L		< 0.65 U	--	< 0.65 U	**0.96**	**4700**	**4300**	< 0.65 U	--	**1.18**	**11.6**	**5000**	**8700**
Conventionals														
Alkalinity, Total	mg/L		**124**	--	--	--	--	--	**109**	--	--	--	--	--
Chloride	mg/L		**44.4**	--	**0.86**	**18.9**	**89**	**40**	**33.4**	--	**9.78**	**25.7**	**46**	**43**
Nitrate as Nitrogen	mg/L		**5.86**	--	< 0.1 U	< 1 U	**0.31**	< 0.025	**6.46 J**	--	< 0.1 U	< 0.1 UJ	**0.059**	< 0.025
Sulfate	mg/L		**233**	--	**1.18**	< 1 U	< 5.0 U	< 5 U	**222**	--	**18.6 J**	**0.263**	**27**	**14**
Total Organic Carbon	mg/L		**1.43**	--	**2726**	**3104**	**2400**	**770**	**1.35**	--	**980.4**	**397.9**	**30**	**40**
Metals, dissolved														
Calcium	ug/L		**35900**	--	**29500**	**39000**	**140000**	**42000**	**37500**	--	**169000**	**100000**	**49000**	**59000**
Iron	ug/L		**14.2 J**	--	**228000**	**193000**	**290000**	**92000**	< 20 U	--	**11700**	**21800**	**9300**	**16000**
Magnesium	ug/L		**31500**	--	**15600**	**38700**	**120000**	**72000**	**29600**	--	**123000**	**76500**	**38000**	**44000**
Manganese	ug/L		**4.07**	--	**1560**	**3240**	**22000**	**7500**	**0.326 J**	--	**10600**	**18200**	**5000**	**11000**
Microbiological														
Dehalococcoides (DHC) [2]	cells/bead		**14.2 J**	--	--	--	--	--	**17.3 J**	--	--	--	--	--
	cells/mL		--	--	--	--	< 26.3 U	--	--	--	--	--	**3.30**	--
Field Parameters														
Temperature	deg C		**16.5**	**17.3**	**12.16**	**17.51**	**20.5**	**16.05**	**16.1**	**17.39**	**12.98**	**16.28**	**20.1**	**15.41**
Specific Conductance	uS/cm		**743**	**593.12**	**833.3**	**1396.6**	**1800**	**750.86**	**658**	**568.16**	**1416**	**900.41**	**485.1**	**467.13**
Dissolved Oxygen	mg/L		**3.13**	**1.37**	**0.02**	**0.04**	**0.18**	**0.09**	**5.88**	**4.1**	**0.09**	**0.1**	**0.15**	**0.14**
pH	pH units		**7.21**	**7.11**	**4.79**	**5.02**	**4.88**	**5.9**	**6.92**	**6.94**	**5.74**	**5.78**	**6.19**	**6.49**
Oxidation Reduction Potential	mV		**69.4**	**45.9**	**9.6**	**18.9**	**-1**	**-74.3**	**81.2**	**65.6**	**-0.4**	**-164.6**	**-41.3**	**-147.5**
Turbidity	NTU		**17.2**	**4.12**	**1000**	**1000**	**1000**	**83.9**	**6.74**	**1.48**	**18.2**	**10.5**	**14**	**6.14**
Iron, Ferrous, Fe+2	ppm		--	--	**7**	**7**	**7**	**3**	--	--	**1**	**1.5**	**4**	**5.5**

Notes:

1) MTCA Method B Cleanup Level used for cDCE (Method A not available).

2) Six month post-injection microbiological results analyzed with different method than baseline microbiological results. Cells/mL and cells/bead are not directly comparable, but can be considered to be within 1 to 2 orders of magnitude of each other.

3) Monitoring at downgradient well AS-31 was required as a condition of the Underground Injection Control authorization. Iron and nitrate were not to exceed the Water Quality Standards for Groundwaters of the State of Washington, chapter 173-200 WAC (GWQS) criterion of 0.3 mg/L and 10 mg/L, respectively.

Blue Shaded - Detected result exceeded screening level

U - Analyte not detected at or above Reporting Limit (RL) shown

J - Result value estimated

MTCA - Model Toxics Control Act

ug/L - micrograms per liter, mg/L - milligrams per liter, deg C - degrees Celsius, uS/cm - microsiemens per centimeter, mV - millivolts, NTU - Nephelometric Turbidity Units

Table 1. Pilot Test Groundwater Monitoring Results

Project No. 090030, Former Tux Shop Site, Seattle, WA

Analyte	Unit	MTCA Method A[1], Groundwater (ug/L)	Performance Monitoring Wells										Downgradient Well		
			HC-4 Water Table Interval					AC-4-50 Intermediate Interval					AS-31[3] Shallow Interval		
			Baseline	Baseline	Month 3	Month 6	Month 12	Baseline	Baseline	Month 3	Month 6	Month 12	Month 3	Month 6	Month 12
			4/1/2019	10/28/2022	4/27/2023	7/27/2023	1/9/2024	4/1/2019	10/27/2022	4/27/2023	7/27/2023	1/9/2024	4/27/2023	7/27/2023	1/9/2024
VOCs															
1,1,1,2-Tetrachloroethane	ug/L		< 0.2 U	< 0.2 U	< 0.2 U	< 0.40 U	< 0.4 U	< 0.2 U	< 2 U	< 2 U	< 10 U	< 20 U	--	--	--
1,1,1-Trichloroethane	ug/L	200	< 0.2 U	< 0.2 U	< 0.2 U	< 0.40 U	< 0.4 U	< 0.2 U	< 2 U	< 2 U	< 10 U	< 20 U	--	--	--
1,2-Dichloroethane (EDC)	ug/L	5	< 0.2 U	**0.29**	< 0.2 U	< 0.40 U	< 0.4 U	< 0.2 U	< 2 U	< 2 U	< 10 U	< 20 U	--	--	--
Chloroform	ug/L		< 0.2 U	< 0.2 U	< 0.2 U	< 0.40 U	< 0.4 U	< 0.2 U	< 2 U	< 2 U	< 10 U	< 20 U	--	--	--
cis-1,2-Dichloroethene (cDCE)	ug/L	16	**9.36**	**5.91**	**2.06**	**4.4**	**8.2**	**18.9**	**3.5**	**14.7**	**23**	**27**	--	--	--
Tetrachloroethene (PCE)	ug/L	5	**36.9**	**18.2**	**41**	**44**	**79**	**2230**	**422**	**1650**	**2100**	**4500**	--	--	--
Trichloroethene (TCE)	ug/L	5	**5.45**	**1**	**1.08**	**1.5**	**3.3**	**46**	**10.1**	**28.5**	**69**	**95**	--	--	--
Vinyl Chloride	ug/L	0.2	< 0.20 U	< 0.2 U	< 0.2 U	< 0.40 U	< 0.4 U	**0.21**	< 2 U	< 2 U	< 10 U	< 20 U	--	--	--
Total Chlorinated Ethenes	umol/L		0.41	0.18	0.28	0.32	0.59	17.4	2.7	10.3	13.4	28.1	--	--	--
Dissolved Gases															
Ethane	ug/L		< 1.23 U	--	< 1.23 U	< 0.22 U	< 0.56 U	**5.35**	--	< 1.23 U	< 0.22 U	< 0.56 U	--	--	--
Ethene	ug/L		< 1.14 U	--	< 1.14 U	< 0.29 U	< 0.58 U	**9.69**	--	< 1.14 U	< 0.29 U	< 0.58 U	--	--	--
Methane	ug/L		**14.8**	--	**18.9**	< 0.55 U	**20**	**17.9**	--	**1.31**	< 0.55 U	**0.69**	--	--	--
Conventionals															
Alkalinity, Total	mg/L		**155**	--	--	--	--	**104**	--	--	--	--	--	--	--
Chloride	mg/L		**7.37**	--	**9.86**	**14**	**21**	**50.4**	--	**15.8**	**23**	**17**	--	--	--
Nitrate as Nitrogen	mg/L		< 0.1 U	--	< 0.1 UJ	< 0.050 U	< 0.025	< 0.1 U	--	< 0.1 UJ	**0.054**	< 0.025	**2.65**	**2.2**	**2.86**
Sulfate	mg/L		**36.4**	--	**15.2**	**25**	**17**	**183**	--	**61.8**	**71**	**96**	--	--	--
Total Organic Carbon	mg/L		**1.06**	--	**1.26**	**1.1**	**1.8**	**1.52**	--	**1.32**	**1.1**	**1**	--	--	--
Metals, dissolved															
Calcium	ug/L		**17300**	--	**19300**	**22000**	**23000**	**12500**	--	**23200**	**25000**	**26000**	--	--	--
Iron	ug/L		**317**	--	< 360 U	**140**	**740**	**157**	--	< 360 U	< 56 U	< 56 U	< 182 U	**75**	< 56 U
Magnesium	ug/L		**19400**	--	**22500**	**25000**	**23000**	**13000**	--	**22800**	**26000**	**26000**	--	--	--
Manganese	ug/L		**121**	--	**12.1**	**79**	**140**	**26.1**	--	**91.5**	**55**	**93**	--	--	--
Microbiological															
Dehalococcoides (DHC)[2]	cells/bead		< 25 U	--	--	--	--	--	--	--	--	--	--	--	--
	cells/mL		--	--	--	< 0.500 U	--	--	--	--	**9.30**	--	--	--	--
Field Parameters															
Temperature	deg C		**14.4**	**17.38**	**14.25**	**17.5**	**14.44**	**16.6**	**17.13**	**17.16**	**19.2**	**15.17**	**15.23**	**16.44**	**15.04**
Specific Conductance	uS/cm		**373**	**455.83**	**287.85**	**328.1**	**253.35**	**619**	**440.61**	**323.34**	**334.4**	**269.98**	**314.96**	**249.09**	**245.40**
Dissolved Oxygen	mg/L		**0.35**	**7.42**	**0.86**	**4.91**	**0.24**	**0.24**	**0.32**	**0.19**	**0.27**	**0.35**	**5.90**	**5.13**	**5.21**
pH	pH units		**6.71**	**6.91**	**6.73**	**6.5**	**6.87**	**8.16**	**8.13**	**7.63**	**7.5**	**8**	**6.17**	**7.01**	**6.89**
Oxidation Reduction Potential	mV		**16.9**	**38.5**	**103.3**	**63.5**	**-50.9**	**100.9**	**-2.5**	**-31.8**	**77.2**	**167.6**	**208.1**	**246.5**	**115.9**
Turbidity	NTU		**2.85**	**289.3**	**3.22**	**1.77**	**2.1**	**55.7**	**3.48**	**2.86**	**4.6**	**0.93**	**5.60**	**7.14**	**0.80**
Iron, Ferrous, Fe+2	ppm		--	--	**0.5**	< 0 U	**1**	--	--	**0.5**	< 0 U	< 0 U	--	--	--

Table 2. Operational Monitoring

DRAFT

Project No. 090030, Former Tux Shop, Seattle, WA

Injection Well	Date	Time	Injection Rate (gpm)	Injection Pressure[1] (psig)	Cumulative Injected Volume (gal)
IW-1	1/30/2023	10:42	1	0	10
		11:40	2.2	0	125
		13:48	1.9	10	300
		14:50	1.9	5	420
		15:50	2.2	5	550
		16:50	2.1	5	675
		17:20	2.5	5	750
	1/31/2023	8:30	10	10	800
		9:50	2.5	5	1000
		10:50	1.4	5	1085
		11:50	1.7	5	1185
		12:50	1.7	5	1285
		13:50	2.3	5	1425
		14:50	2.4	20*	1570
		15:50	1.5	15*	1660
		16:30	2.25	15*	1750

Notes:

1) Pressure not constant during injections. Injection pressure is approximately 0 psi during gravity drainage.

* Injection pressure increased as a result of increased (x2) reagent in batch being injected

Table 3. Breakthrough Monitoring

DRAFT

Project No. 090030, Former Tux Shop, Seattle, WA

Injection Well	Monitoring Well	Date	Time	Water Level (ft bTOC)	Specific Conductance (µS/cm)	Observations
IW-1	AS-35	1/30/2023	8:58	16.72	--	Baseline, pre-injection
	AS-35	1/30/2023	10:53	16.09	604.71	
	AS-35	1/30/2023	11:25	10.07	601.81	No Odor, No Color
	AS-35	1/30/2023	11:59	9.58	600.04	
	AS-35	1/30/2023	13:45	4.5	645.02	Pump on
	AS-35	1/30/2023	14:28	7.69	634.15	Pump on
	AS-35	1/30/2023	14:55	8.85	641.65	Pump off
	AS-35	1/30/2023	15:40	11.58	628.94	Pump off
	AS-35	1/30/2023	16:24	6.05	776.7	Pump off. No Odor, No Color
	AS-35	1/30/2023	17:00	7.25	604.53	Pump off. No Odor, No Color
	AS-35	1/31/2023	8:22	15.96	--	Prior to start of injections on Day 2
	AS-35	1/31/2023	8:53	12.25	449.89	Pump off. No Odor, No Color
	AS-35	1/31/2023	9:27	9.5	415.65	Pump on. No Odor, No Color
	AS-35	1/31/2023	9:55	8.27	399.48	Pump off. No Odor, No Color
	AS-35	1/31/2023	10:30	4.15	408.32	Pump on. No Odor, No Color
	AS-35	1/31/2023	11:05	8.89	371.67	Pump off. No Odor, No Color
	AS-35	1/31/2023	11:50	7.65	382.04	Pump off. No Odor, No Color
	AS-35	1/31/2023	12:28	9.14	900.53	Pump off. No Odor, No Color
	AS-35	1/31/2023	13:10	6.29	395.41	Pump off. No Odor, No Color
	AS-35	1/31/2023	13:46	5.52	404.49	Pump off. No Odor, No Color
	AS-35	1/31/2023	14:27	7.1	414.6	Pump off. No Odor, No Color
	AS-35	1/31/2023	15:10	6.22	424.33	Pump off. No Odor, No Color
	AS-35	1/31/2023	15:34	6.03	--	Pump off.
	AS-35	1/31/2023	15:44	5.55	440.37	Pump off. No Odor, No Color
	AS-35	1/31/2023	16:15	5.8	459.26	Pump off. No Odor, No Color
	AC-4-50	1/30/2023	9:03	17.21	--	Baseline, pre-injection
	AC-4-50	1/30/2023	10:57	--	426.24	
	AC-4-50	1/30/2023	11:33	--	414.92	No Odor, No Color
	AC-4-50	1/30/2023	12:03	16.9	421.7	No Odor, No Color
	AC-4-50	1/30/2023	13:55	--	412.54	No Odor, No Color
	AC-4-50	1/30/2023	14:33	--	915.58	Pump on
	AC-4-50	1/30/2023	15:02	--	424.41	Pump off
	AC-4-50	1/30/2023	15:52	--	420.99	No Odor, No Color
IW-1	AC-4-50	1/30/2023	16:32	--	424.75	
	AC-4-50	1/30/2023	17:04	--	433.67	Pump off. No Odor, No Color
	AC-4-50	1/31/2023	8:25	17.16	--	Prior to start of injections on Day 2
	AC-4-50	1/31/2023	9:03	--	390.49	
	AC-4-50	1/31/2023	9:33	--	361.5	
	AC-4-50	1/31/2023	10:02	--	364.26	
	AC-4-50	1/31/2023	10:35	--	367.51	
	AC-4-50	1/31/2023	11:10	--	364.12	
	AC-4-50	1/31/2023	11:53	--	366.29	
	AC-4-50	1/31/2023	12:35	--	370.55	
	AC-4-50	1/31/2023	13:15	--	362.05	
	AC-4-50	1/31/2023	13:50	--	369.71	
	AC-4-50	1/31/2023	14:32	--	371.58	
	AC-4-50	1/31/2023	15:15	--	374.75	
	AC-4-50	1/31/2023	15:33	15.88	--	
	AC-4-50	1/31/2023	15:48	--	366.9	
	AC-4-50	1/31/2023	16:21	--	374.74	
	AS-31	1/30/2023	9:06	16.29	--	Baseline, pre-injection
	AS-31	1/30/2023	15:29	15.63	--	
	AS-31	1/31/2023	8:33	16.04	--	Prior to start of injections on Day 2
	AS-31	1/31/2023	15:31	14.98	--	
	HC-4	1/30/2023	8:52	15.73	--	Baseline, pre-injection
	HC-4	1/30/2023	11:01	--	391.22	
	HC-4	1/30/2023	11:38	--	395.58	No Odor, No Color
	HC-4	1/30/2023	12:09	12.73	398.1	No Odor, No Color
	HC-4	1/30/2023	13:59	--	396.3	No Odor, No Color
	HC-4	1/30/2023	14:39	--	399.57	Pump on, No Odor, No Color
	HC-4	1/30/2023	15:06	--	404.28	Pump off. No Odor, No Color
	HC-4	1/30/2023	15:55	--	420.99	
	HC-4	1/30/2023	16:34	--	413.85	Pump off. No Odor, No Color
	HC-4	1/30/2023	17:09	--	407.6	Pump off. No Odor, No Color
	HC-4	1/31/2023	8:36	13.62	--	Prior to start of injections on Day 2
	HC-4	1/31/2023	9:07	--	333.05	
	HC-4	1/31/2023	9:37	--	332.4	
IW-1	HC-4	1/31/2023	10:10	--	328.44	
	HC-4	1/31/2023	10:40	--	331.05	
	HC-4	1/31/2023	11:14	--	334.66	
	HC-4	1/31/2023	11:58	--	333.9	
	HC-4	1/31/2023	12:41	--	338.35	
	HC-4	1/31/2023	13:20	--	342.4	
	HC-4	1/31/2023	13:56	--	346.25	
	HC-4	1/31/2023	14:37	--	351.58	
	HC-4	1/31/2023	15:19	--	358.24	
	HC-4	1/31/2023	15:29	10.37	--	
	HC-4	1/31/2023	15:53	--	356.08	
	HC-4	1/31/2023	16:26	--	361.9	
	AS-39	1/30/2023	9:10	15.01	--	Baseline, pre-injection
	AS-39	1/30/2023	15:29	15.63	--	Pump off. No Odor, No Color
	AS-39	1/31/2023	8:38	14.24	--	Prior to start of injections on Day 2
	AS-39	1/31/2023	15:28	11.38	--	

-- = Not measured

Table 4. Reagent Dosing

Project No. 090030, Former Tux Shop, Seattle, WA

Sample Name	Date	TOC (mg/L)	Total Iron (µg/L)	Dissolved Iron (µg/L)
Batch-1	1/30/2023	3,112	20,900	--
Batch-2	1/30/2023	2,156	33,700	--
Batch-3	1/30/2023	2,913	182,000	--
Batch-4	1/30/2023	1,913	221,000	--
Batch-5	1/31/2023	1,058	28,500	--
Batch-6	1/31/2023	2,160	120,000	--
Batch-7	1/31/2023	3,233	159,000	--
AS-35	1/31/2023	435.4	--	8,180

Notes:

-- - Sample was not analyzed for this analyte

Table 5. Historical Downgradient Groundwater Trends

DRAFT

Project No. 090030, Former Tux Shop Site, Seattle, WA

Analyte	Unit	MTCA Method A[1], Groundwater (ug/L)	AC-4-50 Screened 40 - 50 ft bgs					HC-4 Screened 15 - 25 ft bgs		
			04/01/2019	2/24/2020	6/16/2020	9/30/2021	10/27/2022	04/01/2019	2/24/2020	10/28/2022
Volatile Organic Compounds (VOCs)										
1,1,1,2-Tetrachloroethane	ug/L		< 0.2 U	< 0.4 U	< 1 U	< 1 U	< 2 U	< 0.2 U	< 0.2 U	< 0.2 U
1,1,1-Trichloroethane	ug/L	200	< 0.2 U	< 0.4 U	< 1 U	< 1 U	< 2 U	< 0.2 U	< 0.2 U	< 0.2 U
1,2-Dichloroethane (EDC)	ug/L	5	< 0.2 U	< 0.4 U	< 1 U	< 1 U	< 2 U	< 0.2 U	< 0.2 U	**0.29**
Chloroform	ug/L		< 0.2 U	< 0.4 U	< 1 U	< 1 U	< 2 U	< 0.2 U	< 0.2 U	< 0.2 U
cis-1,2-Dichloroethene (cDCE)	ug/L	16	**18.9**	**0.77**	**1.45**	**5.10**	**3.5**	**9.36**	**0.37**	**5.91**
Tetrachloroethene (PCE)	ug/L	5	**2230**	**93.1**	**153**	**903**	**422**	**36.9**	**17.2**	**18.2**
Trichloroethene (TCE)	ug/L	5	**46**	**2.70**	**4.02**	**15.1**	**10.1**	**5.45**	**0.71**	**1**
Vinyl Chloride	ug/L	0.2	**0.21**	< 0.4 U	< 1 U	< 1 U	< 2 U	< 0.20 U	< 0.2 U	< 0.2 U
Field Parameters										
Temperature	deg C		**16.6**	**14.3**	**17.4**	**16.7**	**17.13**	**14.4**	**13.4**	**17.38**
Specific Conductance	uS/cm		**619**	**420.6**	**402.3**	**411.7**	**440.61**	**373**	**331**	**455.83**
Dissolved Oxygen	mg/L		**0.24**	**0.23**	**1.63**	**1.78**	**0.32**	**0.35**	**0.54**	**7.42**
pH	pH units		**8.16**	**7.89**	**7.52**	**7.28**	**8.13**	**6.71**	**6.57**	**6.91**
Oxidation Reduction Potential	mV		**100.9**	**88.7**	**79.9**	**87.6**	**-2.5**	**16.9**	**76.8**	**38.5**
Turbidity	NTU		**55.7**	**19.8**	**8.29**	**5.05**	**3.48**	**2.85**	**2.21**	**289.3**

Notes:

Bold - Analyte Detected

Blue Shaded - Detected result exceeded screening level

1) MTCA Method B Cleanup Level used for cDCE (Method A not available)

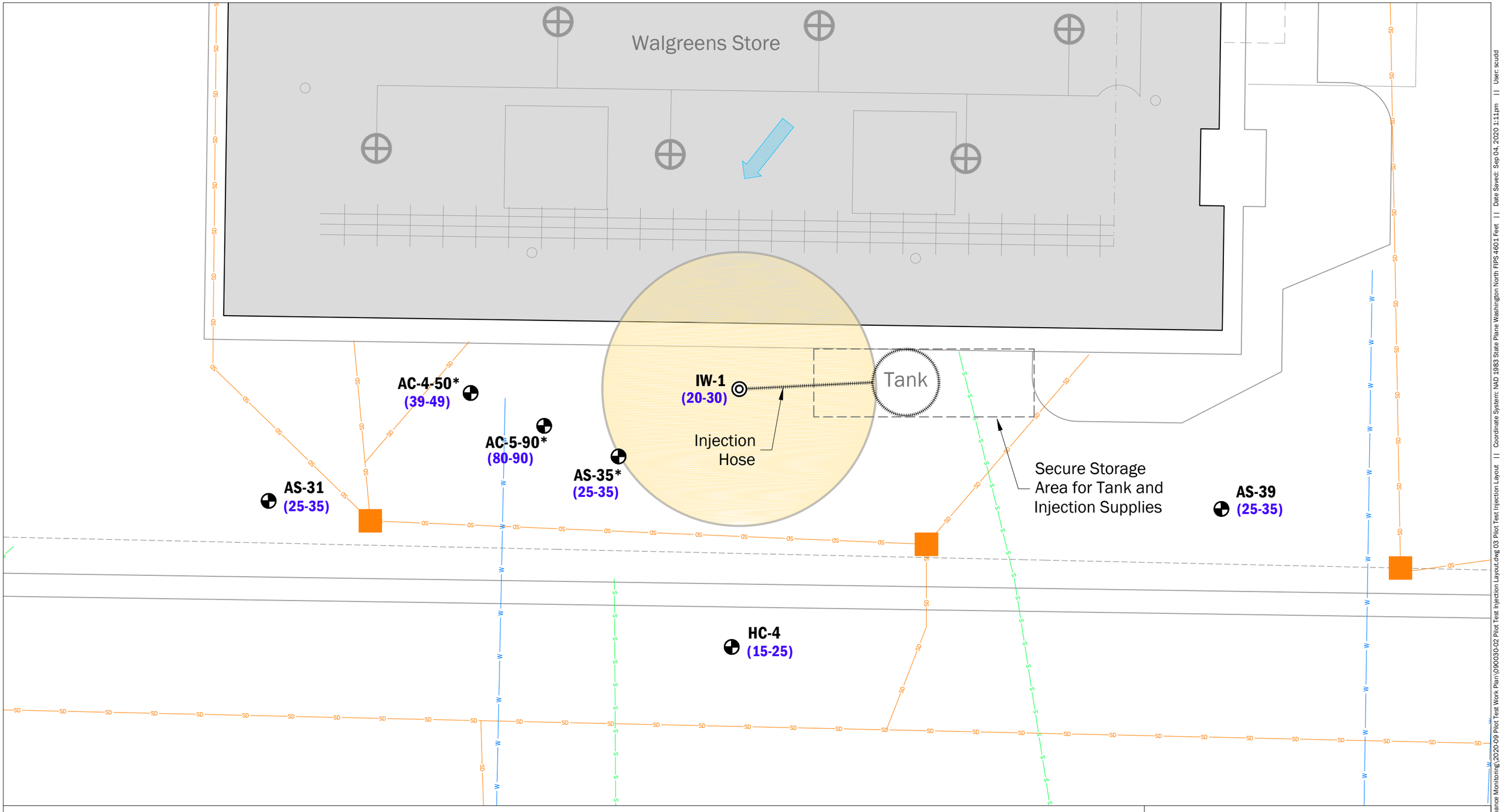
U - Analyte not detected at or above Reporting Limit (RL) shown

J - Result value estimated

MTCA - Model Toxics Control Act

ug/L - micrograms per liter, mg/L - milligrams per liter, deg C - degrees Celsius, uS/cm - microsiemens per centimeter, mV - millivolts, NTU - Nephelometric Turbidity Units

FIGURES



AS-31 Monitoring Well or Air Sparging Well Location

IW-1 Injection Well Location

(15-25) (Well Screen Interval Depth in Feet)

Inferred Groundwater Flow Direction

W Existing Water Line

SD Existing Storm Drain Pipe

S Existing Sanitary Sewer Pipe

12 Foot Radius of Influence around Injection Well IW-1

N

0 8 16 Feet

Pilot Test Injection Layout

Pilot Test Technical Memorandum
Former Tux Shop
Seattle, Washington

Aspect Consulting	Aug-2023	BY: DWU/SCC	FIGURE NO. 1
	PROJECT NO. 090030	REV BY: SCC	

CAD Path: Q:\Former Tux Shop\090030 Performance Monitoring\2020-09 Pilot Test Work Plan\090030-02 Pilot Test Injection Layout.dwg 03 Pilot Test Injection Layout || Coordinate System: NAD 1983 State Plane Washington North FIPS 4601 Feet || Date Saved: Sep 04, 2020 1:11pm || User: scudd

Figure 2
Post-Injection Performance Monitoring Trends
Pilot Test Tech Memo
Project No. 090030, Former Tux Shop Site, Seattle, WA

Aspect Consulting
2/6/2024
V:\090030 Former Tux Shop\Deliverables\Feasibility Study Report\Draft\Appendices\Appendix A- Pilot Test Memo\Figures\Figure 2 - Performance Monitoring

ATTACHMENT A

Injection Reagent Specifications

SAFETY DATA SHEET
EHC® Liquid Reagent Mix

SDS # : EHCLM-C
Revision date: 2016-02-03
Format: NA
Version 1.01

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name EHC® Liquid Reagent Mix

Other means of identification

Alternate Commercial Name EHC®-L Mix; EHC® Liquid - Solid Component

Recommended use of the chemical and restrictions on use

Recommended Use: Bioremediation product for the remediation of contaminated soil and groundwater

Restrictions on Use: Not for drinking water purification treatment.

Manufacturer/Supplier

PeroxyChem LLC
2005 Market Street
Suite 3200
Philadelphia, PA 19103
Phone: +1 267/ 422-2400 (General Information)
E-Mail: sdsinfo@peroxychem.com

Emergency telephone number

For leak, fire, spill or accident emergencies, call:
1 800 / 424 9300 (CHEMTREC - U.S.A.)
1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)
1 303/ 389-1409 (Medical - U.S. - Call Collect)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Combustible dust

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

Warning

Hazard Statements
May form combustible dust concentrations in air

Precautionary Statements - Prevention
Keep away from all ignition sources including heat,sparks and flame.
Keep container closed and grounded.
Prevent dust accumulations to minimize explosion hazard.

Hazards not otherwise classified (HNOC)
No hazards not otherwise classified were identified.

Other Information

CONTAINMENT HAZARD: Any vessel that contains wet EHC must be vented due to potential pressure build up from fermentation gases

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS-No	Weight %
Iron salt	Proprietary	92-97
amino acid	Proprietary	3-7

Occupational exposure limits, if available, are listed in section 8

4. FIRST AID MEASURES

Eye Contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids intermittently. Consult a physician.

Skin Contact Wash off with warm water and soap. Get medical attention if irritation develops and persists.

Inhalation Remove from exposure, lie down. If symptoms persist, call a physician.

Ingestion If swallowed, do not induce vomiting - seek medical advice.

Protection of first-aiders No information available.

Most important symptoms and effects, both acute and delayed Gastrointestinal effects. Inhalation of dust in high concentration may cause irritation of respiratory system.

Indication of immediate medical attention and special treatment needed, if necessary Treat symptomatically

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific Hazards Arising from the Chemical Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Hazardous Combustion Products Carbon oxides (COx).

Explosion data
Sensitivity to Mechanical Impact Not sensitive.
Sensitivity to Static Discharge Not sensitive.

Protective equipment and precautions for firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions For personal protection see Section 8. Avoid dispersal of dust in the air (i.e., cleaning dust surfaces with compressed air.).

Other Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Use only non-sparking tools.

Environmental Precautions No special environmental precautions required.

Methods for Containment Sweep or vacuum up spillage and return to container. Avoid wetting dust and clean up as a dry powder with appropriate PPE for handling dry dusty materials; store in containers that keep material dry, segregated but allow to vent. Avoid dispersal of dust in the air (i.e., cleaning dust surfaces with compressed air.). Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Material may be recycled when contamination is not a problem.

Methods for cleaning up Following product recovery, flush area with water.

7. HANDLING AND STORAGE

Handling Avoid contact with skin, eyes and clothing. Do not ingest. Ensure adequate ventilation. Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powdered material can build static electricity when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmosphere.

Storage Keep tightly closed in a dry and cool place. Keep away from open flames, hot surfaces and sources of ignition.

Incompatible products . Strong oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines Ingredients with workplace control parameters.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
Iron salt	TWA: 1 mg/m^3	-	-	-

Chemical name	British Columbia	Quebec	Ontario TWAEV	Alberta
Iron salt	TWA: 1 mg/m^3	TWA: 1.0 mg/m^3	TWA: 1 mg/m^3	TWA: 1 mg/m^3

Appropriate engineering controls

Engineering measures Ensure adequate ventilation, especially in confined areas. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in the handling of this product contain explosion relief vents or an explosion suppression or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks.

Individual protection measures, such as personal protective equipment

Eye/Face Protection	Safety glasses with side-shields.
Skin and Body Protection	Wear suitable protective clothing.
Hand Protection	Protective gloves
Respiratory Protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Dry powder
Physical State	Solid
Color	light gray
Odor	Slight
Odor threshold	No information available
pH	4.5 (1% solution)
Melting point/freezing point	100 °C
Boiling Point/Range	No information available
Flash point	Not applicable
Evaporation Rate	No information available
Flammability (solid, gas)	May be combustible at high temperatures
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	No information available
Vapor density	No information available
Density	No information available
Specific gravity	No information available
Water solubility	Fairly soluble
Solubility in other solvents	
Partition coefficient	No information available
Autoignition temperature	
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	No information available
Explosive properties	Low level dust explosion hazard
K_{st}	76 bar-m/sec: St1 Class dust
Oxidizing properties	No information available
Molecular weight	No information available
Bulk density	Not applicable

10. STABILITY AND REACTIVITY

None under normal use conditions

Chemical Stability	Stable under recommended storage conditions. Decomposes on heating.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	To avoid thermal decomposition, do not overheat.
Incompatible materials	Strong oxidizing agents.
Hazardous Decomposition Products	Carbon oxides (COx).

11. TOXICOLOGICAL INFORMATION

Product Information

LD50 Oral	Iron Salt: 2100 mg/kg (guinea pig) Cysteine: 1890 mg/kg (rat)
LD50 Dermal	No information available
LC50 Inhalation	No information available

Sensitization Not expected to be sensitizing based on the components.

Information on toxicological effects

Symptoms Dust is irritating eyes, nose, throat, and lungs.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity Contains no ingredient listed as a carcinogen.

Mutagenicity This product is not recognized as mutagenic by Research Agencies

Reproductive toxicity This product does not contain any known or suspected reproductive hazards.

STOT - single exposure	No information available.
STOT - repeated exposure	No information available.

Aspiration hazard Not applicable.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects Not expected to have significant environmental effects

Persistence and degradability No information available.

Bioaccumulation No information available.

Mobility No information available.

Other Adverse Effects None known.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods It must undergo special treatment, e.g. at suitable disposal site, to comply with local regulations.

Contaminated Packaging Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

DOT NOT REGULATED

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic health hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA/EPCRA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

International Inventories

Component	TSCA (United States)	DSL (Canada)	EINECS/ELINCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)	NZIoC (New Zealand)
Iron salt (92-97)	X	X	X			X	X	X	X
amino acid (3-7)	X	X	X	X	X	X	X	X	X

CANADA

WHMIS Hazard Class Non-controlled

16. OTHER INFORMATION

NFPA	**Health Hazards** 1	**Flammability** 1	**Stability** 0	**Special Hazards** -
HMIS	**Health Hazards** 1	**Flammability** 1	**Physical hazard** 0	**Special precautions** -

NFPA/HMIS Ratings Legend Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0

Uniform Fire Code References COMBUSTIBLE DUST/POWDER
Refer to NFPA 654, *Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids* , for safe handling.

Revision date: 2016-02-03
Revision note (M)SDS sections updated 9
Issuing Date: 2016-01-26

Disclaimer

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Prepared By:

PeroxyChem

End of Safety Data Sheet

SAFETY DATA SHEET
ELS™ Microemulsion

SDS # : ELS-C
Revision date: 2015-07-22
Format: NA
Version 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name ELS™ Microemulsion

Other means of identification

Synonyms Lecithin: L-α-Phosphatidylcholine, Azolectin; Sodium Benzoate: Benzoic acid sodium salt; Sorbitan monooleate, ethoxylated: Polyoxyethylenesorbitan monooleate

Recommended use of the chemical and restrictions on use

Recommended Use: Bioremediation product for the remediation of contaminated soil and groundwater

Restrictions on Use: Not for drinking water purification treatment.

Manufacturer/Supplier

PeroxyChem LLC
2005 Market Street
Suite 3200
Philadelphia, PA 19103
Phone: +1 267/ 422-2400 (General Information)
E-Mail: sdsinfo@peroxychem.com

Emergency telephone number

For leak, fire, spill or accident emergencies, call:
1 800 / 424 9300 (CHEMTREC - U.S.A.)
1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)
1 303/ 389-1409 (Medical - U.S. - Call Collect)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This material is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

Hazards not otherwise classified (HNOC)
No hazards not otherwise classified were identified.

Other Information

CONTAINMENT HAZARD: Any vessel that contains wet ELS must be vented due to potential pressure build up from fermentation gases

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS-No	Weight %
Sorbitan monooleate, ethoxylated	9005-65-6	2-4
Lecithin	8002-43-5	20-30
Water	7732-18-5	60-80
Sodium Benzoate	532-32-1	2-4

Synonyms are provided in Section 1.

4. FIRST AID MEASURES

Eye Contact In case of contact, immediately flush eyes with plenty of water. Get medical attention if irritation develops and persists.

Skin Contact Wash skin with soap and water. Get medical attention if irritation develops and persists.

Inhalation Move to fresh air in case of accidental inhalation of vapors. Consult a physician if necessary.

Ingestion Drink 1 or 2 glasses of water. Get medical attention if symptoms occur. If swallowed, do not induce vomiting - seek medical advice. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed None known

Indication of immediate medical attention and special treatment needed, if necessary Treat symptomatically

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Carbon dioxide (CO_2). Dry chemical. Dry powder.

Specific Hazards Arising from the Chemical . Combustible material: may burn but does not ignite readily

Explosion data
Sensitivity to Mechanical Impact Not sensitive.
Sensitivity to Static Discharge Not sensitive.

Protective equipment and precautions for firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions For personal protection see Section 8.

Other	For further clean-up instructions, call PeroxyChem Emergency Hotline number listed in Section 1 "Product and Company Identification" above.
Environmental Precautions	No special environmental precautions required.
Methods for Containment	Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
Methods for cleaning up	After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Handling	Handle in accordance with good industrial hygiene and safety practice.
Storage	Any vessel that contains wet ELS must be vented due to potential pressure build up from fermentation gases. Keep away from open flames, hot surfaces and sources of ignition.
Incompatible products	Water, Alkalis

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering measures	None under normal use conditions.

Individual protection measures, such as personal protective equipment

Eye/Face Protection	Safety glasses with side-shields.
Skin and Body Protection	Wear suitable protective clothing.
Hand Protection	Protective gloves
Respiratory Protection	Use only with adequate ventilation.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Light amber emulsion
Physical State	Liquid
Color	No information available
Odor	odorless
Odor threshold	No information available
pH	6.5 - 6.9
Melting point/freezing point	Not applicable No data available
Boiling Point/Range	No information available
Flash point	> 200 °F
Evaporation Rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	No information available

Vapor density	No information available
Density	No information available
Specific gravity	No information available
Water solubility	Dispersible in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	No information available
Explosive properties	Not explosive
Oxidizing properties	Non-oxidizing
Molecular weight	No information available
Bulk density	Not applicable

10. STABILITY AND REACTIVITY

Reactivity None under normal use conditions

Chemical Stability Stable under recommended storage conditions.

Possibility of Hazardous Reactions None under normal processing.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid Temperatures above 71°C

Incompatible materials Water, Alkalis.

Hazardous Decomposition Products None under normal use.

11. TOXICOLOGICAL INFORMATION

Product Information

Ingredients in this product have been designated as GRAS (Generally Recognized as Safe) by govenment agencies.

LD50 Oral	There are no data available for this product
LD50 Dermal	There are no data available for this product
LC50 Inhalation	No information available

Sensitization Not expected to be sensitizing based on the components.

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity Contains no ingredient listed as a carcinogen.

Mutagenicity No information available

Reproductive toxicity No information available.

STOT - single exposure	No information available.
STOT - repeated exposure	No information available.

Aspiration hazard No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants

Persistence and degradability Expected to biodegrade, based on component information.

Bioaccumulation Bioaccumulation is unlikely.

Mobility Will likely be mobile in the environment due to its water solubility but will likely degrade over time.

Other Adverse Effects None known.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods Can be landfilled or incinerated, when in compliance with local regulations.

Contaminated Packaging Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

DOT NOT REGULATED

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic health hazard	NO
Fire hazard	NO
Sudden release of pressure hazard	NO
Reactive Hazard	NO

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

International Inventories

Component	TSCA (United States)	DSL (Canada)	EINECS/ELINCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)	NZIoC (New Zealand)
Sorbitan monooleate, ethoxylated 9005-65-6 (2-4)	X	X	X	X	X	X	X	X	X
Lecithin 8002-43-5 (20-30)	X	X	X		X	X	X	X	X
Sodium Benzoate 532-32-1 (2-4)	X	X	X	X	X	X	X	X	X

Mexico - Grade Minimum risk, Grade 0

CANADA

WHMIS Hazard Class Non-controlled

16. OTHER INFORMATION

NFPA	**Health Hazards** 1	**Flammability** 0	**Stability** 0	**Special Hazards** -
HMIS	**Health Hazards** 1	**Flammability** 0	**Physical hazard** 0	**Special precautions** -

NFPA/HMIS Ratings Legend Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0

Revision date: 2015-07-22
Revision note Initial Release
Issuing Date: 2015-07-14

Disclaimer

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Prepared By:

PeroxyChem

End of Safety Data Sheet

Mixing Guidelines for EHC® Liquid Reagent

EHC® Liquid reagent is a cold-water soluble formulation specially designed to be emplaced via existing wells and/or hydraulic injection networks for the treatment of a wide range of groundwater contaminants. EHC Liquid is delivered as two components that are mixed together on site. The first component, ELS™ Microemulsion is a 25% liquid emulsion of food-grade lecithin, provided in 55-USG drums containing 50 USG. The second component, EHC Liquid Mix is a food-grade powdered organo-iron compound. The two components are proportioned such that one bag of the EHC Liquid Mix is required for every 50 USG of ELS Microemulsion.

This document provides guidelines for the preparation of diluted EHC Liquid for injection.

Packaging

Part 1: ELS Microemulsion delivered in 55-USG drums, filled with 50 USG / 420 lbs per drum (190 L / 190 Kg)

Part 2: EHC Liquid Mix, water soluble powder with the organo-iron compound in 24.5 lb bags (11.1 Kg)

EHC Liquid Injection Volumes and Dilutions

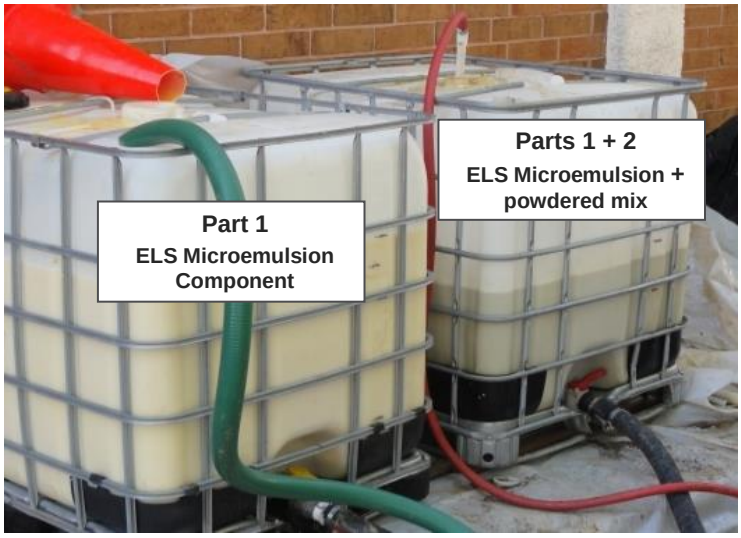
Depending on the application method, between 10% and 100% of the effective porosity is normally targeted during EHC Liquid injection, with a higher percent pore fill normally targeted during low-flow injections into wells and injection networks. This is in contrast to applications via direct push technology where normally around 10 to 15% of effective porosity is targeted. To facilitate the desired injection volume, the components are diluted in the field. The table below shows examples of mixing ratios for a 55-USG drum of ELS Microemulsion in United States customary units (USC) and metric units.

Dilution (USC):	**3-fold**	**5-fold**	**10-fold**	**25-fold**
Volume of Part 1 - ELS Microemulsion per drum (USG)	50			
Mass of Part 2 - EHC Liquid Mix component (lbs)	24.5			
Volume water (USG)	100	200	450	1200
Resulting total volume (USG)	150	250	500	1250
Resulting EHC Liquid concentration (wt%)	10.5%	6.3%	3.2%	1.3%
Dilution (Metric):	**3-fold**	**5-fold**	**10-fold**	**25-fold**
Volume of Part 1 - ELS Microemulsion per drum (L)	190			
Mass of Part 2 - EHC Liquid Mix component (Kg)	11.1			
Volume water (L)	380	760	1710	4560
Resulting total volume (L)	570	950	1900	4750
Resulting EHC Liquid concentration (wt%)	10.5%	6.3%	3.2%	1.3%

General Mixing Procedure

Proportioning can be varied to accommodate mixing tank size. The general mixing procedure is:

1. Fill mixing tank with required amount of dilution water per the treatment design.
2. Transfer Part 1 – ELS Microemulsion to mixing tank. Note that this material is pre-emulsified, has a viscosity of about 3,000 – 4,000 centipoise and will require an appropriate pump for transfer from the drum. Alternatively, the emulsion may be transferred in pails by hand. A paddle mixer and/or recirculation pump is sufficient for mixing.
3. Add Part 2 – EHC Liquid Mix organo-iron powder and continue mixing. Ensure no solids remain on bottom of tank.
4. If other additives are used (e.g., pH buffers), they may be added at this time.
5. Mixing time depends on equipment used (typically 5-10 min). Continue to mix until uniform.



Health and Safety

EHC Liquid is safe when handled properly in accordance with instructions for use and the SDS's. The SDS's are posted on our web site at: http://www.peroxychem.com/markets/environment. When working with EHC Liquid the use of standard personal protective equipment, including safety glasses, protective clothing and gloves are recommended. Additional safety equipment may be required for mechanical and site operations.

Please contact PeroxyChem for additional guidance.

Environmental Solutions

EHC® Liquid

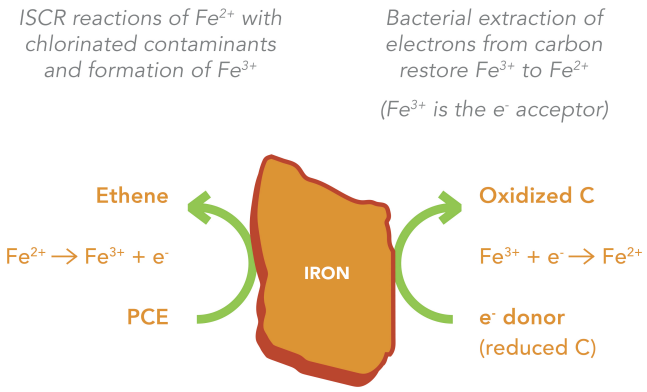
Product Sheet

A Dynamic Solution Promoting Abiotic and Biotic Processes

EHC® Liquid Reagent is an *in situ* chemical reduction (ISCR) product for the treatment of impacted groundwater. It is a cold-water soluble formulation that is specially designed for injection via existing wells or hydraulic injection networks for the treatment of a wide range of groundwater contaminants. EHC Liquid creates strong reducing conditions and promotes both biotic and abiotic dechlorination reactions. EHC Liquid is composed of two parts: EHC Liquid Reagent Mix, an organo-iron compound, and ELS™ Microemulsion, which are easily combined and diluted for injection.

The benefits of EHC Liquid

- Stimulation of biotic reductive dechlorination through the generation of strong reducing conditions
- Structurally bound nutrients phosphorous and nitrogen released to bacteria via the fermentation of the lecithin molecule
- Direct chemical reduction from redox reaction of organo-iron compound
- Surface dechlorination by magnetite and green rust precipitates from iron corrosion
- Replenished reactive iron surface provided by the cycling of iron from ferrous to ferric state in the presence of a carbon source - anticipated longevity of 2-3 yrs. depending on site conditions
- Easy to handle and cold water soluble



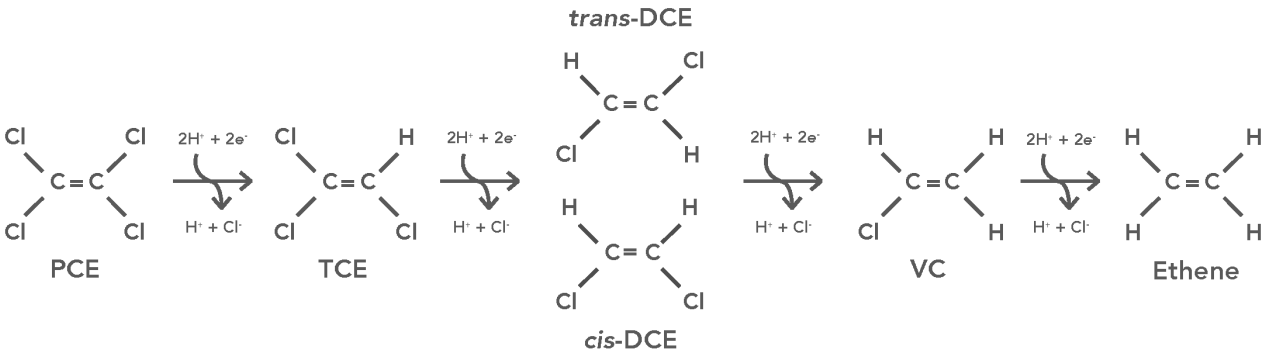
Contaminants treated

- Chlorinated solvents such as PCE, TCE, TCA, DCA, CCl_4, chloroform and methylene chloride
- Chlorobenzenes including di- and tri-chlorobenzene
- Energetic compounds such as TNT, DNT, HMX, RDX, nitroglycerine and perchlorate
- Most pesticides including DDT, DDE, dieldrin, 2,4-D and 2,4,5-T
- Chlorofluorocarbons
- Nitrate compounds
- Chromium

The sound science of EHC Liquid

Organic carbon addition in the saturated zone is well-known to promote conventional enzymatic reductive dechlorination reactions. This happens because the carbon in the subsurface will support the growth of indigenous microbes in the groundwater environment. As bacteria feed on the soluble carbon, they consume dissolved oxygen and other electron acceptors, thereby reducing the redox potential in groundwater. As bacteria ferment the ELS microemulsion, they

release a variety of volatile fatty acids (VFAs) such as lactic, propionic and butyric, which diffuse from the site of fermentation into the groundwater plume and serve as electron donors for other bacteria, including dehalogenators. The biogenolysis/hydrogenolysis reaction for the reduction of PCE is shown below.



Lecithin itself is composed primarily of phospholipids, which have both hydrophilic and hydrophobic regions in their molecular structure. As a result, ELS emulsions tend to be stable emulsions, expectedly more stable than with only hydrophobic compounds. Further, phospholipids support remediation by providing essential nutrients (carbon, nitrogen, phosphorus) to bacteria.

The soluble organo-iron compound is comprised of a ferrous iron (Fe^{+2}) that can form a variety of iron minerals (e.g. magnetite, pyrite) that are capable of reducing contaminants as they oxidize further to the ferric (Fe^{+3}) state via one electron transfer. The ferric ion can be "recycled" back to ferrous as long as other electrons from supplied carbon and indigenous carbon are available.

EHC Liquid is primarily recommended for plume treatment. It can be used as a source treatment depending on site conditions.

Application methods

- Direct push injection
- Gravity feed through existing wells
- Low pressure injections
- Recirculation systems

For more information and detailed case studies, please visit our website.

Document 06-02-ESD-14

ATTACHMENT B

Laboratory Reports

Analytical Resources, LLC
Analytical Chemists and Consultants

27 February 2023

Delia Massey
Aspect Consulting, LLC.
710 2nd Avenue, Suite 550
Seattle, WA 98104

RE: Former Tux Shop (090030)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
23B0015	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Shelly Fishel, Project Manager

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006-012

Chain of Custody Record & Laboratory Analysis Request

AR Assigned Number: 23B0015	Turn-around Requested: Standard	Date: 2/1/23	
AR Client Company: Aspect Consulting	Phone:	Page: 1 of 1	
Client Contact: Delia Massey, Baxter Call		No. of Coolers: 1	Cooler Temps: 3.2
Client Project Name: Former Tux Shop			
Client Project #: 090030	Samplers: Baxter Call		

Analytical Resources, LLC
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6202 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: Total organic carbon	Total Iron	Dissolved Iron						Notes/Comments
Batch-1-20230130	1/30/23	1020	~~W~~	2	X	X							
Batch-2-20230130	↓	1335	↓	↓	↓	↓							
Batch-3-20230130	↓	1540	↓	↓	↓	↓							
Batch-4-20230131	1/31/23	0845	↓	↓	↓	↓							
Batch-5-20230131	↓	0850	↓	↓	↓	↓							
Batch-6-20230131	↓	1040	↓	↓	↓	↓							
Batch-7-20230131	↓	1445	↓	↓	↓	↓							
AS-35-20230131	↓	1650	↓	↓	↓		X						Field filtered from bottle.

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) B Call	(Signature) Phillip Bates	(Signature)	(Signature)
	Printed Name: Baxter Call	Printed Name: Phillip Bates	Printed Name:	Printed Name:
	Company: Aspect	Company: AR	Company:	Company:
	Date & Time: 2/1/23 1000	Date & Time: 2/1/23 10:00	Date & Time:	Date & Time:

Limits of Liability: *Analytical Resources, LLC (AR) will perform all requested services in accordance with appropriate methodology following AR Standard Operating Procedures and the AR Quality Assurance Program. This program meets standards for the industry. The total liability of AR, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by AR release AR from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between AR and the Client.*

Sample Retention Policy: Unless specified by work order or contract, all water/soil samples submitted to AR will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hard copy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Batch-1-20230130	23B0015-01	Water	30-Jan-2023 10:20	01-Feb-2023 10:00
Batch-2-20230130	23B0015-02	Water	30-Jan-2023 13:35	01-Feb-2023 10:00
Batch-3-20230130	23B0015-03	Water	30-Jan-2023 15:40	01-Feb-2023 10:00
Batch-4-20230130	23B0015-04	Water	31-Jan-2023 08:45	01-Feb-2023 10:00
Batch-5-20230131	23B0015-05	Water	31-Jan-2023 08:50	01-Feb-2023 10:00
Batch-6-20230131	23B0015-06	Water	31-Jan-2023 10:40	01-Feb-2023 10:00
Batch-7-20230131	23B0015-07	Water	31-Jan-2023 14:45	01-Feb-2023 10:00
AS-35-20230131	23B0015-08	Water	31-Jan-2023 16:50	01-Feb-2023 10:00

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

Work Order Case Narrative

Client: Aspect Consulting, LLC.
Project: Former Tux Shop
Project Number: 090030
Work Order: 23B0015

Sample receipt

Sample(s) as listed on the preceding page were received 01-Feb-2023 10:00 under ARI work order 23B0015. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Total and Dissolved Metals - EPA Method 6020B

The sample(s) were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

Wet Chemistry

The sample(s) were prepared and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

TOC was detected in the method blank at the reporting limits. The sample concentrations are all greater than one hundred times the blank detection and is therefore insignificant. All samples which contain analyte have been flagged with a "B" qualifier.

The blank spike (BS/LCS) percent recoveries were within control limits.

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Aspect Project Name: former Tax Shop

COC No(s): _____ NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 23B0015 Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 3.2

Time 10:00 PIB 2/1

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 500208

Cooler Accepted by: PIB Date: 2/1/23 Time: 10:00

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?			YES NO
What kind of packing material was used?	Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____		
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA		_____

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: [signature] Date: 2/01/23 Time: 10:28 Labels checked by: TCS

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

WORK ORDER

23B0015

Samples will be discarded 90 days after submission of a final report unless other instructions are received

Client: Aspect Consulting, LLC. **Project Manager:** Shelly Fishel

Project: Former Tux Shop **Project Number:** 090030

Preservation Confirmation

Container ID	Container Type	pH
23B0015-01 A	Glass NM, Amber, 500 mL	>2 Foil
23B0015-01 B	HDPE NM, 250mL HNO3	<2 Pass
23B0015-02 A	Glass NM, Amber, 500 mL	>2 foil
23B0015-02 B	HDPE NM, 250mL HNO3	<2 Pass
23B0015-03 A	Glass NM, Amber, 500 mL	>2 foil
23B0015-03 B	HDPE NM, 250mL HNO3	<2 Pass
23B0015-04 A	Glass NM, Amber, 500 mL	>2 foil
23B0015-04 B	HDPE NM, 250mL HNO3	<2 Pass
23B0015-05 A	Glass NM, Amber, 500 mL	>2 foil
23B0015-05 B	HDPE NM, 500 mL, 1:1 HNO3	<2 Pass
23B0015-06 A	Glass NM, Amber, 500 mL	>2 foil
23B0015-06 B	HDPE NM, 250mL HNO3	<2 Pass
23B0015-07 A	Glass NM, Amber, 500 mL	>2 Foil
23B0015-07 B	HDPE NM, 250mL HNO3	<2 Pass
23B0015-08 A	Glass NM, Amber, 500 mL	>2 foil
23B0015-08 B	HDPE NM, 250mL HNO3 (FF)	<2 Pass

Preservation Confirmed By

02/01/23
Date

Reviewed By

Date

WORK ORDER

23B0015

Samples will be discarded 90 days after submission of a final report unless other instructions are received

Client: Aspect Consulting, LLC. Project Manager: Shelly Fishel

Project: Former Tux Shop Project Number: 090030

Preservation Confirmation

Container ID	Container Type	pH	
23B0015-01 A	Glass NM, Amber, 500 mL	>2 Fail	①
23B0015-01 B	HDPE NM, 250mL HNO3	<2 Pass	
23B0015-02 A	Glass NM, Amber, 500 mL	>2 Fail	①
23B0015-02 B	HDPE NM, 250mL HNO3	<2 Pass	
23B0015-03 A	Glass NM, Amber, 500 mL	>2 Fail	①
23B0015-03 B	HDPE NM, 250mL HNO3	<2 Pass	
23B0015-04 A	Glass NM, Amber, 500 mL	>2 Fail	①
23B0015-04 B	HDPE NM, 250mL HNO3	<2 Pass	
23B0015-05 A	Glass NM, Amber, 500 mL	>2 Fail	①
23B0015-05 B	HDPE NM, 500 mL, 1:1 HNO3	<2 Pass	
23B0015-06 A	Glass NM, Amber, 500 mL	>2 Fail	①
23B0015-06 B	HDPE NM, 250mL HNO3	<2 Pass	
23B0015-07 A	Glass NM, Amber, 500 mL	>2 Fail	①
23B0015-07 B	HDPE NM, 250mL HNO3	<2 Pass	
23B0015-08 A	Glass NM, Amber, 500 mL	>2 Fail	①
23B0015-08 B	HDPE NM, 250mL HNO3 (FF)	<2 Pass	

① 1mL 9N H_2SO_4 added
pH < 2
BF 1505 2/1/23

Preservation Confirmed By

02/01/23
Date

Reviewed By

Date

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

Batch-1-20230130

23B0015-01 (Water)

Metals and Metallic Compounds

Method: EPA 6020B — Sampled: 01/30/2023 10:20

Instrument: ICPMS2 Analyst: MCB — Analyzed: 02/16/2023 20:06

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 23B0015-01 B 01

Preparation Batch: BLB0350 — Sample Size: 25 mL

Prepared: 02/14/2023 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	20	364	720	20900	ug/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

Batch-1-20230130

23B0015-01 (Water)

Wet Chemistry

Method: EPA 9060A — Sampled: 01/30/2023 10:20

Instrument: TOC-LCSH Analyst: RMS — Analyzed: 02/23/2023 01:31

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23B0015-01 A

Preparation Batch: BLB0327 — Sample Size: 20 mL

Prepared: 02/13/2023 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Organic Carbon		50	25.00	25.00	3112	mg/L	B, D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

Batch-2-20230130

23B0015-02 (Water)

Metals and Metallic Compounds

Method: EPA 6020B — Sampled: 01/30/2023 13:35

Instrument: ICPMS2 Analyst: MCB — Analyzed: 02/16/2023 20:18

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 23B0015-02 B 01

Preparation Batch: BLB0350 — Sample Size: 25 mL

Prepared: 02/14/2023 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	20	133	720	33700	ug/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

Batch-2-20230130

23B0015-02 (Water)

Wet Chemistry

Method: EPA 9060A — Sampled: 01/30/2023 13:35

Instrument: TOC-LCSH Analyst: RMS — Analyzed: 02/23/2023 01:53

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23B0015-02 A

Preparation Batch: BLB0327 — Sample Size: 20 mL

Prepared: 02/13/2023 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Organic Carbon		50	25.00	25.00	2156	mg/L	B, D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

Batch-3-20230130

23B0015-03 (Water)

Metals and Metallic Compounds

Method: EPA 6020B — Sampled: 01/30/2023 15:40

Instrument: ICPMS2 Analyst: MCB — Analyzed: 02/16/2023 20:23

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 23B0015-03 B 01

Preparation Batch: BLB0350 — Sample Size: 25 mL

Prepared: 02/14/2023 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	100	663	3600	182000	ug/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

Batch-3-20230130

23B0015-03 (Water)

Wet Chemistry

Method: EPA 9060A — Sampled: 01/30/2023 15:40

Instrument: TOC-LCSH Analyst: RMS — Analyzed: 02/23/2023 02:14

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23B0015-03 A

Preparation Batch: BLB0327 — Sample Size: 20 mL

Prepared: 02/13/2023 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Organic Carbon		50	25.00	25.00	2913	mg/L	B, D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

Batch-4-20230130

23B0015-04 (Water)

Metals and Metallic Compounds

Method: EPA 6020B — Sampled: 01/31/2023 08:45

Instrument: ICPMS2 Analyst: MCB — Analyzed: 02/16/2023 20:26

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 23B0015-04 B 01

Preparation Batch: BLB0350 — Sample Size: 25 mL

Prepared: 02/14/2023 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	100	663	3600	221000	ug/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

Batch-4-20230130

23B0015-04 (Water)

Wet Chemistry

Method: EPA 9060A — Sampled: 01/31/2023 08:45

Instrument: TOC-LCSH Analyst: RMS — Analyzed: 02/23/2023 02:41

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23B0015-04 A

Preparation Batch: BLB0327 — Sample Size: 20 mL

Prepared: 02/13/2023 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Organic Carbon		50	25.00	25.00	1913	mg/L	B, D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

Batch-5-20230131

23B0015-05 (Water)

Metals and Metallic Compounds

Method: EPA 6020B — Sampled: 01/31/2023 08:50

Instrument: ICPMS2 Analyst: MCB — Analyzed: 02/16/2023 20:08

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 23B0015-05 B 01

Preparation Batch: BLB0350 — Sample Size: 25 mL

Prepared: 02/14/2023 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	20	364	720	28500	ug/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

Batch-5-20230131

23B0015-05 (Water)

Wet Chemistry

Method: EPA 9060A — Sampled: 01/31/2023 08:50

Instrument: TOC-LCSH Analyst: RMS — Analyzed: 02/23/2023 03:12

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23B0015-05 A

Preparation Batch: BLB0327 — Sample Size: 20 mL

Prepared: 02/13/2023 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Organic Carbon		50	25.00	25.00	1058	mg/L	B, D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

Batch-6-20230131

23B0015-06 (Water)

Metals and Metallic Compounds

Method: EPA 6020B — Sampled: 01/31/2023 10:40

Instrument: ICPMS2 Analyst: MCB — Analyzed: 02/16/2023 20:21

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 23B0015-06 B 01

Preparation Batch: BLB0350 — Sample Size: 25 mL

Prepared: 02/14/2023 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	100	1820	3600	120000	ug/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

Batch-6-20230131

23B0015-06 (Water)

Wet Chemistry

Method: EPA 9060A — Sampled: 01/31/2023 10:40

Instrument: TOC-LCSH Analyst: RMS — Analyzed: 02/23/2023 03:38

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23B0015-06 A

Preparation Batch: BLB0327 — Sample Size: 20 mL

Prepared: 02/13/2023 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Organic Carbon		50	25.00	25.00	2160	mg/L	B, D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

Batch-7-20230131

23B0015-07 (Water)

Metals and Metallic Compounds

Method: EPA 6020B — Sampled: 01/31/2023 14:45

Instrument: ICPMS2 Analyst: MCB — Analyzed: 02/16/2023 20:31

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 23B0015-07 B 01

Preparation Batch: BLB0350 — Sample Size: 25 mL

Prepared: 02/14/2023 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	100	663	3600	159000	ug/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

Batch-7-20230131

23B0015-07 (Water)

Wet Chemistry

Method: EPA 9060A — Sampled: 01/31/2023 14:45

Instrument: TOC-LCSH Analyst: RMS — Analyzed: 02/23/2023 05:39

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23B0015-07 A

Preparation Batch: BLB0327 — Sample Size: 20 mL

Prepared: 02/13/2023 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Organic Carbon		50	25.00	25.00	3233	mg/L	B, D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

AS-35-20230131

23B0015-08 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020B — Sampled: 01/31/2023 16:50

Instrument: ICPMS2 Analyst: MCB — Analyzed: 02/16/2023 19:53

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 23B0015-08 B 01

Preparation Batch: BLB0293 — Sample Size: 25 mL

Prepared: 02/10/2023 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Iron, Dissolved	7439-89-6	10	182	360	8180	ug/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

AS-35-20230131

23B0015-08 (Water)

Wet Chemistry

Method: EPA 9060A — Sampled: 01/31/2023 16:50

Instrument: TOC-LCSH Analyst: RMS — Analyzed: 02/23/2023 06:01

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23B0015-08 A

Preparation Batch: BLB0327 — Sample Size: 20 mL

Prepared: 02/13/2023 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Organic Carbon		20	10.00	10.00	435.4	mg/L	B, D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds - Quality Control

Batch BLB0350 - EPA 6020B

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLB0350-BLK2)					Prepared: 14-Feb-2023 Analyzed: 16-Feb-2023 19:50							
Iron	54	ND	18.2	36.0	ug/L							U
Iron	57	ND	6.63	36.0	ug/L							U
LCS (BLB0350-BS2)					Prepared: 14-Feb-2023 Analyzed: 16-Feb-2023 19:52							
Iron	54	4840	18.2	36.0	ug/L	5000		96.7	80-120			
Iron	57	5020	6.63	36.0	ug/L	5000		100	80-120			

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds (dissolved) - Quality Control

Batch BLB0293 - EPA 6020B

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLB0293-BLK1)					Prepared: 10-Feb-2023 Analyzed: 13-Feb-2023 23:13							
Iron, Dissolved	54	ND	18.2	36.0	ug/L							U
LCS (BLB0293-BS1)					Prepared: 10-Feb-2023 Analyzed: 13-Feb-2023 23:18							
Iron, Dissolved	54	4970	18.2	36.0	ug/L	5000		99.3	80-120			

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

Analysis by: Analytical Resources, LLC

Wet Chemistry - Quality Control

Batch BLB0327 - EPA 9060A

Instrument: TOC-LCSH Analyst: RMS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLB0327-BLK1)				Prepared: 13-Feb-2023 Analyzed: 22-Feb-2023 15:38							
Total Organic Carbon	0.82	0.50	0.50	mg/L							
LCS (BLB0327-BS2)				Prepared: 13-Feb-2023 Analyzed: 23-Feb-2023 08:21							
Total Organic Carbon	19.74	0.50	0.50	mg/L	20.00		98.7	90-110			B

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

Certified Analyses included in this Report

Analyte	Certifications
EPA 6020B in Water	
Iron-54	NELAP,WADOE,DoD-ELAP
Iron-57	NELAP,WADOE,DoD-ELAP
Iron-54	NELAP,WADOE,DoD-ELAP
Iron-57	NELAP,WADOE,DoD-ELAP
EPA 9060A in Water	
Total Organic Carbon	DoD-ELAP,WADOE,NELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2023
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program, PJLA Testing	66169	02/28/2023
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2023
WADOE	WA Dept of Ecology	C558	06/30/2023
WA-DW	Ecology - Drinking Water	C558	06/30/2023

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	27-Feb-2023 10:57

Notes and Definitions

*	Flagged value is not within established control limits.
B	This analyte was detected in the method blank.
D	The reported value is from a dilution
J	Estimated concentration value detected below the reporting limit.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

Analytical Resources, LLC
Analytical Chemists and Consultants
Tukwila, WA

07 April 2023

Delia Massey
Aspect Consulting, LLC.
710 2nd Avenue, Suite 550
Seattle, WA 98104

RE: Former Tux Shop (090030)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
23B0552	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Shelly Fishel, Project Manager

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006-012

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 23B0552	Turn-around Requested: Standard	Page: 1 of 1	
ARI Client Company: Aspect Consulting	Phone: 206 328 7443	Date: 2/27/23	Ice Present? Y
Client Contact: Delia Massey, Baxter Call, Alasdair Courtney		No. of Coolers: 1	Cooler Temps: 9.7
Client Project Name: Tux Shop			
Client Project #: 090030	Samplers: Alasdair Courtney, AMC		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: ~~Diss~~ dissolved ethane, ethene, and methane RSK-175	Analysis Requested: VOCs by EPA 8260	Analysis Requested: TOC by EPA 415.1 or SW-846 method 9060	Analysis Requested: Chloride, Nitrate, Sulfate EPA 300.0	Analysis Requested: Dissolved Iron Calcium, magnesium, manganese EPA 6020	Analysis Requested	Analysis Requested	Analysis Requested	Notes/Comments
AS-35-022723	2/27/23	1340	W	10	X	X	X	X	X				Field Filtered & preserved bottle, for dissolved metals
IW-1-022723	"	1520	W	11	X	X	X	X	X				one dissolved metals bottle half full, Field Filtered
TB-1			W	1		X							← one unpreserved bottle that needs Lab filtration
TB-2			W	1		X							

Comments/Special Instructions

Relinquished by: (Signature)	Alasdair Courtney	Received by: (Signature)	Phillip Dykes
Printed Name:	Alasdair Courtney	Printed Name:	Phillip Dykes
Company:	Aspect	Company:	AR
Date & Time:	2/28/23 1045	Date & Time:	2/28/23 10:45
Relinquished by: (Signature)		Received by: (Signature)	
Printed Name:		Printed Name:	
Company:		Company:	
Date & Time:		Date & Time:	

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

WORK ORDER

23B0552

Samples will be discarded 90 days after submission of a final report unless other instructions are received

Client: Aspect Consulting, LLC. Project Manager: Shelly Fishel

Project: Former Tux Shop Project Number: 090030

Preservation Confirmation

Container ID	Container Type	pH
23B0552-01 A	HDPE NM, 500 mL	
23B0552-01 B	Glass NM, Amber, 250 mL, 9N H2SO4	<2 Pass (P)
23B0552-01 C	Miscellaneous Container	>2 fail (1)
23B0552-01 D	VOA Vial, Clear, 40 mL, HCL	
23B0552-01 E	VOA Vial, Clear, 40 mL, HCL	
23B0552-01 F	VOA Vial, Clear, 40 mL, HCL	
23B0552-01 G	VOA Vial, Clear, 40 mL, HCL	
23B0552-01 H	VOA Vial, Clear, 40 mL, HCL	
23B0552-01 I	VOA Vial, Clear, 40 mL, HCL	
23B0552-01 J	HDPE NM, 500 mL, 1:1 HNO3	
23B0552-01 K	HDPE NM, 500 mL, 1:1 HNO3	
23B0552-02 A	HDPE NM, 500 mL	
23B0552-02 B	Glass NM, Amber, 250 mL, 9N H2SO4	<2 P
23B0552-02 C	HDPE NM, 500 mL	>2 fail (2)
23B0552-02 D	VOA Vial, Clear, 40 mL, HCL	
23B0552-02 E	VOA Vial, Clear, 40 mL, HCL	
23B0552-02 F	VOA Vial, Clear, 40 mL, HCL	
23B0552-02 G	VOA Vial, Clear, 40 mL, HCL	
23B0552-02 H	VOA Vial, Clear, 40 mL, HCL	
23B0552-02 I	VOA Vial, Clear, 40 mL, HCL	
23B0552-02 J	HDPE NM, 500 mL, 1:1 HNO3	
23B0552-02 K	HDPE NM, 500 mL, 1:1 HNO3	
23B0552-03 A	VOA Vial, Clear, 40 mL, HCL	
23B0552-04 A	VOA Vial, Clear, 40 mL, HCL	

PIB
Preservation Confirmed By

2/28/23
Date

(1) Filtered at 0.45 µm and preserved to pH <2.0 with 0.50 mL conc. HNO_3 (L4927).
ML 02/28/23

(2) Filtered at 0.45 µm and preserved to pH <2.0 with 0.25 mL conc. HNO_3 (L4927.
ML 02/28/23

Reviewed By

Date

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AS-35-022723	23B0552-01	Water	27-Feb-2023 13:40	28-Feb-2023 10:45
IW-1-022723	23B0552-02	Water	27-Feb-2023 15:20	28-Feb-2023 10:45
TB-1	23B0552-03	Water	27-Feb-2023 13:40	28-Feb-2023 10:45
TB-2	23B0552-04	Water	27-Feb-2023 13:40	28-Feb-2023 10:45

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

Work Order Case Narrative

Client: Aspect Consulting, LLC.
Project: Former Tux Shop
Project Number: 090030
Work Order: 23B0552

Sample receipt

Sample(s) as listed on the preceding page were received 28-Feb-2023 10:45 under ARI work order 23B0552. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Volatiles - EPA Method SW8260D

The sample(s) were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent difference (RPD) were within control limits.

Dissolved Metals - EPA Method 6020B

The sample(s) were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

Wet Chemistry

The sample(s) were prepared and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

The blank spike (BS/LCS) percent recoveries were within control limits.

The duplicate (DUP) relative percent difference (RPD) were within advisory control limits. The matrix spike (MS) percent recoveries were within advisory control limits except Sulfate which was out of control high. The deviation has been flagged.

Volatile Gases - MEE by RSK175

The sample(s) were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent difference (RPD) were within control limits.

WORK ORDER

23B0552

Samples will be discarded 90 days after submission of a final report unless other instructions are received

Client: Aspect Consulting, LLC. **Project Manager:** Shelly Fishel

Project: Former Tux Shop **Project Number:** 090030

Preservation Confirmation

Container ID	Container Type	pH
23B0552-01 A	HDPE NM, 500 mL	
23B0552-01 B	Glass NM, Amber, 250 mL, 9N H2SO4	<2 Pass(P)
23B0552-01 C	Miscellaneous Container	>2 fail
23B0552-01 D	VOA Vial, Clear, 40 mL, HCL	
23B0552-01 E	VOA Vial, Clear, 40 mL, HCL	
23B0552-01 F	VOA Vial, Clear, 40 mL, HCL	
23B0552-01 G	VOA Vial, Clear, 40 mL, HCL	
23B0552-01 H	VOA Vial, Clear, 40 mL, HCL	
23B0552-01 I	VOA Vial, Clear, 40 mL, HCL	
23B0552-01 J	HDPE NM, 500 mL, 1:1 HNO3	
23B0552-01 K	HDPE NM, 500 mL, 1:1 HNO3	
23B0552-02 A	HDPE NM, 500 mL	
23B0552-02 B	Glass NM, Amber, 250 mL, 9N H2SO4	<2 P
23B0552-02 C	HDPE NM, 500 mL	>2 fail
23B0552-02 D	VOA Vial, Clear, 40 mL, HCL	
23B0552-02 E	VOA Vial, Clear, 40 mL, HCL	
23B0552-02 F	VOA Vial, Clear, 40 mL, HCL	
23B0552-02 G	VOA Vial, Clear, 40 mL, HCL	
23B0552-02 H	VOA Vial, Clear, 40 mL, HCL	
23B0552-02 I	VOA Vial, Clear, 40 mL, HCL	
23B0552-02 J	HDPE NM, 500 mL, 1:1 HNO3	
23B0552-02 K	HDPE NM, 500 mL, 1:1 HNO3	
23B0552-03 A	VOA Vial, Clear, 40 mL, HCL	
23B0552-04 A	VOA Vial, Clear, 40 mL, HCL	

PIB
Preservation Confirmed By

2/28/23
Date

Reviewed By

Date

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Aspect
Project Name: Tux Shop
COC No(s): _____ (NA)
Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
Assigned ARI Job No: 23B0552
Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry): 9.7

Time 10:45

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 5009908

Cooler Accepted by: PIB Date: 2/28/23 Time: 10:45

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used?	Bubble Wrap (Wet Ice) (Gel Packs) (Baggies) (Foam Block) Paper Other: _____		
Was sufficient ice used (if appropriate)?	NA	YES	(NO)
How were bottles sealed in plastic bags?	Individually	(Grouped)	Not
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA	(YES)	NO
Were all VOC vials free of air bubbles?	NA	YES	(NO)
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	NA	2/13	

Were the sample(s) split by ARI? NA (YES) Date/Time: 2/28/23 11:35 Equipment: N/A Split by: PIB

Samples Logged by: PIB Date: 2/28/23 Time: 11:48 Labels checked by: _____

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

Unable to distinguish filtration on AS-35-022723 metals bottles, bottles consumed and volume split off anions bottle for metals.

By: PIB Date: 2/28/23

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

ARI Work Order: 23B0552

Cooler#: _____ **Temperature(°C):** 9.7

Sample ID	Bottle Count	Bottle Type
All samples received above 6°C		

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Completed by: DJB Date: 2/28/23 Time: 10:45

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

AS-35-022723

23B0552-01 (Water)

Volatile Organic Compounds

Method: EPA 8260D — Sampled: 02/27/2023 13:40

Instrument: NT3 Analyst: PKC — Analyzed: 02/28/2023 14:40

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 23B0552-01 D

Preparation Batch: BLB0725 — Sample Size: 1 mL

Prepared: 02/28/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl Chloride	75-01-4	1	2.00	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	2.00	2.15	ug/L	
Chloroform	67-66-3	1	2.00	6.25	ug/L	
1,1,1-Trichloroethane	71-55-6	1	2.00	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	2.00	ND	ug/L	U
Trichloroethene	79-01-6	1	2.00	2.71	ug/L	
Tetrachloroethene	127-18-4	1	2.00	207	ug/L	
1,1,1,2-Tetrachloroethane	630-20-6	1	2.00	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			*80-129 %*	*104*	*%*	
Surrogate: Toluene-d8			*80-120 %*	*99.7*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*100*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4			*80-120 %*	*102*	*%*	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

AS-35-022723

23B0552-01 (Water)

Dissolved Gases

Method: EPA RSK-175 — Sampled: 02/27/2023 13:40

Instrument: FID6 Analyst: LH — Analyzed: 03/02/2023 13:25

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 23B0552-01 E

Preparation Batch: BLC0051 — Sample Size: 10 mL

Prepared: 03/02/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Methane	74-82-8	1	0.65	1.18	ug/L	
Ethane	74-84-0	1	1.23	1.41	ug/L	
Ethene	74-85-1	1	1.14	ND	ug/L	U
Surrogate: Propane			*62-122 %*	*77.6*	*%*	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

AS-35-022723

23B0552-01 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020B — Sampled: 02/27/2023 13:40

Instrument: ICPMS1 Analyst: SKD — Analyzed: 03/16/2023 20:14

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 23B0552-01 C 02

Preparation Batch: BLC0336 — Sample Size: 25 mL — Filtration Batch: BLB0723

Prepared: 03/14/2023 — Final Volume: 25 mL — Filtration Date: 02/28/2023 11:19

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Calcium, Dissolved	7440-70-2	20	222	1000	169000	ug/L	D
Iron, Dissolved	7439-89-6	20	364	720	11700	ug/L	D

Instrument: ICPMS2 Analyst: MCB — Analyzed: 03/17/2023 16:01

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 23B0552-01 C 02

Preparation Batch: BLC0336 — Sample Size: 25 mL — Filtration Batch: BLB0723

Prepared: 03/14/2023 — Final Volume: 25 mL — Filtration Date: 02/28/2023 11:19

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Magnesium, Dissolved	7439-95-4	100	222	2000	123000	ug/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

AS-35-022723

23B0552-01 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 02/27/2023 13:40

Instrument: IC930 Analyst: KLD — Analyzed: 02/28/2023 19:18

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23B0552-01 A

Preparation Batch: BLB0738 — Sample Size: 10 mL

Prepared: 02/28/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloride	16887-00-6	1	0.100	0.100	9.78	mg/L	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	ND	mg/L	U

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

AS-35-022723

23B0552-01 (Water)

Wet Chemistry

Method: EPA 9060A — Sampled: 02/27/2023 13:40

Instrument: TOC-LCSH Analyst: RMS — Analyzed: 03/04/2023 16:30

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23B0552-01 B

Preparation Batch: BLC0082 — Sample Size: 20 mL

Prepared: 03/03/2023 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Organic Carbon		20	10.00	10.00	980.4	mg/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

AS-35-022723

23B0552-01RE1 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020B — Sampled: 02/27/2023 13:40

Instrument: ICPMS1 Analyst: SKD — Analyzed: 03/16/2023 20:53

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 23B0552-01RE1 C 02

Preparation Batch: BLC0336 — Sample Size: 25 mL — Filtration Batch: BLB0723

Prepared: 03/14/2023 — Final Volume: 25 mL — Filtration Date: 02/28/2023 11:19

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Manganese, Dissolved	7439-96-5	200	28.4	100	10600	ug/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

AS-35-022723

23B0552-01RE1 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 02/27/2023 13:40

Instrument: IC930 Analyst: KLD — Analyzed: 03/17/2023 20:10

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23B0552-01RE1 A

Preparation Batch: BLB0738 — Sample Size: 10 mL

Prepared: 02/28/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Sulfate	14808-79-8	10	1.00	1.00	18.6	mg/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

IW-1-022723

23B0552-02 (Water)

Volatile Organic Compounds

Method: EPA 8260D — Sampled: 02/27/2023 15:20

Instrument: NT3 Analyst: PKC — Analyzed: 02/28/2023 15:05

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 23B0552-02 D

Preparation Batch: BLB0725 — Sample Size: 0.2 mL

Prepared: 02/28/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl Chloride	75-01-4	1	10.0	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	10.0	ND	ug/L	U
Chloroform	67-66-3	1	10.0	11.4	ug/L	
1,1,1-Trichloroethane	71-55-6	1	10.0	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	10.0	ND	ug/L	U
Trichloroethene	79-01-6	1	10.0	ND	ug/L	U
Tetrachloroethene	127-18-4	1	10.0	21.2	ug/L	
1,1,1,2-Tetrachloroethane	630-20-6	1	10.0	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			*80-129 %*	*103*	*%*	
Surrogate: Toluene-d8			*80-120 %*	*101*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*99.2*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4			*80-120 %*	*103*	*%*	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

IW-1-022723

23B0552-02 (Water)

Dissolved Gases

Method: EPA RSK-175 — Sampled: 02/27/2023 15:20

Instrument: FID6 Analyst: LH — Analyzed: 03/02/2023 14:00

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 23B0552-02 E

Preparation Batch: BLC0051 — Sample Size: 10 mL

Prepared: 03/02/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Methane	74-82-8	1	0.65	ND	ug/L	U
Ethane	74-84-0	1	1.23	6.77	ug/L	
Ethene	74-85-1	1	1.14	1.22	ug/L	
Surrogate: Propane			*62-122 %*	*70.3*	*%*	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

IW-1-022723

23B0552-02 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020B — Sampled: 02/27/2023 15:20
Instrument: ICPMS1 Analyst: SKD — Analyzed: 03/16/2023 20:30

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 23B0552-02 C 02
Preparation Batch: BLC0336 — Sample Size: 25 mL — Filtration Batch: BLB0723
Prepared: 03/14/2023 — Final Volume: 25 mL — Filtration Date: 02/28/2023 11:19

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Calcium, Dissolved	7440-70-2	100	1110	5000	29500	ug/L	D
Iron, Dissolved	7439-89-6	100	1820	3600	228000	ug/L	D
Manganese, Dissolved	7439-96-5	100	14.2	50.0	1560	ug/L	D

Instrument: ICPMS2 Analyst: MCB — Analyzed: 03/17/2023 16:03

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 23B0552-02 C 02
Preparation Batch: BLC0336 — Sample Size: 25 mL — Filtration Batch: BLB0723
Prepared: 03/14/2023 — Final Volume: 25 mL — Filtration Date: 02/28/2023 11:19

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Magnesium, Dissolved	7439-95-4	100	222	2000	15600	ug/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

IW-1-022723

23B0552-02 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 02/27/2023 15:20

Instrument: IC930 Analyst: KLD — Analyzed: 02/28/2023 20:18

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23B0552-02 A

Preparation Batch: BLB0738 — Sample Size: 10 mL

Prepared: 02/28/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloride	16887-00-6	1	0.100	0.100	0.860	mg/L	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	ND	mg/L	U

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

IW-1-022723

23B0552-02 (Water)

Wet Chemistry

Method: EPA 9060A — Sampled: 02/27/2023 15:20

Instrument: TOC-LCSH Analyst: RMS — Analyzed: 03/04/2023 16:56

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23B0552-02 B

Preparation Batch: BLC0082 — Sample Size: 20 mL

Prepared: 03/03/2023 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Organic Carbon		200	100.0	100.0	2726	mg/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

IW-1-022723

23B0552-02RE1 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 02/27/2023 15:20

Instrument: IC930 Analyst: KLD — Analyzed: 03/18/2023 02:31

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23B0552-02RE1 A

Preparation Batch: BLB0738 — Sample Size: 10 mL

Prepared: 02/28/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Sulfate	14808-79-8	5	0.500	0.500	1.18	mg/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

TB-1

23B0552-03 (Water)

Volatile Organic Compounds

Method: EPA 8260D — Sampled: 02/27/2023 13:40

Instrument: NT3 Analyst: PKC — Analyzed: 02/28/2023 13:54

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 23B0552-03 A

Preparation Batch: BLB0725 — Sample Size: 10 mL

Prepared: 02/28/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl Chloride	75-01-4	1	0.20	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Chloroform	67-66-3	1	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.20	ND	ug/L	U
Trichloroethene	79-01-6	1	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.20	ND	ug/L	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			*80-129 %*	*98.0*	*%*	
Surrogate: Toluene-d8			*80-120 %*	*97.4*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*98.1*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4			*80-120 %*	*102*	*%*	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

TB-2

23B0552-04 (Water)

Volatile Organic Compounds

Method: EPA 8260D — Sampled: 02/27/2023 13:40
Instrument: NT3 Analyst: PKC — Analyzed: 02/28/2023 14:16

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 23B0552-04 A
Preparation Batch: BLB0725 — Sample Size: 10 mL
Prepared: 02/28/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl Chloride	75-01-4	1	0.20	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Chloroform	67-66-3	1	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.20	ND	ug/L	U
Trichloroethene	79-01-6	1	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.20	ND	ug/L	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			*80-129 %*	*98.7*	*%*	
Surrogate: Toluene-d8			*80-120 %*	*98.0*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*95.0*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4			*80-120 %*	*100*	*%*	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BLB0725 - EPA 8260D

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLB0725-BLK1)				Prepared: 28-Feb-2023 Analyzed: 28-Feb-2023 12:02						
Vinyl Chloride	ND	0.20	ug/L							U
cis-1,2-Dichloroethene	ND	0.20	ug/L							U
Chloroform	ND	0.20	ug/L							U
1,1,1-Trichloroethane	ND	0.20	ug/L							U
1,2-Dichloroethane	ND	0.20	ug/L							U
Trichloroethene	ND	0.20	ug/L							U
Tetrachloroethene	ND	0.20	ug/L							U
1,1,1,2-Tetrachloroethane	ND	0.20	ug/L							U
Surrogate: 1,2-Dichloroethane-d4	4.74		ug/L	*5.00*		*94.8*	*80-129*			
Surrogate: Toluene-d8	5.04		ug/L	*5.00*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.94		ug/L	*5.00*		*98.7*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	5.06		ug/L	*5.00*		*101*	*80-120*			
LCS (BLB0725-BS1)				Prepared: 28-Feb-2023 Analyzed: 28-Feb-2023 10:34						
Vinyl Chloride	9.68	0.20	ug/L	10.0		96.8	66-133			
cis-1,2-Dichloroethene	9.87	0.20	ug/L	10.0		98.7	80-121			
Chloroform	10.0	0.20	ug/L	10.0		100	80-122			
1,1,1-Trichloroethane	9.96	0.20	ug/L	10.0		99.6	79-123			
1,2-Dichloroethane	9.99	0.20	ug/L	10.0		99.9	75-123			
Trichloroethene	9.85	0.20	ug/L	10.0		98.5	80-120			
Tetrachloroethene	9.94	0.20	ug/L	10.0		99.4	80-120			
1,1,1,2-Tetrachloroethane	10.1	0.20	ug/L	10.0		101	80-120			
Surrogate: 1,2-Dichloroethane-d4	4.93		ug/L	*5.00*		*98.6*	*80-129*			
Surrogate: Toluene-d8	5.00		ug/L	*5.00*		*100*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.96		ug/L	*5.00*		*99.2*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	4.97		ug/L	*5.00*		*99.4*	*80-120*			
LCS Dup (BLB0725-BSD1)				Prepared: 28-Feb-2023 Analyzed: 28-Feb-2023 11:18						
Vinyl Chloride	9.94	0.20	ug/L	10.0		99.4	66-133	2.70	30	
cis-1,2-Dichloroethene	10.2	0.20	ug/L	10.0		102	80-121	3.08	30	
Chloroform	10.4	0.20	ug/L	10.0		104	80-122	3.29	30	
1,1,1-Trichloroethane	10.3	0.20	ug/L	10.0		103	79-123	3.48	30	
1,2-Dichloroethane	10.1	0.20	ug/L	10.0		101	75-123	1.12	30	
Trichloroethene	10.1	0.20	ug/L	10.0		101	80-120	2.11	30	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BLB0725 - EPA 8260D

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BLB0725-BSD1)				Prepared: 28-Feb-2023 Analyzed: 28-Feb-2023 11:18						
Tetrachloroethene	10.1	0.20	ug/L	10.0		101	80-120	1.24	30	
1,1,1,2-Tetrachloroethane	10.4	0.20	ug/L	10.0		104	80-120	3.14	30	
Surrogate: 1,2-Dichloroethane-d4	4.93		ug/L	*5.00*		*98.6*	*80-129*			
Surrogate: Toluene-d8	5.06		ug/L	*5.00*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.15		ug/L	*5.00*		*103*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	5.15		ug/L	*5.00*		*103*	*80-120*			

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

Analysis by: Analytical Resources, LLC

Dissolved Gases - Quality Control

Batch BLC0051 - EPA RSK-175

Instrument: FID6 Analyst: LH/KT

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLC0051-BLK1)				Prepared: 02-Mar-2023 Analyzed: 02-Mar-2023 11:01						
Methane	ND	0.65	ug/L							U
Ethane	ND	1.23	ug/L							U
Ethene	ND	1.14	ug/L							U
Surrogate: Propane	1880		ug/L	*1800*		*105*	*62-122*			
LCS (BLC0051-BS1)				Prepared: 02-Mar-2023 Analyzed: 02-Mar-2023 09:39						
Methane	609	0.65	ug/L	656		92.9	80-120			
Ethane	1180	1.23	ug/L	1230		96.1	80-120			
Ethene	1120	1.14	ug/L	1150		97.2	80-120			
Surrogate: Propane	1710		ug/L	*1800*		*94.9*	*62-122*			
LCS Dup (BLC0051-BSD1)				Prepared: 02-Mar-2023 Analyzed: 02-Mar-2023 10:43						
Methane	694	0.65	ug/L	656		106	80-120	13.00	30	
Ethane	1370	1.23	ug/L	1230		112	80-120	14.90	30	
Ethene	1290	1.14	ug/L	1150		112	80-120	14.00	30	
Surrogate: Propane	1970		ug/L	*1800*		*109*	*62-122*			
Duplicate (BLC0051-DUP1)	**Source: 23B0552-01**			Prepared: 02-Mar-2023 Analyzed: 02-Mar-2023 13:43						
Methane	1.12	0.65	ug/L		1.18			5.83	30	
Ethane	1.38	1.23	ug/L		1.41			1.64	30	
Ethene	ND	1.14	ug/L		ND					U
Surrogate: Propane	1310		ug/L	*1800*	*1400*	*72.6*	*62-122*			

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds (dissolved) - Quality Control

Batch BLC0336 - EPA 6020B

Instrument: ICPMS1 Analyst: SKD

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLC0336-BLK1)					Prepared: 14-Mar-2023 Analyzed: 16-Mar-2023 19:17							
Calcium, Dissolved	44	ND	11.1	50.0	ug/L							U
Iron, Dissolved	54	ND	18.2	36.0	ug/L							U
Manganese, Dissolved	55	ND	0.142	0.500	ug/L							U
LCS (BLC0336-BS1)					Prepared: 14-Mar-2023 Analyzed: 16-Mar-2023 19:21							
Calcium, Dissolved	44	5440	11.1	50.0	ug/L	5000		109	80-120			
Iron, Dissolved	54	5240	18.2	36.0	ug/L	5000		105	80-120			
Manganese, Dissolved	55	26.9	0.142	0.500	ug/L	25.0		108	80-120			

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLC0336-BLK2)					Prepared: 14-Mar-2023 Analyzed: 17-Mar-2023 15:24							
Magnesium, Dissolved	24	ND	2.22	20.0	ug/L							U
LCS (BLC0336-BS2)					Prepared: 14-Mar-2023 Analyzed: 17-Mar-2023 15:26							
Magnesium, Dissolved	24	5150	2.22	20.0	ug/L	5000		103	80-120			

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

Analysis by: Analytical Resources, LLC

Wet Chemistry - Quality Control

Batch BLB0738 - EPA 300.0

Instrument: IC930 Analyst: KLD

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLB0738-BLK1)				Prepared: 28-Feb-2023 Analyzed: 28-Feb-2023 18:38							
Chloride	ND	0.100	0.100	mg/L							U
Nitrate-N	ND	0.100	0.100	mg/L							U
LCS (BLB0738-BS1)				Prepared: 28-Feb-2023 Analyzed: 28-Feb-2023 18:58							
Chloride	5.00	0.100	0.100	mg/L	5.00		100	90-110			
Nitrate-N	5.36	0.100	0.100	mg/L	5.00		107	90-110			
Duplicate (BLB0738-DUP1)		**Source: 23B0552-01**		Prepared: 28-Feb-2023 Analyzed: 28-Feb-2023 19:38							
Chloride	9.80	0.100	0.100	mg/L		9.78			0.18	20	
Nitrate-N	ND	0.100	0.100	mg/L		ND					U
Duplicate (BLB0738-DUP2)		**Source: 23B0552-01RE1**		Prepared: 28-Feb-2023 Analyzed: 17-Mar-2023 20:30							
Sulfate	18.3	1.00	1.00	mg/L		18.6			1.85	20	D
Matrix Spike (BLB0738-MS1)		**Source: 23B0552-01**		Prepared: 28-Feb-2023 Analyzed: 28-Feb-2023 19:58							
Nitrate-N	2.11	0.100	0.100	mg/L	1.98	ND	107	75-125			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Matrix Spike (BLB0738-MS3)		**Source: 23B0552-01RE1**		Prepared: 28-Feb-2023 Analyzed: 23-Mar-2023 01:40							
Sulfate	59.6	5.00	5.00	mg/L	20.0	18.6	205	75-125			*, D

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Matrix Spike (BLB0738-MS4)		**Source: 23B0552-01**		Prepared: 28-Feb-2023 Analyzed: 23-Mar-2023 21:33							
Chloride	24.9	5.00	5.00	mg/L	20.0	9.78	75.6	75-125			D

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

Analysis by: Analytical Resources, LLC

Wet Chemistry - Quality Control

Batch BLC0082 - EPA 9060A

Instrument: TOC-LCSH Analyst: RMS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLC0082-BLK1)				Prepared: 03-Mar-2023 Analyzed: 04-Mar-2023 11:59							
Total Organic Carbon	ND	0.50	0.50	mg/L							U
LCS (BLC0082-BS1)				Prepared: 03-Mar-2023 Analyzed: 04-Mar-2023 12:26							
Total Organic Carbon	20.08	0.50	0.50	mg/L	20.00		100	90-110			

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	07-Apr-2023 13:46

Certified Analyses included in this Report

Analyte	Certifications
EPA 300.0 in Water	
Chloride	DoD-ELAP,WADOE,WA-DW,NELAP
Nitrate-N	DoD-ELAP,WADOE,WA-DW,NELAP
Sulfate	DoD-ELAP,WADOE,WA-DW,NELAP
EPA 6020B in Water	
Calcium-44	DoD-ELAP,NELAP
Iron-54	NELAP,WADOE,DoD-ELAP
Magnesium-24	NELAP,DoD-ELAP,WADOE
Manganese-55	NELAP,WADOE,DoD-ELAP
EPA 8260D in Water	
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,WADOE
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,WADOE
EPA 9060A in Water	
Total Organic Carbon	DoD-ELAP,WADOE,NELAP
EPA RSK-175 in Water	
Methane	NELAP
Ethane	NELAP
Ethene	NELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2023
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2023
WADOE	WA Dept of Ecology	C558	06/30/2023
WA-DW	Ecology - Drinking Water	C558	06/30/2023

Aspect Consulting, LLC.	Project: Former Tux Shop	
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Notes and Definitions

*	Flagged value is not within established control limits.
D	The reported value is from a dilution
J	Estimated concentration value detected below the reporting limit.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

Analytical Resources, LLC
Analytical Chemists and Consultants
Tukwila, WA

19 May 2023

Delia Massey
Aspect Consulting, LLC.
710 2nd Avenue, Suite 550
Seattle, WA 98104

RE: Former Tux Shop (090030)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
23D0666	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

Shelly Fishel, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006-012

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 23D0666	Turn-around Requested: Standard	Page: 1 of 1	
ARI Client Company: Aspect	Phone:	Date: 4/27/23	Ice Present?
Client Contact: Delia Massey, Baxter Call		No. of Coolers:	Cooler Temps: 10° C
Client Project Name: Former Tux Shop			
Client Project #: 090030	Samplers: AMG		

Analytical Resources, LLC
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: Dissolved Ethane + Methane RSK 175	VOCs by EPA 8260	TOC by EPA 415.1 or SW-846	Nitrate by EPA 300.0	Dissolved Iron EPA 6020	Dissolved Iron Calcium, Magnesium Manganese EPA 6020	Chloride, Nitrate Sulfate EPA 300.0		Notes/Comments
HC-4-042723	4/27/23	0957	W	9	X	X	X			X	X		Field Filtered bottle for metals analysis
AS-35-042723		1115		9	X	X	X			X	X		Field Filtered bottle for metals analysis
AC-4-50-042723		1230		9	X	X	X			X	X		Field Filtered bottle for metals analysis
IW-1-042723		1420		8	X	X	X			X	X		1 bty is unfiltered + needs lab* filtration for metals analysis
AS-31-042723		1634		2				X	X				Field Filtered bottle for metals analysis
TB-1				1		X							*IW-1 has high TSS,
TB-2				1		X							appears very cloudy.

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Alasdair Courtney	Printed Name: Matthew Daniel	Printed Name:	Printed Name:
	Company: Aspect	Company: ARLLC	Company:	Company:
	Date & Time: 4/28/23 1115	Date & Time: 4/28/23 1115	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HC-4-042723	23D0666-01	Water	27-Apr-2023 09:57	28-Apr-2023 11:15
AS-35-042723	23D0666-02	Water	27-Apr-2023 11:15	28-Apr-2023 11:15
AC-4-50-042723	23D0666-03	Water	27-Apr-2023 12:30	28-Apr-2023 11:15
IW-1-042723	23D0666-04	Water	27-Apr-2023 14:20	28-Apr-2023 11:15
AS-31-042723	23D0666-05	Water	27-Apr-2023 16:39	28-Apr-2023 11:15
TB-1	23D0666-06	Water	27-Apr-2023 09:57	28-Apr-2023 11:15
TB-2	23D0666-07	Water	27-Apr-2023 09:57	28-Apr-2023 11:15

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

Work Order Case Narrative

Client: Aspect Consulting, LLC.
Project: Former Tux Shop
Project Number: 090030
Work Order: 23D0666

Sample receipt

Sample(s) as listed on the preceding page were received 28-Apr-2023 11:15 under ARI work order 23D0666. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Volatiles - EPA Method SW8260D

The sample(s) were analyzed within the recommended holding times.

Sample vial used for 23D0666-06 contained bubbles 2-4 mm in diameter.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent difference (RPD) were within control limits.

Total Metals - EPA Method 6020B

The sample(s) were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

Wet Chemistry

The sample(s) were prepared and analyzed within the recommended holding times except Nitrate. The samples were received on a Friday with insufficient staff to perform the Nitrate analysis. The Saturday analys was scheduled later in the day and hold time was missed. The deviation has been flagged.

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The matrix spike (MS) percent recoveries and the duplicate (DUP) relative percent difference (RPD) were within advisory control limits.

Volatile Gases - MEE by RSK175

The sample(s) were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent difference (RPD) were within control limits.

The duplicate (DUP) relative percent difference (RPD) were within advisory control limits.

WORK ORDER

23D0666

Samples will be discarded 90 days after submission of a final report unless other instructions are received

Client: Aspect Consulting, LLC. **Project Manager:** Shelly Fishel

Project: Former Tux Shop **Project Number:** 090030

Preservation Confirmation

Container ID	Container Type	pH	
23D0666-01 A	HDPE NM, 500 mL		
23D0666-01 B	Glass NM, Amber, 250 mL, 9N H2SO4	<2	Pass (P)
23D0666-01 C	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
23D0666-01 D	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
23D0666-01 E	VOA Vial, Clear, 40 mL, HCL		
23D0666-01 F	VOA Vial, Clear, 40 mL, HCL		
23D0666-01 G	VOA Vial, Clear, 40 mL, HCL		
23D0666-01 H	VOA Vial, Clear, 40 mL, HCL		
23D0666-01 I	VOA Vial, Clear, 40 mL, HCL		
23D0666-02 A	HDPE NM, 500 mL		
23D0666-02 B	Glass NM, Amber, 250 mL, 9N H2SO4	<2	P
23D0666-02 C	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
23D0666-02 D	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
23D0666-02 E	VOA Vial, Clear, 40 mL, HCL		
23D0666-02 F	VOA Vial, Clear, 40 mL, HCL		
23D0666-02 G	VOA Vial, Clear, 40 mL, HCL		
23D0666-02 H	VOA Vial, Clear, 40 mL, HCL		
23D0666-02 I	VOA Vial, Clear, 40 mL, HCL		
23D0666-03 A	HDPE NM, 500 mL		
23D0666-03 B	Glass NM, Amber, 250 mL, 9N H2SO4	<2	P
23D0666-03 C	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
23D0666-03 D	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
23D0666-03 E	VOA Vial, Clear, 40 mL, HCL		
23D0666-03 F	VOA Vial, Clear, 40 mL, HCL		
23D0666-03 G	VOA Vial, Clear, 40 mL, HCL		
23D0666-03 H	VOA Vial, Clear, 40 mL, HCL		
23D0666-03 I	VOA Vial, Clear, 40 mL, HCL		
23D0666-04 A	HDPE NM, 500 mL		
23D0666-04 B	Glass NM, Amber, 250 mL, 9N H2SO4	<2	P
23D0666-04 C	HDPE NM, 500 mL	>2	Fail
23D0666-04 D	VOA Vial, Clear, 40 mL, HCL	Bubble	
23D0666-04 E	VOA Vial, Clear, 40 mL, HCL	Bubble	
23D0666-04 F	VOA Vial, Clear, 40 mL, HCL		
23D0666-04 G	VOA Vial, Clear, 40 mL, HCL		

Reviewed By

Date

WORK ORDER

23D0666

Samples will be discarded 90 days after submission of a final report unless other instructions are received

Client: Aspect Consulting, LLC. **Project Manager: Shelly Fishel**

Project: Former Tux Shop **Project Number: 090030**

23D0666-04 H	VOA Vial, Clear, 40 mL, HCL		
23D0666-05 A	HDPE NM, 500 mL		
23D0666-05 B	HDPE NM, 500 mL, 1:1 HNO3 (FF)	12	Pass
23D0666-06 A	VOA Vial, Clear, 40 mL, HCL	Bubble	
23D0666-07 A	VOA Vial, Clear, 40 mL, HCL		

JD — 04/28/23

Preservation Confirmed By — Date

Reviewed By — Date

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Aspect | Project Name: Former Tax Shop

COC No(s): ~~NA~~ | Delivered by: Fed-Ex UPS Courier ~~Hand Delivered~~ Other: ____

Assigned ARI Job No: 23D0666 | Tracking No: ~~NA~~

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 11:15 | 10°C

If cooler temperature is out of compliance fill out form 00070F | Temp Gun ID#: 50097708

Cooler Accepted by: MD | Date: 04/28/23 | Time: 11:15

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used?	Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: ____		
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	04/28/23 NA	04/13/23	

Were the sample(s) split by ARI? ~~NA~~ YES | Date/Time: ____ | Equipment: ____ | Split by: ____

Samples Logged by: JA | Date: 04/28/23 | Time: 1153 | Labels checked by: JA

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

vials w/ air bubbles marked on preservation sheet, lab to determine sizes

By: JA | Date: 04/28/23

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

ARI Work Order: 23D0666

Cooler#:	Temperature(°C): 10°C	
Sample ID	**Bottle Count**	**Bottle Type**
Samples received above 6°C	39	

Cooler#:	Temperature(°C):	
Sample ID	**Bottle Count**	**Bottle Type**

Cooler#:	Temperature(°C):	
Sample ID	**Bottle Count**	**Bottle Type**

Cooler#:	Temperature(°C):	
Sample ID	**Bottle Count**	**Bottle Type**

Completed by: MO Date: 04/28/23 Time: 11:15

WORK ORDER

23D0666

Samples will be discarded 90 days after submission of a final report unless other instructions are received

Client: Aspect Consulting, LLC. **Project Manager:** Shelly Fishel

Project: Former Tux Shop **Project Number:** 090030

Preservation Confirmation

Container ID	Container Type	pH	
23D0666-01 A	HDPE NM, 500 mL		
23D0666-01 B	Glass NM, Amber, 250 mL, 9N H2SO4	<2	Pass (P)
23D0666-01 C	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
23D0666-01 D	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
23D0666-01 E	VOA Vial, Clear, 40 mL, HCL		
23D0666-01 F	VOA Vial, Clear, 40 mL, HCL		
23D0666-01 G	VOA Vial, Clear, 40 mL, HCL		
23D0666-01 H	VOA Vial, Clear, 40 mL, HCL		
23D0666-01 I	VOA Vial, Clear, 40 mL, HCL		
23D0666-02 A	HDPE NM, 500 mL		
23D0666-02 B	Glass NM, Amber, 250 mL, 9N H2SO4	<2	P
23D0666-02 C	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
23D0666-02 D	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
23D0666-02 E	VOA Vial, Clear, 40 mL, HCL		
23D0666-02 F	VOA Vial, Clear, 40 mL, HCL		
23D0666-02 G	VOA Vial, Clear, 40 mL, HCL		
23D0666-02 H	VOA Vial, Clear, 40 mL, HCL		
23D0666-02 I	VOA Vial, Clear, 40 mL, HCL		
23D0666-03 A	HDPE NM, 500 mL		
23D0666-03 B	Glass NM, Amber, 250 mL, 9N H2SO4	<2	P
23D0666-03 C	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
23D0666-03 D	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
23D0666-03 E	VOA Vial, Clear, 40 mL, HCL		
23D0666-03 F	VOA Vial, Clear, 40 mL, HCL		
23D0666-03 G	VOA Vial, Clear, 40 mL, HCL		
23D0666-03 H	VOA Vial, Clear, 40 mL, HCL		
23D0666-03 I	VOA Vial, Clear, 40 mL, HCL		
23D0666-04 A	HDPE NM, 500 mL		
23D0666-04 B	Glass NM, Amber, 250 mL, 9N H2SO4	<2	P
23D0666-04 C	HDPE NM, 500 mL	>2	Fail (1)
23D0666-04 D	VOA Vial, Clear, 40 mL, HCL	Bubble	
23D0666-04 E	VOA Vial, Clear, 40 mL, HCL	Bubble	
23D0666-04 F	VOA Vial, Clear, 40 mL, HCL		
23D0666-04 G	VOA Vial, Clear, 40 mL, HCL		

Reviewed By Date

Analytical Resources, LLC
Analytical Chemists and Consultants

Printed: 4/28/2023 12:03:55PM

WORK ORDER

23D0666

Samples will be discarded 90 days after submission of a final report unless other instructions are received

Client: Aspect Consulting, LLC. **Project Manager:** Shelly Fishel

Project: Former Tux Shop **Project Number:** 090030

23D0666-04 H	VOA Vial, Clear, 40 mL, HCL		
23D0666-05 A	HDPE NM, 500 mL		
23D0666-05 B	HDPE NM, 500 mL, 1:1 HNO3 (FF)	(2	Pass
23D0666-06 A	VOA Vial, Clear, 40 mL, HCL	Bubble	
23D0666-07 A	VOA Vial, Clear, 40 mL, HCL		

JO
Preservation Confirmed By

04/28/23
Date

(1) Filtered at 0.45 µm and preserved to pH <2 with 0.10 mL conc. HNO_3 (LL4188).
M
04/28/23

Reviewed By

Date

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

HC-4-042723
23D0666-01 (Water)

Volatile Organic Compounds

Method: EPA 8260D — Sampled: 04/27/2023 09:57
Instrument: NT3 Analyst: PKC — Analyzed: 05/03/2023 02:03

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 23D0666-01 E
Preparation Batch: BLE0087 — Sample Size: 10 mL
Prepared: 05/02/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl Chloride	75-01-4	1	0.20	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.20	2.06	ug/L	
Chloroform	67-66-3	1	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.20	ND	ug/L	U
Trichloroethene	79-01-6	1	0.20	1.08	ug/L	
Tetrachloroethene	127-18-4	1	0.20	41.0	ug/L	
1,1,1,2-Tetrachloroethane	630-20-6	1	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			*80-129 %*	*109*	*%*	
Surrogate: Toluene-d8			*80-120 %*	*97.7*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*99.4*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4			*80-120 %*	*102*	*%*	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

HC-4-042723

23D0666-01 (Water)

Dissolved Gases

Method: EPA RSK-175 — Sampled: 04/27/2023 09:57

Instrument: FID6 Analyst: LH — Analyzed: 05/03/2023 09:18

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 23D0666-01 F

Preparation Batch: BLE0090 — Sample Size: 10 mL

Prepared: 05/03/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Methane	74-82-8	1	0.65	18.9	ug/L	
Ethane	74-84-0	1	1.23	ND	ug/L	U
Ethene	74-85-1	1	1.14	ND	ug/L	U
Surrogate: Propane			*62-122 %*	*94.3*	*%*	

Aspect Consulting, LLC.	Project: Former Tux Shop	
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Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

HC-4-042723

23D0666-01 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020B — Sampled: 04/27/2023 09:57

Instrument: ICPMS2 Analyst: SKD — Analyzed: 05/15/2023 21:24

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 23D0666-01 D 01

Preparation Batch: BLE0382 — Sample Size: 25 mL

Prepared: 05/11/2023 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Calcium, Dissolved	7440-70-2	10	111	500	19300	ug/L	D
Iron, Dissolved	7439-89-6	10	182	360	ND	ug/L	U
Magnesium, Dissolved	7439-95-4	10	22.2	200	22500	ug/L	D
Manganese, Dissolved	7439-96-5	10	1.42	5.00	12.1	ug/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

HC-4-042723

23D0666-01 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/27/2023 09:57

Instrument: IC930 Analyst: CDE — Analyzed: 04/29/2023 12:37

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23D0666-01 A

Preparation Batch: BLD0824 — Sample Size: 10 mL

Prepared: 04/29/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloride	16887-00-6	1	0.100	0.100	9.86	mg/L	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	ND	mg/L	H, U

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

HC-4-042723

23D0666-01 (Water)

Wet Chemistry

Method: EPA 9060A — Sampled: 04/27/2023 09:57

Instrument: TOC-LCSH Analyst: RMS — Analyzed: 05/17/2023 03:40

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23D0666-01 B

Preparation Batch: BLE0460 — Sample Size: 20 mL

Prepared: 05/16/2023 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Organic Carbon		1	0.50	0.50	1.26	mg/L	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

HC-4-042723

23D0666-01RE1 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/27/2023 09:57

Instrument: IC930 Analyst: CDE — Analyzed: 04/29/2023 16:37

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23D0666-01RE1 A

Preparation Batch: BLD0824 — Sample Size: 10 mL

Prepared: 04/29/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Sulfate	14808-79-8	4	0.400	0.400	15.2	mg/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

AS-35-042723

23D0666-02 (Water)

Volatile Organic Compounds

Method: EPA 8260D — Sampled: 04/27/2023 11:15

Instrument: NT3 Analyst: PKC — Analyzed: 05/03/2023 02:28

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 23D0666-02 E

Preparation Batch: BLE0087 — Sample Size: 1 mL

Prepared: 05/02/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl Chloride	75-01-4	1	2.00	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	2.00	17.3	ug/L	
Chloroform	67-66-3	1	2.00	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	2.00	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	2.00	ND	ug/L	U
Trichloroethene	79-01-6	1	2.00	4.03	ug/L	
Tetrachloroethene	127-18-4	1	2.00	90.3	ug/L	
1,1,1,2-Tetrachloroethane	630-20-6	1	2.00	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			*80-129 %*	*102*	*%*	
Surrogate: Toluene-d8			*80-120 %*	*96.7*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*104*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4			*80-120 %*	*98.5*	*%*	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

AS-35-042723

23D0666-02 (Water)

Dissolved Gases

Method: EPA RSK-175 — Sampled: 04/27/2023 11:15

Instrument: FID6 Analyst: LH — Analyzed: 05/03/2023 10:44

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 23D0666-02 F

Preparation Batch: BLE0090 — Sample Size: 10 mL

Prepared: 05/03/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Methane	74-82-8	1	0.65	11.6	ug/L	
Ethane	74-84-0	1	1.23	1.25	ug/L	
Ethene	74-85-1	1	1.14	ND	ug/L	U
Surrogate: Propane			*62-122 %*	*102*	*%*	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

AS-35-042723

23D0666-02 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020B — Sampled: 04/27/2023 11:15

Instrument: ICPMS2 Analyst: SKD — Analyzed: 05/15/2023 21:26

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 23D0666-02 D 01

Preparation Batch: BLE0382 — Sample Size: 25 mL

Prepared: 05/11/2023 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Calcium, Dissolved	7440-70-2	20	222	1000	100000	ug/L	D
Iron, Dissolved	7439-89-6	20	364	720	21800	ug/L	D
Magnesium, Dissolved	7439-95-4	20	44.4	400	76500	ug/L	D
Manganese, Dissolved	7439-96-5	200	28.4	100	18200	ug/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

AS-35-042723

23D0666-02 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/27/2023 11:15

Instrument: IC930 Analyst: CDE — Analyzed: 04/29/2023 13:37

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23D0666-02 A

Preparation Batch: BLD0824 — Sample Size: 10 mL

Prepared: 04/29/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	ND	mg/L	H, U

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Sulfate	14808-79-8	1	0.100	0.100	0.263	mg/L	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

AS-35-042723

23D0666-02 (Water)

Wet Chemistry

Method: EPA 9060A — Sampled: 04/27/2023 11:15

Instrument: TOC-LCSH Analyst: RMS — Analyzed: 05/17/2023 03:59

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23D0666-02 B

Preparation Batch: BLE0460 — Sample Size: 20 mL

Prepared: 05/16/2023 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Organic Carbon		10	5.00	5.00	397.9	mg/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

AS-35-042723

23D0666-02RE1 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/27/2023 11:15

Instrument: IC930 Analyst: CDE — Analyzed: 04/29/2023 17:16

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23D0666-02RE1 A

Preparation Batch: BLD0824 — Sample Size: 10 mL

Prepared: 04/29/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloride	16887-00-6	6	0.600	0.600	25.7	mg/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

AC-4-50-042723

23D0666-03 (Water)

Volatile Organic Compounds

Method: EPA 8260D — Sampled: 04/27/2023 12:30

Instrument: NT3 Analyst: PKC — Analyzed: 05/03/2023 02:53

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 23D0666-03 E

Preparation Batch: BLE0087 — Sample Size: 1 mL

Prepared: 05/02/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl Chloride	75-01-4	1	2.00	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	2.00	12.3	ug/L	
Chloroform	67-66-3	1	2.00	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	2.00	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	2.00	ND	ug/L	U
Trichloroethene	79-01-6	1	2.00	26.4	ug/L	
Tetrachloroethene	127-18-4	1	2.00	1320	ug/L	E
1,1,1,2-Tetrachloroethane	630-20-6	1	2.00	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			*80-129 %*	*94.3*	*%*	
Surrogate: Toluene-d8			*80-120 %*	*97.2*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*95.6*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4			*80-120 %*	*101*	*%*	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

AC-4-50-042723

23D0666-03 (Water)

Dissolved Gases

Method: EPA RSK-175 — Sampled: 04/27/2023 12:30

Instrument: FID6 Analyst: LH — Analyzed: 05/03/2023 11:02

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 23D0666-03 F

Preparation Batch: BLE0090 — Sample Size: 10 mL

Prepared: 05/03/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Methane	74-82-8	1	0.65	1.31	ug/L	
Ethane	74-84-0	1	1.23	ND	ug/L	U
Ethene	74-85-1	1	1.14	ND	ug/L	U
Surrogate: Propane			*62-122 %*	*115*	*%*	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

AC-4-50-042723

23D0666-03 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020B — Sampled: 04/27/2023 12:30

Instrument: ICPMS2 Analyst: SKD — Analyzed: 05/15/2023 21:29

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 23D0666-03 D 01

Preparation Batch: BLE0382 — Sample Size: 25 mL

Prepared: 05/11/2023 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Calcium, Dissolved	7440-70-2	10	111	500	23200	ug/L	D
Iron, Dissolved	7439-89-6	10	182	360	ND	ug/L	U
Magnesium, Dissolved	7439-95-4	10	22.2	200	22800	ug/L	D
Manganese, Dissolved	7439-96-5	10	1.42	5.00	91.5	ug/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

AC-4-50-042723

23D0666-03 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/27/2023 12:30

Instrument: IC930 Analyst: CDE — Analyzed: 04/29/2023 13:57

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23D0666-03 A

Preparation Batch: BLD0824 — Sample Size: 10 mL

Prepared: 04/29/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	ND	mg/L	H, U

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

AC-4-50-042723

23D0666-03 (Water)

Wet Chemistry

Method: EPA 9060A — Sampled: 04/27/2023 12:30

Instrument: TOC-LCSH Analyst: RMS — Analyzed: 05/17/2023 04:23

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23D0666-03 B

Preparation Batch: BLE0460 — Sample Size: 20 mL

Prepared: 05/16/2023 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Organic Carbon		1	0.50	0.50	1.32	mg/L	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

AC-4-50-042723

23D0666-03RE1 (Water)

Volatile Organic Compounds

Method: EPA 8260D — Sampled: 04/27/2023 12:30

Instrument: NT3 Analyst: PKC — Analyzed: 05/03/2023 21:52

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 23D0666-03RE1 G

Preparation Batch: BLE0096 — Sample Size: 0.2 mL

Prepared: 05/03/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl Chloride	75-01-4	1	10.0	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	10.0	14.7	ug/L	
Chloroform	67-66-3	1	10.0	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	10.0	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	10.0	ND	ug/L	U
Trichloroethene	79-01-6	1	10.0	28.5	ug/L	
Tetrachloroethene	127-18-4	1	10.0	1650	ug/L	
1,1,1,2-Tetrachloroethane	630-20-6	1	10.0	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			*80-129 %*	*105*	*%*	
Surrogate: Toluene-d8			*80-120 %*	*95.6*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*99.9*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4			*80-120 %*	*100*	*%*	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

AC-4-50-042723

23D0666-03RE1 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/27/2023 12:30

Instrument: IC930 Analyst: CDE — Analyzed: 04/29/2023 17:36

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23D0666-03RE1 A

Preparation Batch: BLD0824 — Sample Size: 10 mL

Prepared: 04/29/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloride	16887-00-6	15	1.50	1.50	15.8	mg/L	D

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Sulfate	14808-79-8	15	1.50	1.50	61.8	mg/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

IW-1-042723

23D0666-04 (Water)

Volatile Organic Compounds

Method: EPA 8260D — Sampled: 04/27/2023 14:20

Instrument: NT3 Analyst: PKC — Analyzed: 05/03/2023 22:16

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 23D0666-04 H

Preparation Batch: BLE0096 — Sample Size: 1 mL

Prepared: 05/03/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl Chloride	75-01-4	1	2.00	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	2.00	ND	ug/L	U
Chloroform	67-66-3	1	2.00	6.36	ug/L	
1,1,1-Trichloroethane	71-55-6	1	2.00	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	2.00	ND	ug/L	U
Trichloroethene	79-01-6	1	2.00	ND	ug/L	U
Tetrachloroethene	127-18-4	1	2.00	10.1	ug/L	
1,1,1,2-Tetrachloroethane	630-20-6	1	2.00	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			*80-129 %*	*98.6*	*%*	
Surrogate: Toluene-d8			*80-120 %*	*100*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*102*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4			*80-120 %*	*94.2*	*%*	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

IW-1-042723

23D0666-04 (Water)

Dissolved Gases

Method: EPA RSK-175 — Sampled: 04/27/2023 14:20

Instrument: FID6 Analyst: LH — Analyzed: 05/03/2023 11:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 23D0666-04 G

Preparation Batch: BLE0090 — Sample Size: 10 mL

Prepared: 05/03/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Methane	74-82-8	1	0.65	0.96	ug/L	
Ethane	74-84-0	1	1.23	1.64	ug/L	
Ethene	74-85-1	1	1.14	ND	ug/L	U
Surrogate: Propane			*62-122 %*	*71.9*	*%*	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

IW-1-042723

23D0666-04 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020B — Sampled: 04/27/2023 14:20

Instrument: ICPMS2 Analyst: SKD — Analyzed: 05/15/2023 21:21

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 23D0666-04 C 02

Preparation Batch: BLE0381 — Sample Size: 5 mL — Filtration Batch: BLD0815

Prepared: 05/11/2023 — Final Volume: 25 mL — Filtration Date: 04/28/2023 13:55

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Calcium, Dissolved	7440-70-2	20	1110	5000	39000	ug/L	D
Iron, Dissolved	7439-89-6	20	1820	3600	193000	ug/L	D
Magnesium, Dissolved	7439-95-4	20	222	2000	38700	ug/L	D
Manganese, Dissolved	7439-96-5	20	14.2	50.0	3240	ug/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

IW-1-042723

23D0666-04 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/27/2023 14:20

Instrument: IC930 Analyst: CDE — Analyzed: 04/29/2023 14:17

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23D0666-04 A

Preparation Batch: BLD0824 — Sample Size: 10 mL

Prepared: 04/29/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloride	16887-00-6	10	1.00	1.00	18.9	mg/L	D

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	10	1.00	1.00	ND	mg/L	U

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Sulfate	14808-79-8	10	1.00	1.00	ND	mg/L	U

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

IW-1-042723

23D0666-04 (Water)

Wet Chemistry

Method: EPA 9060A — Sampled: 04/27/2023 14:20

Instrument: TOC-LCSH Analyst: RMS — Analyzed: 05/17/2023 04:49

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23D0666-04 B

Preparation Batch: BLE0460 — Sample Size: 20 mL

Prepared: 05/16/2023 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Organic Carbon		20	10.00	10.00	3104	mg/L	D

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

AS-31-042723

23D0666-05 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020B — Sampled: 04/27/2023 16:39

Instrument: ICPMS2 Analyst: SKD — Analyzed: 05/15/2023 21:31

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 23D0666-05 B 01

Preparation Batch: BLE0382 — Sample Size: 25 mL

Prepared: 05/11/2023 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Iron, Dissolved	7439-89-6	10	182	360	ND	ug/L	U

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

AS-31-042723

23D0666-05 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/27/2023 16:39

Instrument: IC930 Analyst: CDE — Analyzed: 04/29/2023 14:36

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23D0666-05 A

Preparation Batch: BLD0824 — Sample Size: 10 mL

Prepared: 04/29/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	2.65	mg/L	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

TB-1

23D0666-06 (Water)

Volatile Organic Compounds

Method: EPA 8260D — Sampled: 04/27/2023 09:57

Instrument: NT3 Analyst: PKC — Analyzed: 05/02/2023 23:06

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 23D0666-06 A

Preparation Batch: BLE0087 — Sample Size: 10 mL

Prepared: 05/02/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl Chloride	75-01-4	1	0.20	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Chloroform	67-66-3	1	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.20	ND	ug/L	U
Trichloroethene	79-01-6	1	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.20	ND	ug/L	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			*80-129 %*	*104*	*%*	
Surrogate: Toluene-d8			*80-120 %*	*97.2*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*100*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4			*80-120 %*	*103*	*%*	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

TB-2

23D0666-07 (Water)

Volatile Organic Compounds

Method: EPA 8260D — Sampled: 04/27/2023 09:57

Instrument: NT3 Analyst: PKC — Analyzed: 05/02/2023 23:28

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 23D0666-07 A

Preparation Batch: BLE0087 — Sample Size: 10 mL

Prepared: 05/02/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl Chloride	75-01-4	1	0.20	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Chloroform	67-66-3	1	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.20	ND	ug/L	U
Trichloroethene	79-01-6	1	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.20	ND	ug/L	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			*80-129 %*	*108*	*%*	
Surrogate: Toluene-d8			*80-120 %*	*97.5*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*101*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4			*80-120 %*	*105*	*%*	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BLE0087 - EPA 8260D

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLE0087-BLK1)				Prepared: 02-May-2023 Analyzed: 02-May-2023 22:44						
Vinyl Chloride	ND	0.20	ug/L							U
cis-1,2-Dichloroethene	ND	0.20	ug/L							U
Chloroform	ND	0.20	ug/L							U
1,1,1-Trichloroethane	ND	0.20	ug/L							U
1,2-Dichloroethane	ND	0.20	ug/L							U
Trichloroethene	ND	0.20	ug/L							U
Tetrachloroethene	ND	0.20	ug/L							U
1,1,1,2-Tetrachloroethane	ND	0.20	ug/L							U
Surrogate: 1,2-Dichloroethane-d4	5.11		ug/L	*5.00*		*102*	*80-129*			
Surrogate: Toluene-d8	4.86		ug/L	*5.00*		*97.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.97		ug/L	*5.00*		*99.4*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	5.17		ug/L	*5.00*		*103*	*80-120*			
LCS (BLE0087-BS1)				Prepared: 02-May-2023 Analyzed: 02-May-2023 21:37						
Vinyl Chloride	10.5	0.20	ug/L	10.0		105	66-133			
cis-1,2-Dichloroethene	10.1	0.20	ug/L	10.0		101	80-121			
Chloroform	10.7	0.20	ug/L	10.0		107	80-122			
1,1,1-Trichloroethane	10.6	0.20	ug/L	10.0		106	79-123			
1,2-Dichloroethane	10.4	0.20	ug/L	10.0		104	75-123			
Trichloroethene	10.6	0.20	ug/L	10.0		106	80-120			
Tetrachloroethene	10.5	0.20	ug/L	10.0		105	80-120			
1,1,1,2-Tetrachloroethane	10.5	0.20	ug/L	10.0		105	80-120			
Surrogate: 1,2-Dichloroethane-d4	5.01		ug/L	*5.00*		*100*	*80-129*			
Surrogate: Toluene-d8	5.07		ug/L	*5.00*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.99		ug/L	*5.00*		*99.8*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	5.08		ug/L	*5.00*		*102*	*80-120*			
LCS Dup (BLE0087-BSD1)				Prepared: 02-May-2023 Analyzed: 02-May-2023 21:59						
Vinyl Chloride	10.1	0.20	ug/L	10.0		101	66-133	3.71	30	
cis-1,2-Dichloroethene	9.75	0.20	ug/L	10.0		97.5	80-121	3.62	30	
Chloroform	10.1	0.20	ug/L	10.0		101	80-122	5.52	30	
1,1,1-Trichloroethane	10.1	0.20	ug/L	10.0		101	79-123	4.72	30	
1,2-Dichloroethane	10.1	0.20	ug/L	10.0		101	75-123	3.74	30	
Trichloroethene	10.4	0.20	ug/L	10.0		104	80-120	1.92	30	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BLE0087 - EPA 8260D

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BLE0087-BSD1)				Prepared: 02-May-2023 Analyzed: 02-May-2023 21:59						
Tetrachloroethene	9.86	0.20	ug/L	10.0		98.6	80-120	6.57	30	
1,1,1,2-Tetrachloroethane	9.84	0.20	ug/L	10.0		98.4	80-120	6.33	30	
Surrogate: 1,2-Dichloroethane-d4	4.98		ug/L	*5.00*		*99.6*	*80-129*			
Surrogate: Toluene-d8	4.94		ug/L	*5.00*		*98.7*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.05		ug/L	*5.00*		*101*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	4.97		ug/L	*5.00*		*99.4*	*80-120*			

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BLE0096 - EPA 8260D

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLE0096-BLK1)				Prepared: 03-May-2023 Analyzed: 03-May-2023 13:40						
Vinyl Chloride	ND	0.20	ug/L							U
cis-1,2-Dichloroethene	ND	0.20	ug/L							U
Chloroform	ND	0.20	ug/L							U
1,1,1-Trichloroethane	ND	0.20	ug/L							U
1,2-Dichloroethane	ND	0.20	ug/L							U
Trichloroethene	ND	0.20	ug/L							U
Tetrachloroethene	ND	0.20	ug/L							U
1,1,1,2-Tetrachloroethane	ND	0.20	ug/L							U
Surrogate: 1,2-Dichloroethane-d4	5.01		ug/L	*5.00*		*100*	*80-129*			
Surrogate: Toluene-d8	4.95		ug/L	*5.00*		*99.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.93		ug/L	*5.00*		*98.7*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	4.99		ug/L	*5.00*		*99.8*	*80-120*			
LCS (BLE0096-BS1)				Prepared: 03-May-2023 Analyzed: 03-May-2023 12:11						
Vinyl Chloride	10.4	0.20	ug/L	10.0		104	66-133			
cis-1,2-Dichloroethene	10.1	0.20	ug/L	10.0		101	80-121			
Chloroform	10.4	0.20	ug/L	10.0		104	80-122			
1,1,1-Trichloroethane	10.4	0.20	ug/L	10.0		104	79-123			
1,2-Dichloroethane	10.2	0.20	ug/L	10.0		102	75-123			
Trichloroethene	10.4	0.20	ug/L	10.0		104	80-120			
Tetrachloroethene	10.7	0.20	ug/L	10.0		107	80-120			
1,1,1,2-Tetrachloroethane	10.0	0.20	ug/L	10.0		100	80-120			
Surrogate: 1,2-Dichloroethane-d4	4.92		ug/L	*5.00*		*98.5*	*80-129*			
Surrogate: Toluene-d8	4.92		ug/L	*5.00*		*98.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.07		ug/L	*5.00*		*101*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	5.12		ug/L	*5.00*		*102*	*80-120*			
LCS Dup (BLE0096-BSD1)				Prepared: 03-May-2023 Analyzed: 03-May-2023 12:56						
Vinyl Chloride	10.2	0.20	ug/L	10.0		102	66-133	2.26	30	
cis-1,2-Dichloroethene	9.96	0.20	ug/L	10.0		99.6	80-121	1.45	30	
Chloroform	10.2	0.20	ug/L	10.0		102	80-122	1.96	30	
1,1,1-Trichloroethane	10.3	0.20	ug/L	10.0		103	79-123	0.84	30	
1,2-Dichloroethane	10.1	0.20	ug/L	10.0		101	75-123	0.70	30	
Trichloroethene	10.5	0.20	ug/L	10.0		105	80-120	1.23	30	

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BLE0096 - EPA 8260D

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BLE0096-BSD1)				Prepared: 03-May-2023 Analyzed: 03-May-2023 12:56						
Tetrachloroethene	10.3	0.20	ug/L	10.0		103	80-120	3.53	30	
1,1,1,2-Tetrachloroethane	10.0	0.20	ug/L	10.0		100	80-120	0.19	30	
Surrogate: 1,2-Dichloroethane-d4	5.00		ug/L	*5.00*		*99.9*	*80-129*			
Surrogate: Toluene-d8	5.00		ug/L	*5.00*		*100*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.07		ug/L	*5.00*		*101*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	4.98		ug/L	*5.00*		*99.6*	*80-120*			

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

Analysis by: Analytical Resources, LLC

Dissolved Gases - Quality Control

Batch BLE0090 - EPA RSK-175

Instrument: FID6 Analyst: LH

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLE0090-BLK1)				Prepared: 03-May-2023 Analyzed: 03-May-2023 07:45						
Methane	ND	0.65	ug/L							U
Ethane	ND	1.23	ug/L							U
Ethene	ND	1.14	ug/L							U
Surrogate: Propane	1830		ug/L	*1800*		*102*	*62-122*			
LCS (BLE0090-BS1)				Prepared: 03-May-2023 Analyzed: 03-May-2023 07:09						
Methane	717	0.65	ug/L	656		109	80-120			
Ethane	1400	1.23	ug/L	1230		114	80-120			
Ethene	1260	1.14	ug/L	1150		110	80-120			
Surrogate: Propane	1880		ug/L	*1800*		*105*	*62-122*			
LCS Dup (BLE0090-BSD1)				Prepared: 03-May-2023 Analyzed: 03-May-2023 07:27						
Methane	743	0.65	ug/L	656		113	80-120	3.55	30	
Ethane	1450	1.23	ug/L	1230		118	80-120	3.79	30	
Ethene	1310	1.14	ug/L	1150		114	80-120	3.88	30	
Surrogate: Propane	2060		ug/L	*1800*		*114*	*62-122*			
Duplicate (BLE0090-DUP1)	**Source: 23D0666-01**			Prepared: 03-May-2023 Analyzed: 03-May-2023 10:26						
Methane	20.5	0.65	ug/L		18.9			8.43	30	
Ethane	ND	1.23	ug/L		ND					U
Ethene	ND	1.14	ug/L		ND					U
Surrogate: Propane	1930		ug/L	*1800*	*1700*	*107*	*62-122*			

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds (dissolved) - Quality Control

Batch BLE0381 - EPA 6020B

Instrument: ICPMS2 Analyst: SKD

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLE0381-BLK1)					Prepared: 11-May-2023 Analyzed: 15-May-2023 21:11							
Calcium, Dissolved	44	ND	11.1	50.0	ug/L							U
Iron, Dissolved	54	ND	18.2	36.0	ug/L							U
Iron, Dissolved	57	ND	18.2	36.0	ug/L							U
Magnesium, Dissolved	24	ND	2.22	20.0	ug/L							U
Manganese, Dissolved	55	0.355	0.142	0.500	ug/L							J
LCS (BLE0381-BS1)					Prepared: 11-May-2023 Analyzed: 15-May-2023 21:13							
Calcium, Dissolved	44	5180	11.1	50.0	ug/L	5000		104	80-120			
Iron, Dissolved	54	5330	18.2	36.0	ug/L	5000		107	80-120			
Iron, Dissolved	57	5230	18.2	36.0	ug/L	5000		105	80-120			
Magnesium, Dissolved	24	5120	2.22	20.0	ug/L	5000		102	80-120			
Manganese, Dissolved	55	23.5	0.142	0.500	ug/L	25.0		93.9	80-120			

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds (dissolved) - Quality Control

Batch BLE0382 - EPA 6020B

Instrument: ICPMS1 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLE0382-BLK3)					Prepared: 11-May-2023 Analyzed: 15-May-2023 19:09							
Iron, Dissolved	54	ND	18.2	36.0	ug/L							U
Iron, Dissolved	57	ND	18.2	36.0	ug/L							U
Manganese, Dissolved	55	ND	0.142	0.500	ug/L							U
LCS (BLE0382-BS3)					Prepared: 11-May-2023 Analyzed: 15-May-2023 19:14							
Iron, Dissolved	54	5290	18.2	36.0	ug/L	5000		106	80-120			
Iron, Dissolved	57	5220	18.2	36.0	ug/L	5000		104	80-120			
Manganese, Dissolved	55	22.6	0.142	0.500	ug/L	25.0		90.5	80-120			

Instrument: ICPMS2 Analyst: SKD

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLE0382-BLK2)					Prepared: 11-May-2023 Analyzed: 15-May-2023 21:16							
Calcium, Dissolved	44	ND	11.1	50.0	ug/L							U
Magnesium, Dissolved	24	ND	2.22	20.0	ug/L							U
LCS (BLE0382-BS2)					Prepared: 11-May-2023 Analyzed: 15-May-2023 21:18							
Calcium, Dissolved	44	5360	11.1	50.0	ug/L	5000		107	80-120			
Magnesium, Dissolved	24	5360	2.22	20.0	ug/L	5000		107	80-120			

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

Analysis by: Analytical Resources, LLC

Wet Chemistry - Quality Control

Batch BLD0824 - EPA 300.0

Instrument: IC930 Analyst: CDE

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLD0824-BLK1)				Prepared: 29-Apr-2023 Analyzed: 29-Apr-2023 15:17							
Chloride	ND	0.100	0.100	mg/L							U
Nitrate-N	ND	0.100	0.100	mg/L							U
Sulfate	ND	0.100	0.100	mg/L							U
LCS (BLD0824-BS1)				Prepared: 29-Apr-2023 Analyzed: 29-Apr-2023 16:17							
Chloride	4.97	0.100	0.100	mg/L	5.00		99.4	90-110			
Nitrate-N	5.11	0.100	0.100	mg/L	5.00		102	90-110			
Sulfate	5.09	0.100	0.100	mg/L	5.00		102	90-110			
Duplicate (BLD0824-DUP1)		**Source: 23D0666-01**		Prepared: 29-Apr-2023 Analyzed: 29-Apr-2023 12:57							
Chloride	9.87	0.100	0.100	mg/L		9.86			0.12	20	
Nitrate-N	ND	0.100	0.100	mg/L		ND					H, U
Duplicate (BLD0824-DUP2)		**Source: 23D0666-01RE1**		Prepared: 29-Apr-2023 Analyzed: 29-Apr-2023 16:56							
Sulfate	15.3	0.400	0.400	mg/L		15.2			0.94	20	D
Matrix Spike (BLD0824-MS1)		**Source: 23D0666-01**		Prepared: 29-Apr-2023 Analyzed: 29-Apr-2023 13:17							
Nitrate-N	1.93	0.100	0.100	mg/L	1.98	ND	97.7	75-125			H

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

Analysis by: Analytical Resources, LLC

Wet Chemistry - Quality Control

Batch BLE0460 - EPA 9060A

Instrument: TOC-LCSH Analyst: RMS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLE0460-BLK1)	Prepared: 16-May-2023 Analyzed: 16-May-2023 18:32										
Total Organic Carbon	ND	0.50	0.50	mg/L							U
LCS (BLE0460-BS1)	Prepared: 16-May-2023 Analyzed: 16-May-2023 18:53										
Total Organic Carbon	21.18	0.50	0.50	mg/L	20.00		106	90-110			

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

Certified Analyses included in this Report

Analyte	Certifications
EPA 300.0 in Water	
Chloride	DoD-ELAP,WADOE,WA-DW,NELAP
Nitrate-N	DoD-ELAP,WADOE,WA-DW,NELAP
Sulfate	DoD-ELAP,WADOE,WA-DW,NELAP
EPA 6020B in Water	
Calcium-44	DoD-ELAP,NELAP
Iron-54	NELAP,WADOE,DoD-ELAP
Iron-57	NELAP,WADOE,DoD-ELAP
Magnesium-24	NELAP,DoD-ELAP,WADOE
Manganese-55	NELAP,WADOE,DoD-ELAP
EPA 8260D in Water	
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,WADOE
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,WADOE
EPA 9060A in Water	
Total Organic Carbon	DoD-ELAP,WADOE,NELAP
EPA RSK-175 in Water	
Methane	NELAP
Ethane	NELAP
Ethene	NELAP

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2025
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program, PJLA Testing	66169	02/28/2025
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2023
WADOE	WA Dept of Ecology	C558	06/30/2023
WA-DW	Ecology - Drinking Water	C558	06/30/2023

Aspect Consulting, LLC.	Project: Former Tux Shop	
710 2nd Avenue, Suite 550	Project Number: 090030	**Reported:**
Seattle WA, 98104	Project Manager: Delia Massey	19-May-2023 11:47

Notes and Definitions

*	Flagged value is not within established control limits.
D	The reported value is from a dilution
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
H	Hold time violation - Hold time was exceeded.
J	Estimated concentration value detected below the reporting limit.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

August 7, 2023

Baxter Call
Aspect Consulting
Dexter Horton Building
710 2nd Avenue, Suite 550
Seattle, WA 98104

Re: Analytical Data for Project 090030
Laboratory Reference No. 2307-222

Dear Baxter:

Enclosed are the analytical results and associated quality control data for samples submitted on July 27, 2023.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

Case Narrative

Samples were collected on July 24, 25, 26 and 27, 2023 and received by the laboratory on July 28, 2023. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

VOLATILE ORGANICS EPA 8260D
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-1-25-072623**					
Laboratory ID:	07-222-01					
Dichlorodifluoromethane	ND	1.2	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	25	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	4.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	4.0	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	17	0.80	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	20	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Chloroform	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	55	0.80	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	0.80	EPA 8260D	8-3-23	8-3-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

VOLATILE ORGANICS EPA 8260D
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-1-25-072623**					
Laboratory ID:	07-222-01					
1,1,2-Trichloroethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	150	0.80	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	1.6	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*89*	*75-127*				
Toluene-d8	*95*	*80-127*				
4-Bromofluorobenzene	*99*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

VOLATILE ORGANICS EPA 8260D
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-3-25-072623**					
Laboratory ID:	07-222-02					
Dichlorodifluoromethane	ND	0.30	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	6.3	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	0.25	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	1.0	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	0.24	0.20	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chloroform	0.60	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	0.86	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

VOLATILE ORGANICS EPA 8260D
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-3-25-072623**					
Laboratory ID:	07-222-02					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	29	0.20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	0.40	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*90*	*75-127*				
Toluene-d8	*95*	*80-127*				
4-Bromofluorobenzene	*100*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

VOLATILE ORGANICS EPA 8260D
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-4-50-072723**					
Laboratory ID:	07-222-03					
Dichlorodifluoromethane	ND	15	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	50	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	10	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	50	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	50	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	10	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	10	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	320	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	250	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	13	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	50	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	10	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	10	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	10	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	50	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	10	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	23	10	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	250	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	10	EPA 8260D	8-3-23	8-3-23	
Chloroform	ND	10	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	10	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	10	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	10	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	10	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	10	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	69	10	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	10	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	10	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	10	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	10	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	100	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	50	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	10	EPA 8260D	8-3-23	8-3-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

VOLATILE ORGANICS EPA 8260D
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-4-50-072723**					
Laboratory ID:	07-222-03					
1,1,2-Trichloroethane	ND	10	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	2100	20	EPA 8260D	8-4-23	8-4-23	
1,3-Dichloropropane	ND	10	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	100	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	10	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	10	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	10	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	10	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	10	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	20	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	10	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	10	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	50	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	10	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	10	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	10	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	10	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	10	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	10	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	10	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	10	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	10	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	10	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	10	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	10	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	10	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	10	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	10	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	10	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	50	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	10	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	50	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	50	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	10	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*91*	*75-127*				
Toluene-d8	*97*	*80-127*				
4-Bromofluorobenzene	*101*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

VOLATILE ORGANICS EPA 8260D
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-6-25-072623**					
Laboratory ID:	07-222-04					
Dichlorodifluoromethane	ND	1.2	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	25	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	4.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	4.0	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	20	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Chloroform	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	1.8	0.80	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	0.80	EPA 8260D	8-3-23	8-3-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-6-25-072623**					
Laboratory ID:	07-222-04					
1,1,2-Trichloroethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	110	0.80	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	1.6	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	0.80	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	0.80	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*88*	*75-127*				
Toluene-d8	*96*	*80-127*				
4-Bromofluorobenzene	*100*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-7-35-072623**					
Laboratory ID:	07-222-05					
Dichlorodifluoromethane	ND	3.0	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	10	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	10	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	10	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	63	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	50	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	2.5	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	10	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	10	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	50	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Chloroform	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	3.4	2.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	20	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	10	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	2.0	EPA 8260D	8-3-23	8-3-23	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-7-35-072623**					
Laboratory ID:	07-222-05					
1,1,2-Trichloroethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	300	2.0	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	20	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	10	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	10	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	10	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	10	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*88*	*75-127*				
Toluene-d8	*97*	*80-127*				
4-Bromofluorobenzene	*98*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-8-35-072623**					
Laboratory ID:	07-222-06					
Dichlorodifluoromethane	ND	1.5	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	32	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	25	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	1.3	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	5.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	5.0	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	25	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Chloroform	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	3.8	1.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	10	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	5.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	1.0	EPA 8260D	8-3-23	8-3-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-8-35-072623**					
Laboratory ID:	07-222-06					
1,1,2-Trichloroethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	180	1.0	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	10	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	5.0	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	5.0	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*89*	*75-127*				
Toluene-d8	*96*	*80-127*				
4-Bromofluorobenzene	*99*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-9-32-072523**					
Laboratory ID:	07-222-07					
Dichlorodifluoromethane	ND	0.30	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	6.3	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	0.25	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	1.0	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chloroform	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-9-32-072523**					
Laboratory ID:	07-222-07					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	11	0.20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	0.40	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*89*	*75-127*				
Toluene-d8	*94*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-10-40-072723**					
Laboratory ID:	07-222-08					
Dichlorodifluoromethane	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	40	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	40	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	40	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	8.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	200	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	200	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	40	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	8.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	40	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	8.0	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	200	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Chloroform	ND	8.0	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	8.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	8.0	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	80	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	40	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	8.0	EPA 8260D	8-3-23	8-3-23	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-10-40-072723**					
Laboratory ID:	07-222-08					
1,1,2-Trichloroethane	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	1100	8.0	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	8.0	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	80	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	8.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	16	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	40	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	8.0	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	8.0	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	40	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	40	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	40	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*107*	*75-127*				
Toluene-d8	*103*	*80-127*				
4-Bromofluorobenzene	*90*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-11-25-072723**					
Laboratory ID:	07-222-09					
Dichlorodifluoromethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	100	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	20	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	100	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	100	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	20	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	500	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	500	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	20	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	100	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	20	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	100	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	ND	20	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	500	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Chloroform	ND	20	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	20	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	ND	20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	20	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	20	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	200	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	100	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	20	EPA 8260D	8-3-23	8-3-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-11-25-072723**					
Laboratory ID:	07-222-09					
1,1,2-Trichloroethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	3300	20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	20	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	200	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	40	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	20	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	20	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	100	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	20	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	20	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	20	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	20	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	20	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	100	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	100	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	100	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*108*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*93*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-12-35-072723**					
Laboratory ID:	07-222-10					
Dichlorodifluoromethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	100	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	20	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	100	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	100	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	20	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	500	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	500	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	20	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	100	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	20	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	100	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	130	20	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	500	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Chloroform	ND	20	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	20	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	48	20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	20	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	20	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	200	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	100	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	20	EPA 8260D	8-3-23	8-3-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-12-35-072723**					
Laboratory ID:	07-222-10					
1,1,2-Trichloroethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	2900	20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	20	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	200	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	40	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	20	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	20	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	100	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	20	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	20	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	20	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	20	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	20	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	100	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	100	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	100	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	20	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*111*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*92*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-13-50-072523**					
Laboratory ID:	07-222-11					
Dichlorodifluoromethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	100	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	100	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	20	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	20	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	29	4.0	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	100	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Chloroform	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	110	4.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	40	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	20	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	4.0	EPA 8260D	8-3-23	8-3-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-13-50-072523**					
Laboratory ID:	07-222-11					
1,1,2-Trichloroethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	550	4.0	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	40	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	20	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	20	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	20	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	20	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*110*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*90*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-14-25-072623**					
Laboratory ID:	07-222-12					
Dichlorodifluoromethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	10	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	10	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	10	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	50	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	50	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	10	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	10	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	50	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Chloroform	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	20	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	10	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	2.0	EPA 8260D	8-3-23	8-3-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-14-25-072623**					
Laboratory ID:	07-222-12					
1,1,2-Trichloroethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	350	2.0	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	20	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	10	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	10	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	10	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	10	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*110*	*75-127*				
Toluene-d8	*103*	*80-127*				
4-Bromofluorobenzene	*91*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-15-35-072723**					
Laboratory ID:	07-222-13					
Dichlorodifluoromethane	ND	30	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	150	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	30	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	150	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	150	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	30	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	30	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	750	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	750	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	30	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	150	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	30	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	30	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	30	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	150	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	30	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	ND	30	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	750	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	30	EPA 8260D	8-3-23	8-3-23	
Chloroform	ND	30	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	30	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	30	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	30	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	30	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	30	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	ND	30	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	30	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	30	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	30	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	30	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	300	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	150	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	30	EPA 8260D	8-3-23	8-3-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-15-35-072723**					
Laboratory ID:	07-222-13					
1,1,2-Trichloroethane	ND	30	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	4300	30	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	30	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	300	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	30	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	30	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	30	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	30	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	30	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	60	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	30	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	30	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	150	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	30	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	30	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	30	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	30	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	30	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	30	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	30	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	30	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	30	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	30	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	30	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	30	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	30	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	30	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	30	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	30	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	150	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	30	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	150	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	150	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	30	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*108*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*90*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-16-50-072623**					
Laboratory ID:	07-222-14					
Dichlorodifluoromethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	100	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	100	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	20	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	20	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	21	4.0	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	100	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Chloroform	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	130	4.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	40	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	20	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	4.0	EPA 8260D	8-3-23	8-3-23	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-16-50-072623**					
Laboratory ID:	07-222-14					
1,1,2-Trichloroethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	770	4.0	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	40	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	20	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	20	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	20	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	20	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*110*	*75-127*				
Toluene-d8	*104*	*80-127*				
4-Bromofluorobenzene	*92*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-17-35-072523**					
Laboratory ID:	07-222-15					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chloromethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Vinyl Chloride	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromomethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Chloroethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Trichlorofluoromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Acetone	ND	5.0	EPA 8260D	8-4-23	8-4-23	
Iodomethane	ND	9.3	EPA 8260D	8-4-23	8-4-23	
Carbon Disulfide	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methylene Chloride	ND	1.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methyl t-Butyl Ether	0.55	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Vinyl Acetate	ND	1.0	EPA 8260D	8-4-23	8-4-23	
2,2-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
(cis) 1,2-Dichloroethene	4.5	0.20	EPA 8260D	8-4-23	8-4-23	
2-Butanone	ND	5.0	EPA 8260D	8-4-23	8-4-23	
Bromochloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chloroform	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Carbon Tetrachloride	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Benzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Trichloroethene	5.4	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Dibromomethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromodichloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Toluene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-17-35-072523**					
Laboratory ID:	07-222-15					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Tetrachloroethene	33	0.20	EPA 8260D	8-4-23	8-4-23	
1,3-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Hexanone	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Dibromochloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromoethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Ethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
m,p-Xylene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
o-Xylene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Styrene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromoform	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Isopropylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
n-Propylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Chlorotoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
4-Chlorotoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
tert-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
sec-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
p-Isopropyltoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
n-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Hexachlorobutadiene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Naphthalene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*109*	*75-127*				
Toluene-d8	*104*	*80-127*				
4-Bromofluorobenzene	*92*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-18-25-072423**					
Laboratory ID:	07-222-16					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	1.0	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chloroform	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-18-25-072423**					
Laboratory ID:	07-222-16					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	0.40	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*107*	*75-127*				
Toluene-d8	*102*	*80-127*				
4-Bromofluorobenzene	*93*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-19-35-072423**					
Laboratory ID:	07-222-17					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	1.0	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chloroform	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-19-35-072423**					
Laboratory ID:	07-222-17					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	0.40	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*108*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*90*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-20-25-072523**					
Laboratory ID:	07-222-18					
Dichlorodifluoromethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	10	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	10	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	10	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	50	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	50	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	10	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	10	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	8.6	2.0	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	50	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Chloroform	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	6.7	2.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	20	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	10	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	2.0	EPA 8260D	8-3-23	8-3-23	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-20-25-072523**					
Laboratory ID:	07-222-18					
1,1,2-Trichloroethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	240	2.0	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	20	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	10	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	2.0	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	10	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	10	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	10	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*111*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*91*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-21-35-072523**					
Laboratory ID:	07-222-19					
Dichlorodifluoromethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	20	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	100	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	100	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	20	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	20	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	11	4.0	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	100	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Chloroform	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	15	4.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	40	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	20	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	4.0	EPA 8260D	8-3-23	8-3-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-21-35-072523**					
Laboratory ID:	07-222-19					
1,1,2-Trichloroethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	690	4.0	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	40	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	8.0	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	20	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	4.0	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	20	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	20	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	20	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	4.0	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*108*	*75-127*				
Toluene-d8	*102*	*80-127*				
4-Bromofluorobenzene	*91*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-22-20-072523**					
Laboratory ID:	07-222-20					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	1.0	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chloroform	0.37	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	

Date of Report: August 7, 2023
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-22-20-072523**					
Laboratory ID:	07-222-20					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	0.40	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*109*	*75-127*				
Toluene-d8	*97*	*80-127*				
4-Bromofluorobenzene	*92*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-23-30-072523**					
Laboratory ID:	07-222-21					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	1.0	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chloroform	0.28	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-23-30-072523**					
Laboratory ID:	07-222-21					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	3.2	0.20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	0.40	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*109*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*91*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-24-25-072423**					
Laboratory ID:	07-222-22					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	0.47	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	1.0	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chloroform	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-24-25-072423**					
Laboratory ID:	07-222-22					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	0.40	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*110*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*91*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-25-35-072423**					
Laboratory ID:	07-222-23					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chloromethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Vinyl Chloride	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromomethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Chloroethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Trichlorofluoromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Acetone	ND	5.0	EPA 8260D	8-4-23	8-4-23	
Iodomethane	ND	9.3	EPA 8260D	8-4-23	8-4-23	
Carbon Disulfide	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methylene Chloride	ND	1.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methyl t-Butyl Ether	0.37	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Vinyl Acetate	ND	1.0	EPA 8260D	8-4-23	8-4-23	
2,2-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Butanone	ND	5.0	EPA 8260D	8-4-23	8-4-23	
Bromochloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chloroform	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Carbon Tetrachloride	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Benzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Trichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Dibromomethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromodichloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Toluene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-25-35-072423**					
Laboratory ID:	07-222-23					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Tetrachloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,3-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Hexanone	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Dibromochloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromoethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Ethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
m,p-Xylene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
o-Xylene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Styrene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromoform	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Isopropylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
n-Propylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Chlorotoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
4-Chlorotoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
tert-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
sec-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
p-Isopropyltoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
n-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Hexachlorobutadiene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Naphthalene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*108*	*75-127*				
Toluene-d8	*103*	*80-127*				
4-Bromofluorobenzene	*91*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-26-25-072423**					
Laboratory ID:	07-222-24					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	1.0	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	0.23	0.20	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chloroform	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	0.25	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	

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Project: 090030

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-26-25-072423**					
Laboratory ID:	07-222-24					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	1.9	0.20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	0.40	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*111*	*75-127*				
Toluene-d8	*102*	*80-127*				
4-Bromofluorobenzene	*94*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-27-35-072423**					
Laboratory ID:	07-222-25					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	1.0	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chloroform	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
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Project: 090030

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-27-35-072423**					
Laboratory ID:	07-222-25					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	0.40	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*107*	*75-127*				
Toluene-d8	*102*	*80-127*				
4-Bromofluorobenzene	*92*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AS-35-072723**					
Laboratory ID:	07-222-27					
Dichlorodifluoromethane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Chloromethane	ND	10	EPA 8260D	8-4-23	8-4-23	
Vinyl Chloride	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Bromomethane	ND	10	EPA 8260D	8-4-23	8-4-23	
Chloroethane	ND	10	EPA 8260D	8-4-23	8-4-23	
Trichlorofluoromethane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Acetone	ND	50	EPA 8260D	8-4-23	8-4-23	
Iodomethane	ND	93	EPA 8260D	8-4-23	8-4-23	
Carbon Disulfide	2.5	2.0	EPA 8260D	8-4-23	8-4-23	
Methylene Chloride	ND	10	EPA 8260D	8-4-23	8-4-23	
(trans) 1,2-Dichloroethene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Methyl t-Butyl Ether	ND	2.0	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Vinyl Acetate	ND	10	EPA 8260D	8-4-23	8-4-23	
2,2-Dichloropropane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
(cis) 1,2-Dichloroethene	230	2.0	EPA 8260D	8-4-23	8-4-23	
2-Butanone	190	50	EPA 8260D	8-4-23	8-4-23	
Bromochloromethane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Chloroform	ND	2.0	EPA 8260D	8-4-23	8-4-23	
1,1,1-Trichloroethane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Carbon Tetrachloride	ND	2.0	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloropropene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Benzene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloroethane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Trichloroethene	17	2.0	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloropropane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Dibromomethane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Bromodichloromethane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
(cis) 1,3-Dichloropropene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Methyl Isobutyl Ketone	ND	20	EPA 8260D	8-4-23	8-4-23	
Toluene	ND	10	EPA 8260D	8-4-23	8-4-23	
(trans) 1,3-Dichloropropene	ND	2.0	EPA 8260D	8-4-23	8-4-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AS-35-072723**					
Laboratory ID:	07-222-27					
1,1,2-Trichloroethane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Tetrachloroethene	24	2.0	EPA 8260D	8-4-23	8-4-23	
1,3-Dichloropropane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
2-Hexanone	ND	20	EPA 8260D	8-4-23	8-4-23	
Dibromochloromethane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromoethane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Chlorobenzene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
1,1,1,2-Tetrachloroethane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Ethylbenzene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
m,p-Xylene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
o-Xylene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Styrene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Bromoform	ND	10	EPA 8260D	8-4-23	8-4-23	
Isopropylbenzene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Bromobenzene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
1,1,2,2-Tetrachloroethane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichloropropane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
n-Propylbenzene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
2-Chlorotoluene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
4-Chlorotoluene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
1,3,5-Trimethylbenzene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
tert-Butylbenzene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trimethylbenzene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
sec-Butylbenzene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
1,3-Dichlorobenzene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
p-Isopropyltoluene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
1,4-Dichlorobenzene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
1,2-Dichlorobenzene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
n-Butylbenzene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromo-3-chloropropane	ND	10	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trichlorobenzene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Hexachlorobutadiene	ND	10	EPA 8260D	8-4-23	8-4-23	
Naphthalene	ND	10	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichlorobenzene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*108*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*87*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AS-39-072623**					
Laboratory ID:	07-222-28					
Dichlorodifluoromethane	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Chloromethane	ND	20	EPA 8260D	8-4-23	8-4-23	
Vinyl Chloride	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Bromomethane	ND	20	EPA 8260D	8-4-23	8-4-23	
Chloroethane	ND	20	EPA 8260D	8-4-23	8-4-23	
Trichlorofluoromethane	ND	4.0	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Acetone	ND	100	EPA 8260D	8-4-23	8-4-23	
Iodomethane	ND	190	EPA 8260D	8-4-23	8-4-23	
Carbon Disulfide	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Methylene Chloride	ND	20	EPA 8260D	8-4-23	8-4-23	
(trans) 1,2-Dichloroethene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Methyl t-Butyl Ether	ND	4.0	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethane	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Vinyl Acetate	ND	20	EPA 8260D	8-4-23	8-4-23	
2,2-Dichloropropane	ND	4.0	EPA 8260D	8-4-23	8-4-23	
(cis) 1,2-Dichloroethene	39	4.0	EPA 8260D	8-4-23	8-4-23	
2-Butanone	ND	100	EPA 8260D	8-4-23	8-4-23	
Bromochloromethane	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Chloroform	ND	4.0	EPA 8260D	8-4-23	8-4-23	
1,1,1-Trichloroethane	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Carbon Tetrachloride	ND	4.0	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloropropene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Benzene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloroethane	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Trichloroethene	14	4.0	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloropropane	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Dibromomethane	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Bromodichloromethane	ND	4.0	EPA 8260D	8-4-23	8-4-23	
(cis) 1,3-Dichloropropene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Methyl Isobutyl Ketone	ND	40	EPA 8260D	8-4-23	8-4-23	
Toluene	ND	20	EPA 8260D	8-4-23	8-4-23	
(trans) 1,3-Dichloropropene	ND	4.0	EPA 8260D	8-4-23	8-4-23	

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Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AS-39-072623**					
Laboratory ID:	07-222-28					
1,1,2-Trichloroethane	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Tetrachloroethene	540	4.0	EPA 8260D	8-4-23	8-4-23	
1,3-Dichloropropane	ND	4.0	EPA 8260D	8-4-23	8-4-23	
2-Hexanone	ND	40	EPA 8260D	8-4-23	8-4-23	
Dibromochloromethane	ND	4.0	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromoethane	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Chlorobenzene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
1,1,1,2-Tetrachloroethane	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Ethylbenzene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
m,p-Xylene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
o-Xylene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Styrene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Bromoform	ND	20	EPA 8260D	8-4-23	8-4-23	
Isopropylbenzene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Bromobenzene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
1,1,2,2-Tetrachloroethane	ND	4.0	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichloropropane	ND	4.0	EPA 8260D	8-4-23	8-4-23	
n-Propylbenzene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
2-Chlorotoluene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
4-Chlorotoluene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
1,3,5-Trimethylbenzene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
tert-Butylbenzene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trimethylbenzene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
sec-Butylbenzene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
1,3-Dichlorobenzene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
p-Isopropyltoluene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
1,4-Dichlorobenzene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
1,2-Dichlorobenzene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
n-Butylbenzene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromo-3-chloropropane	ND	20	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trichlorobenzene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Hexachlorobutadiene	ND	20	EPA 8260D	8-4-23	8-4-23	
Naphthalene	ND	20	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichlorobenzene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*107*	*75-127*				
Toluene-d8	*103*	*80-127*				
4-Bromofluorobenzene	*88*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AS-45-072623**					
Laboratory ID:	07-222-29					
Dichlorodifluoromethane	ND	0.80	EPA 8260D	8-4-23	8-4-23	
Chloromethane	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Vinyl Chloride	ND	0.80	EPA 8260D	8-4-23	8-4-23	
Bromomethane	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Chloroethane	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Trichlorofluoromethane	ND	0.80	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
Acetone	ND	20	EPA 8260D	8-4-23	8-4-23	
Iodomethane	ND	37	EPA 8260D	8-4-23	8-4-23	
Carbon Disulfide	ND	0.80	EPA 8260D	8-4-23	8-4-23	
Methylene Chloride	ND	4.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,2-Dichloroethene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
Methyl t-Butyl Ether	ND	0.80	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethane	ND	0.80	EPA 8260D	8-4-23	8-4-23	
Vinyl Acetate	ND	4.0	EPA 8260D	8-4-23	8-4-23	
2,2-Dichloropropane	ND	0.80	EPA 8260D	8-4-23	8-4-23	
(cis) 1,2-Dichloroethene	1.3	0.80	EPA 8260D	8-4-23	8-4-23	
2-Butanone	ND	20	EPA 8260D	8-4-23	8-4-23	
Bromochloromethane	ND	0.80	EPA 8260D	8-4-23	8-4-23	
Chloroform	ND	0.80	EPA 8260D	8-4-23	8-4-23	
1,1,1-Trichloroethane	ND	0.80	EPA 8260D	8-4-23	8-4-23	
Carbon Tetrachloride	ND	0.80	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloropropene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
Benzene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloroethane	ND	0.80	EPA 8260D	8-4-23	8-4-23	
Trichloroethene	2.7	0.80	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloropropane	ND	0.80	EPA 8260D	8-4-23	8-4-23	
Dibromomethane	ND	0.80	EPA 8260D	8-4-23	8-4-23	
Bromodichloromethane	ND	0.80	EPA 8260D	8-4-23	8-4-23	
(cis) 1,3-Dichloropropene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
Methyl Isobutyl Ketone	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Toluene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,3-Dichloropropene	ND	0.80	EPA 8260D	8-4-23	8-4-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AS-45-072623**					
Laboratory ID:	07-222-29					
1,1,2-Trichloroethane	ND	0.80	EPA 8260D	8-4-23	8-4-23	
Tetrachloroethene	60	0.80	EPA 8260D	8-4-23	8-4-23	
1,3-Dichloropropane	ND	0.80	EPA 8260D	8-4-23	8-4-23	
2-Hexanone	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Dibromochloromethane	ND	0.80	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromoethane	ND	0.80	EPA 8260D	8-4-23	8-4-23	
Chlorobenzene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
1,1,1,2-Tetrachloroethane	ND	0.80	EPA 8260D	8-4-23	8-4-23	
Ethylbenzene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
m,p-Xylene	ND	1.6	EPA 8260D	8-4-23	8-4-23	
o-Xylene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
Styrene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
Bromoform	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Isopropylbenzene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
Bromobenzene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
1,1,2,2-Tetrachloroethane	ND	0.80	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichloropropane	ND	0.80	EPA 8260D	8-4-23	8-4-23	
n-Propylbenzene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
2-Chlorotoluene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
4-Chlorotoluene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
1,3,5-Trimethylbenzene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
tert-Butylbenzene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trimethylbenzene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
sec-Butylbenzene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
1,3-Dichlorobenzene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
p-Isopropyltoluene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
1,4-Dichlorobenzene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
1,2-Dichlorobenzene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
n-Butylbenzene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromo-3-chloropropane	ND	4.0	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trichlorobenzene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
Hexachlorobutadiene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Naphthalene	ND	4.0	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichlorobenzene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*108*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*87*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HC-4-072723**					
Laboratory ID:	07-222-30					
Dichlorodifluoromethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Chloromethane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Vinyl Chloride	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Bromomethane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Chloroethane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Trichlorofluoromethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Acetone	ND	10	EPA 8260D	8-4-23	8-4-23	
Iodomethane	ND	19	EPA 8260D	8-4-23	8-4-23	
Carbon Disulfide	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Methylene Chloride	ND	2.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,2-Dichloroethene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Methyl t-Butyl Ether	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Vinyl Acetate	ND	2.0	EPA 8260D	8-4-23	8-4-23	
2,2-Dichloropropane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
(cis) 1,2-Dichloroethene	4.4	0.40	EPA 8260D	8-4-23	8-4-23	
2-Butanone	ND	10	EPA 8260D	8-4-23	8-4-23	
Bromochloromethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Chloroform	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,1,1-Trichloroethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Carbon Tetrachloride	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloropropene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Benzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloroethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Trichloroethene	1.5	0.40	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloropropane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Dibromomethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Bromodichloromethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
(cis) 1,3-Dichloropropene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Methyl Isobutyl Ketone	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Toluene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,3-Dichloropropene	ND	0.40	EPA 8260D	8-4-23	8-4-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HC-4-072723**					
Laboratory ID:	07-222-30					
1,1,2-Trichloroethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Tetrachloroethene	44	0.40	EPA 8260D	8-4-23	8-4-23	
1,3-Dichloropropane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
2-Hexanone	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Dibromochloromethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromoethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Chlorobenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,1,1,2-Tetrachloroethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Ethylbenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
m,p-Xylene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
o-Xylene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Styrene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Bromoform	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Isopropylbenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Bromobenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,1,2,2-Tetrachloroethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichloropropane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
n-Propylbenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
2-Chlorotoluene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
4-Chlorotoluene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,3,5-Trimethylbenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
tert-Butylbenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trimethylbenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
sec-Butylbenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,3-Dichlorobenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
p-Isopropyltoluene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,4-Dichlorobenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,2-Dichlorobenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
n-Butylbenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromo-3-chloropropane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trichlorobenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Hexachlorobutadiene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Naphthalene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichlorobenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*110*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*87*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HC-5-072623**					
Laboratory ID:	07-222-31					
Dichlorodifluoromethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Chloromethane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Vinyl Chloride	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Bromomethane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Chloroethane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Trichlorofluoromethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Acetone	ND	10	EPA 8260D	8-4-23	8-4-23	
Iodomethane	ND	19	EPA 8260D	8-4-23	8-4-23	
Carbon Disulfide	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Methylene Chloride	ND	2.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,2-Dichloroethene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Methyl t-Butyl Ether	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Vinyl Acetate	ND	2.0	EPA 8260D	8-4-23	8-4-23	
2,2-Dichloropropane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
(cis) 1,2-Dichloroethene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
2-Butanone	ND	10	EPA 8260D	8-4-23	8-4-23	
Bromochloromethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Chloroform	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,1,1-Trichloroethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Carbon Tetrachloride	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloropropene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Benzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloroethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Trichloroethene	0.85	0.40	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloropropane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Dibromomethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Bromodichloromethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
(cis) 1,3-Dichloropropene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Methyl Isobutyl Ketone	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Toluene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,3-Dichloropropene	ND	0.40	EPA 8260D	8-4-23	8-4-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HC-5-072623**					
Laboratory ID:	07-222-31					
1,1,2-Trichloroethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Tetrachloroethene	40	0.40	EPA 8260D	8-4-23	8-4-23	
1,3-Dichloropropane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
2-Hexanone	ND	4.0	EPA 8260D	8-4-23	8-4-23	
Dibromochloromethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromoethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Chlorobenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,1,1,2-Tetrachloroethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Ethylbenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
m,p-Xylene	ND	0.80	EPA 8260D	8-4-23	8-4-23	
o-Xylene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Styrene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Bromoform	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Isopropylbenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Bromobenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,1,2,2-Tetrachloroethane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichloropropane	ND	0.40	EPA 8260D	8-4-23	8-4-23	
n-Propylbenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
2-Chlorotoluene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
4-Chlorotoluene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,3,5-Trimethylbenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
tert-Butylbenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trimethylbenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
sec-Butylbenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,3-Dichlorobenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
p-Isopropyltoluene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,4-Dichlorobenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,2-Dichlorobenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
n-Butylbenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromo-3-chloropropane	ND	2.0	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trichlorobenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Hexachlorobutadiene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Naphthalene	ND	2.0	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichlorobenzene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*106*	*75-127*				
Toluene-d8	*102*	*80-127*				
4-Bromofluorobenzene	*88*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HC-6-072523**					
Laboratory ID:	07-222-32					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chloromethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Vinyl Chloride	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromomethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Chloroethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Trichlorofluoromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Acetone	ND	5.0	EPA 8260D	8-4-23	8-4-23	
Iodomethane	ND	9.3	EPA 8260D	8-4-23	8-4-23	
Carbon Disulfide	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methylene Chloride	ND	1.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Vinyl Acetate	ND	1.0	EPA 8260D	8-4-23	8-4-23	
2,2-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
(cis) 1,2-Dichloroethene	0.63	0.20	EPA 8260D	8-4-23	8-4-23	
2-Butanone	ND	5.0	EPA 8260D	8-4-23	8-4-23	
Bromochloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chloroform	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Carbon Tetrachloride	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Benzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Trichloroethene	3.1	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Dibromomethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromodichloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Toluene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HC-6-072523**					
Laboratory ID:	07-222-32					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Tetrachloroethene	22	0.20	EPA 8260D	8-4-23	8-4-23	
1,3-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Hexanone	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Dibromochloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromoethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Ethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
m,p-Xylene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
o-Xylene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Styrene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromoform	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Isopropylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
n-Propylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Chlorotoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
4-Chlorotoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
tert-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
sec-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
p-Isopropyltoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
n-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Hexachlorobutadiene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Naphthalene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*108*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*88*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HC-8-072623**					
Laboratory ID:	07-222-33					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chloromethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Vinyl Chloride	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromomethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Chloroethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Trichlorofluoromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Acetone	ND	5.0	EPA 8260D	8-4-23	8-4-23	
Iodomethane	ND	9.3	EPA 8260D	8-4-23	8-4-23	
Carbon Disulfide	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methylene Chloride	ND	1.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methyl t-Butyl Ether	0.52	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Vinyl Acetate	ND	1.0	EPA 8260D	8-4-23	8-4-23	
2,2-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
(cis) 1,2-Dichloroethene	3.3	0.20	EPA 8260D	8-4-23	8-4-23	
2-Butanone	ND	5.0	EPA 8260D	8-4-23	8-4-23	
Bromochloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chloroform	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Carbon Tetrachloride	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Benzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloroethane	0.28	0.20	EPA 8260D	8-4-23	8-4-23	
Trichloroethene	2.2	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Dibromomethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromodichloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Toluene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HC-8-072623**					
Laboratory ID:	07-222-33					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Tetrachloroethene	22	0.20	EPA 8260D	8-4-23	8-4-23	
1,3-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Hexanone	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Dibromochloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromoethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Ethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
m,p-Xylene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
o-Xylene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Styrene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromoform	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Isopropylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
n-Propylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Chlorotoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
4-Chlorotoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
tert-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
sec-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
p-Isopropyltoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
n-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Hexachlorobutadiene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Naphthalene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*110*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*86*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**IW-1-072723**					
Laboratory ID:	07-222-34					
Dichlorodifluoromethane	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Chloromethane	ND	40	EPA 8260D	8-4-23	8-4-23	
Vinyl Chloride	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Bromomethane	ND	40	EPA 8260D	8-4-23	8-4-23	
Chloroethane	ND	40	EPA 8260D	8-4-23	8-4-23	
Trichlorofluoromethane	ND	8.0	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Acetone	ND	200	EPA 8260D	8-4-23	8-4-23	
Iodomethane	ND	370	EPA 8260D	8-4-23	8-4-23	
Carbon Disulfide	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Methylene Chloride	ND	40	EPA 8260D	8-4-23	8-4-23	
(trans) 1,2-Dichloroethene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Methyl t-Butyl Ether	ND	8.0	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethane	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Vinyl Acetate	ND	40	EPA 8260D	8-4-23	8-4-23	
2,2-Dichloropropane	ND	8.0	EPA 8260D	8-4-23	8-4-23	
(cis) 1,2-Dichloroethene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
2-Butanone	2100	200	EPA 8260D	8-4-23	8-4-23	
Bromochloromethane	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Chloroform	ND	8.0	EPA 8260D	8-4-23	8-4-23	
1,1,1-Trichloroethane	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Carbon Tetrachloride	ND	8.0	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloropropene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Benzene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloroethane	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Trichloroethene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloropropane	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Dibromomethane	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Bromodichloromethane	ND	8.0	EPA 8260D	8-4-23	8-4-23	
(cis) 1,3-Dichloropropene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Methyl Isobutyl Ketone	ND	80	EPA 8260D	8-4-23	8-4-23	
Toluene	ND	40	EPA 8260D	8-4-23	8-4-23	
(trans) 1,3-Dichloropropene	ND	8.0	EPA 8260D	8-4-23	8-4-23	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**IW-1-072723**					
Laboratory ID:	07-222-34					
1,1,2-Trichloroethane	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Tetrachloroethene	18	8.0	EPA 8260D	8-4-23	8-4-23	
1,3-Dichloropropane	ND	8.0	EPA 8260D	8-4-23	8-4-23	
2-Hexanone	ND	80	EPA 8260D	8-4-23	8-4-23	
Dibromochloromethane	ND	8.0	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromoethane	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Chlorobenzene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
1,1,1,2-Tetrachloroethane	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Ethylbenzene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
m,p-Xylene	ND	16	EPA 8260D	8-4-23	8-4-23	
o-Xylene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Styrene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Bromoform	ND	40	EPA 8260D	8-4-23	8-4-23	
Isopropylbenzene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Bromobenzene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
1,1,2,2-Tetrachloroethane	ND	8.0	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichloropropane	ND	8.0	EPA 8260D	8-4-23	8-4-23	
n-Propylbenzene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
2-Chlorotoluene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
4-Chlorotoluene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
1,3,5-Trimethylbenzene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
tert-Butylbenzene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trimethylbenzene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
sec-Butylbenzene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
1,3-Dichlorobenzene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
p-Isopropyltoluene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
1,4-Dichlorobenzene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
1,2-Dichlorobenzene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
n-Butylbenzene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromo-3-chloropropane	ND	40	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trichlorobenzene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Hexachlorobutadiene	ND	40	EPA 8260D	8-4-23	8-4-23	
Naphthalene	ND	40	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichlorobenzene	ND	8.0	EPA 8260D	8-4-23	8-4-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*105*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*88*	*78-125*				

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Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-1A-072523**					
Laboratory ID:	07-222-35					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chloromethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Vinyl Chloride	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromomethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Chloroethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Trichlorofluoromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Acetone	ND	5.0	EPA 8260D	8-4-23	8-4-23	
Iodomethane	ND	9.3	EPA 8260D	8-4-23	8-4-23	
Carbon Disulfide	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methylene Chloride	ND	1.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Vinyl Acetate	ND	1.0	EPA 8260D	8-4-23	8-4-23	
2,2-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Butanone	ND	5.0	EPA 8260D	8-4-23	8-4-23	
Bromochloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chloroform	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Carbon Tetrachloride	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Benzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Trichloroethene	0.58	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Dibromomethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromodichloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Toluene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-1A-072523**					
Laboratory ID:	07-222-35					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Tetrachloroethene	2.9	0.20	EPA 8260D	8-4-23	8-4-23	
1,3-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Hexanone	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Dibromochloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromoethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Ethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
m,p-Xylene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
o-Xylene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Styrene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromoform	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Isopropylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
n-Propylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Chlorotoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
4-Chlorotoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
tert-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
sec-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
p-Isopropyltoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
n-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Hexachlorobutadiene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Naphthalene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*110*	*75-127*				
Toluene-d8	*102*	*80-127*				
4-Bromofluorobenzene	*88*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-5A-072523**					
Laboratory ID:	07-222-36					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chloromethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Vinyl Chloride	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromomethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Chloroethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Trichlorofluoromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Acetone	ND	5.0	EPA 8260D	8-4-23	8-4-23	
Iodomethane	ND	9.3	EPA 8260D	8-4-23	8-4-23	
Carbon Disulfide	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methylene Chloride	ND	1.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Vinyl Acetate	ND	1.0	EPA 8260D	8-4-23	8-4-23	
2,2-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
(cis) 1,2-Dichloroethene	1.1	0.20	EPA 8260D	8-4-23	8-4-23	
2-Butanone	ND	5.0	EPA 8260D	8-4-23	8-4-23	
Bromochloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chloroform	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Carbon Tetrachloride	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Benzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Trichloroethene	1.0	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Dibromomethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromodichloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Toluene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-5A-072523**					
Laboratory ID:	07-222-36					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Tetrachloroethene	6.6	0.20	EPA 8260D	8-4-23	8-4-23	
1,3-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Hexanone	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Dibromochloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromoethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Ethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
m,p-Xylene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
o-Xylene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Styrene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromoform	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Isopropylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
n-Propylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Chlorotoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
4-Chlorotoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
tert-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
sec-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
p-Isopropyltoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
n-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Hexachlorobutadiene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Naphthalene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*108*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*88*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**TB-01**					
Laboratory ID:	07-222-37					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chloromethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Vinyl Chloride	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromomethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Chloroethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Trichlorofluoromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Acetone	ND	5.0	EPA 8260D	8-4-23	8-4-23	
Iodomethane	ND	9.3	EPA 8260D	8-4-23	8-4-23	
Carbon Disulfide	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methylene Chloride	ND	1.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Vinyl Acetate	ND	1.0	EPA 8260D	8-4-23	8-4-23	
2,2-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Butanone	ND	5.0	EPA 8260D	8-4-23	8-4-23	
Bromochloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chloroform	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Carbon Tetrachloride	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Benzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Trichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Dibromomethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromodichloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Toluene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**TB-01**					
Laboratory ID:	07-222-37					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Tetrachloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,3-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Hexanone	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Dibromochloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromoethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Ethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
m,p-Xylene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
o-Xylene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Styrene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromoform	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Isopropylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
n-Propylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Chlorotoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
4-Chlorotoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
tert-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
sec-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
p-Isopropyltoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
n-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Hexachlorobutadiene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Naphthalene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*105*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*89*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**TB-02**					
Laboratory ID:	07-222-38					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chloromethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Vinyl Chloride	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromomethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Chloroethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Trichlorofluoromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Acetone	ND	5.0	EPA 8260D	8-4-23	8-4-23	
Iodomethane	ND	9.3	EPA 8260D	8-4-23	8-4-23	
Carbon Disulfide	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methylene Chloride	ND	1.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Vinyl Acetate	ND	1.0	EPA 8260D	8-4-23	8-4-23	
2,2-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Butanone	ND	5.0	EPA 8260D	8-4-23	8-4-23	
Bromochloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chloroform	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Carbon Tetrachloride	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Benzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Trichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Dibromomethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromodichloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Toluene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**TB-02**					
Laboratory ID:	07-222-38					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Tetrachloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,3-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Hexanone	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Dibromochloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromoethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Ethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
m,p-Xylene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
o-Xylene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Styrene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromoform	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Isopropylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
n-Propylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Chlorotoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
4-Chlorotoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
tert-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
sec-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
p-Isopropyltoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
n-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Hexachlorobutadiene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Naphthalene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*106*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*88*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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QUALITY CONTROL
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0803W1					
Dichlorodifluoromethane	ND	0.30	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	6.3	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	0.25	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	1.0	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chloroform	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	

Date of Report: August 7, 2023
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0803W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	0.40	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*91*	*75-127*				
Toluene-d8	*95*	*80-127*				
4-Bromofluorobenzene	*102*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
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Project: 090030

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QUALITY CONTROL
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0803W2					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chloromethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Vinyl Chloride	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromomethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Chloroethane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Trichlorofluoromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Acetone	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Iodomethane	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Carbon Disulfide	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methylene Chloride	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Vinyl Acetate	ND	1.0	EPA 8260D	8-3-23	8-3-23	
2,2-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Butanone	ND	5.0	EPA 8260D	8-3-23	8-3-23	
Bromochloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chloroform	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Carbon Tetrachloride	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Benzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Trichloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Dibromomethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromodichloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Toluene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-3-23	8-3-23	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0803W2					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Tetrachloroethene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Hexanone	ND	2.0	EPA 8260D	8-3-23	8-3-23	
Dibromochloromethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromoethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Chlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Ethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
m,p-Xylene	ND	0.40	EPA 8260D	8-3-23	8-3-23	
o-Xylene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Styrene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromoform	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Isopropylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Bromobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	8-3-23	8-3-23	
n-Propylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
2-Chlorotoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
4-Chlorotoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
tert-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
sec-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
p-Isopropyltoluene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
n-Butylbenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Hexachlorobutadiene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
Naphthalene	ND	1.0	EPA 8260D	8-3-23	8-3-23	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	8-3-23	8-3-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*104*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*93*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0804W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chloromethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Vinyl Chloride	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromomethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Chloroethane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Trichlorofluoromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Acetone	ND	5.0	EPA 8260D	8-4-23	8-4-23	
Iodomethane	ND	9.3	EPA 8260D	8-4-23	8-4-23	
Carbon Disulfide	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methylene Chloride	ND	1.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methyl t-Butyl Ether	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Vinyl Acetate	ND	1.0	EPA 8260D	8-4-23	8-4-23	
2,2-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Butanone	ND	5.0	EPA 8260D	8-4-23	8-4-23	
Bromochloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chloroform	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Carbon Tetrachloride	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Benzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Trichloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Dibromomethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromodichloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Toluene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	8-4-23	8-4-23	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0804W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Tetrachloroethene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,3-Dichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Hexanone	ND	2.0	EPA 8260D	8-4-23	8-4-23	
Dibromochloromethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromoethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Chlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Ethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
m,p-Xylene	ND	0.40	EPA 8260D	8-4-23	8-4-23	
o-Xylene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Styrene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromoform	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Isopropylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Bromobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	8-4-23	8-4-23	
n-Propylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
2-Chlorotoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
4-Chlorotoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
tert-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
sec-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
p-Isopropyltoluene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
n-Butylbenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	8-4-23	8-4-23	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Hexachlorobutadiene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
Naphthalene	ND	1.0	EPA 8260D	8-4-23	8-4-23	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	8-4-23	8-4-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*111*	*75-127*				
Toluene-d8	*103*	*80-127*				
4-Bromofluorobenzene	*93*	*78-125*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

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QUALITY CONTROL
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Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0803W1									
	SB	SBD	SB	SBD	SB	SBD				
Dichlorodifluoromethane	**6.71**	**5.94**	10.0	10.0	67	59	34-166	12	21	
Chloromethane	**8.34**	**7.71**	10.0	10.0	83	77	63-138	8	18	
Vinyl Chloride	**8.91**	**8.21**	10.0	10.0	89	82	71-135	8	20	
Bromomethane	**9.00**	**9.05**	10.0	10.0	90	91	20-151	1	36	
Chloroethane	**9.26**	**8.37**	10.0	10.0	93	84	76-125	10	20	
Trichlorofluoromethane	**9.28**	**8.79**	10.0	10.0	93	88	75-131	5	19	
1,1-Dichloroethene	**10.1**	**9.51**	10.0	10.0	101	95	78-125	6	19	
Acetone	**7.88**	**8.03**	10.0	10.0	79	80	76-125	2	18	
Iodomethane	**8.59**	**8.46**	10.0	10.0	86	85	10-155	2	40	
Carbon Disulfide	**7.98**	**7.95**	10.0	10.0	80	80	58-129	0	17	
Methylene Chloride	**9.49**	**9.05**	10.0	10.0	95	91	80-120	5	15	
(trans) 1,2-Dichloroethene	**10.1**	**9.26**	10.0	10.0	101	93	80-125	9	17	
Methyl t-Butyl Ether	**9.44**	**8.91**	10.0	10.0	94	89	80-122	6	15	
1,1-Dichloroethane	**10.1**	**9.39**	10.0	10.0	101	94	80-125	7	17	
Vinyl Acetate	**8.28**	**8.39**	10.0	10.0	83	84	80-131	1	15	
2,2-Dichloropropane	**10.9**	**10.5**	10.0	10.0	109	105	80-146	4	21	
(cis) 1,2-Dichloroethene	**10.4**	**9.64**	10.0	10.0	104	96	80-129	8	17	
2-Butanone	**8.52**	**8.98**	10.0	10.0	85	90	80-129	5	16	
Bromochloromethane	**9.37**	**8.79**	10.0	10.0	94	88	80-125	6	18	
Chloroform	**10.2**	**9.53**	10.0	10.0	102	95	80-123	7	16	
1,1,1-Trichloroethane	**10.1**	**9.60**	10.0	10.0	101	96	80-123	5	18	
Carbon Tetrachloride	**10.7**	**10.0**	10.0	10.0	107	100	80-126	7	17	
1,1-Dichloropropene	**10.2**	**9.66**	10.0	10.0	102	97	80-126	5	18	
Benzene	**9.87**	**9.33**	10.0	10.0	99	93	80-121	6	16	
1,2-Dichloroethane	**9.49**	**9.04**	10.0	10.0	95	90	80-124	5	15	
Trichloroethene	**10.4**	**9.98**	10.0	10.0	104	100	80-122	4	18	
1,2-Dichloropropane	**10.5**	**9.91**	10.0	10.0	105	99	80-123	6	15	
Dibromomethane	**9.90**	**9.43**	10.0	10.0	99	94	80-123	5	15	
Bromodichloromethane	**10.4**	**10.1**	10.0	10.0	104	101	80-125	3	15	
(cis) 1,3-Dichloropropene	**10.4**	**9.93**	10.0	10.0	104	99	80-129	5	15	
Methyl Isobutyl Ketone	**8.98**	**8.90**	10.0	10.0	90	89	80-124	1	15	
Toluene	**9.89**	**9.51**	10.0	10.0	99	95	80-120	4	18	
(trans) 1,3-Dichloropropene	**11.1**	**10.4**	10.0	10.0	111	104	80-134	7	17	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
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Project: 090030

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QUALITY CONTROL
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Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0803W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1,2-Trichloroethane	**10.4**	**10.2**	10.0	10.0	104	102	77-126	2	20	
Tetrachloroethene	**11.4**	**10.9**	10.0	10.0	114	109	80-124	4	18	
1,3-Dichloropropane	**10.3**	**9.55**	10.0	10.0	103	96	80-120	8	15	
2-Hexanone	**9.19**	**9.20**	10.0	10.0	92	92	80-130	0	16	
Dibromochloromethane	**10.6**	**10.1**	10.0	10.0	106	101	80-128	5	15	
1,2-Dibromoethane	**10.5**	**10.1**	10.0	10.0	105	101	80-127	4	15	
Chlorobenzene	**11.0**	**10.4**	10.0	10.0	110	104	80-120	6	17	
1,1,1,2-Tetrachloroethane	**10.9**	**10.4**	10.0	10.0	109	104	80-125	5	17	
Ethylbenzene	**11.3**	**10.6**	10.0	10.0	113	106	80-125	6	18	
m,p-Xylene	**22.8**	**21.3**	20.0	20.0	114	107	80-127	7	18	
o-Xylene	**11.1**	**10.3**	10.0	10.0	111	103	80-126	7	18	
Styrene	**11.0**	**10.3**	10.0	10.0	110	103	80-130	7	17	
Bromoform	**10.4**	**10.1**	10.0	10.0	104	101	80-130	3	15	
Isopropylbenzene	**11.5**	**10.9**	10.0	10.0	115	109	80-129	5	18	
Bromobenzene	**11.0**	**10.3**	10.0	10.0	110	103	76-128	7	16	
1,1,2,2-Tetrachloroethane	**10.6**	**10.4**	10.0	10.0	106	104	74-130	2	15	
1,2,3-Trichloropropane	**10.4**	**10.4**	10.0	10.0	104	104	71-129	0	25	
n-Propylbenzene	**11.8**	**11.5**	10.0	10.0	118	115	80-129	3	19	
2-Chlorotoluene	**11.2**	**11.0**	10.0	10.0	112	110	80-128	2	18	
4-Chlorotoluene	**11.4**	**10.9**	10.0	10.0	114	109	80-130	4	19	
1,3,5-Trimethylbenzene	**11.8**	**11.4**	10.0	10.0	118	114	80-131	3	18	
tert-Butylbenzene	**11.5**	**11.1**	10.0	10.0	115	111	80-130	4	18	
1,2,4-Trimethylbenzene	**11.5**	**11.0**	10.0	10.0	115	110	80-130	4	18	
sec-Butylbenzene	**11.9**	**11.4**	10.0	10.0	119	114	80-130	4	18	
1,3-Dichlorobenzene	**11.1**	**10.6**	10.0	10.0	111	106	80-126	5	17	
p-Isopropyltoluene	**12.3**	**11.7**	10.0	10.0	123	117	80-132	5	18	
1,4-Dichlorobenzene	**10.8**	**10.3**	10.0	10.0	108	103	80-121	5	17	
1,2-Dichlorobenzene	**11.0**	**10.5**	10.0	10.0	110	105	79-125	5	15	
n-Butylbenzene	**12.9**	**12.4**	10.0	10.0	129	124	80-138	4	19	
1,2-Dibromo-3-chloropropane	**10.2**	**10.4**	10.0	10.0	102	104	73-133	2	15	
1,2,4-Trichlorobenzene	**11.0**	**10.9**	10.0	10.0	110	109	80-139	1	18	
Hexachlorobutadiene	**11.9**	**12.0**	10.0	10.0	119	120	80-151	1	18	
Naphthalene	**10.0**	**9.91**	10.0	10.0	100	99	68-144	1	25	
1,2,3-Trichlorobenzene	**10.3**	**10.0**	10.0	10.0	103	100	75-146	3	28	
Surrogate:										
Dibromofluoromethane					*90*	*91*	*75-127*			
Toluene-d8					*95*	*97*	*80-127*			
4-Bromofluorobenzene					*107*	*105*	*78-125*			

Date of Report: August 7, 2023
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Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0803W2									
	SB	SBD	SB	SBD	SB	SBD				
Dichlorodifluoromethane	**12.2**	**12.3**	10.0	10.0	122	123	34-166	1	21	
Chloromethane	**10.7**	**10.8**	10.0	10.0	107	108	63-138	1	18	
Vinyl Chloride	**10.2**	**10.2**	10.0	10.0	102	102	71-135	0	20	
Bromomethane	**10.6**	**11.4**	10.0	10.0	106	114	20-151	7	36	
Chloroethane	**10.1**	**9.77**	10.0	10.0	101	98	76-125	3	20	
Trichlorofluoromethane	**9.86**	**10.0**	10.0	10.0	99	100	75-131	1	19	
1,1-Dichloroethene	**9.82**	**9.89**	10.0	10.0	98	99	78-125	1	19	
Acetone	**8.44**	**8.71**	10.0	10.0	84	87	76-125	3	18	
Iodomethane	**8.52**	**8.62**	10.0	10.0	85	86	10-155	1	40	
Carbon Disulfide	**9.65**	**9.62**	10.0	10.0	97	96	58-129	0	17	
Methylene Chloride	**9.02**	**9.71**	10.0	10.0	90	97	80-120	7	15	
(trans) 1,2-Dichloroethene	**9.56**	**10.1**	10.0	10.0	96	101	80-125	5	17	
Methyl t-Butyl Ether	**9.50**	**9.84**	10.0	10.0	95	98	80-122	4	15	
1,1-Dichloroethane	**9.59**	**9.83**	10.0	10.0	96	98	80-125	2	17	
Vinyl Acetate	**8.77**	**8.79**	10.0	10.0	88	88	80-131	0	15	
2,2-Dichloropropane	**11.5**	**12.2**	10.0	10.0	115	122	80-146	6	21	
(cis) 1,2-Dichloroethene	**9.97**	**10.2**	10.0	10.0	100	102	80-129	2	17	
2-Butanone	**9.00**	**8.96**	10.0	10.0	90	90	80-129	0	16	
Bromochloromethane	**9.76**	**9.96**	10.0	10.0	98	100	80-125	2	18	
Chloroform	**9.78**	**9.80**	10.0	10.0	98	98	80-123	0	16	
1,1,1-Trichloroethane	**9.99**	**10.0**	10.0	10.0	100	100	80-123	0	18	
Carbon Tetrachloride	**9.95**	**10.0**	10.0	10.0	100	100	80-126	1	17	
1,1-Dichloropropene	**9.65**	**9.72**	10.0	10.0	97	97	80-126	1	18	
Benzene	**9.39**	**9.51**	10.0	10.0	94	95	80-121	1	16	
1,2-Dichloroethane	**9.17**	**9.49**	10.0	10.0	92	95	80-124	3	15	
Trichloroethene	**9.68**	**9.96**	10.0	10.0	97	100	80-122	3	18	
1,2-Dichloropropane	**9.22**	**9.46**	10.0	10.0	92	95	80-123	3	15	
Dibromomethane	**9.66**	**9.67**	10.0	10.0	97	97	80-123	0	15	
Bromodichloromethane	**9.99**	**10.3**	10.0	10.0	100	103	80-125	3	15	
(cis) 1,3-Dichloropropene	**9.29**	**9.51**	10.0	10.0	93	95	80-129	2	15	
Methyl Isobutyl Ketone	**9.02**	**9.16**	10.0	10.0	90	92	80-124	2	15	
Toluene	**8.84**	**8.96**	10.0	10.0	88	90	80-120	1	18	
(trans) 1,3-Dichloropropene	**10.3**	**9.96**	10.0	10.0	103	100	80-134	3	17	

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Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0803W2									
	SB	SBD	SB	SBD	SB	SBD				
1,1,2-Trichloroethane	**10.4**	**10.3**	10.0	10.0	104	103	77-126	1	20	
Tetrachloroethene	**10.5**	**10.4**	10.0	10.0	105	104	80-124	1	18	
1,3-Dichloropropane	**10.4**	**10.1**	10.0	10.0	104	101	80-120	3	15	
2-Hexanone	**9.69**	**10.0**	10.0	10.0	97	100	80-130	3	16	
Dibromochloromethane	**9.87**	**9.70**	10.0	10.0	99	97	80-128	2	15	
1,2-Dibromoethane	**11.0**	**10.6**	10.0	10.0	110	106	80-127	4	15	
Chlorobenzene	**10.1**	**9.92**	10.0	10.0	101	99	80-120	2	17	
1,1,1,2-Tetrachloroethane	**11.1**	**10.8**	10.0	10.0	111	108	80-125	3	17	
Ethylbenzene	**10.3**	**10.0**	10.0	10.0	103	100	80-125	3	18	
m,p-Xylene	**20.6**	**20.5**	20.0	20.0	103	103	80-127	0	18	
o-Xylene	**10.3**	**10.2**	10.0	10.0	103	102	80-126	1	18	
Styrene	**10.8**	**10.7**	10.0	10.0	108	107	80-130	1	17	
Bromoform	**9.93**	**9.80**	10.0	10.0	99	98	80-130	1	15	
Isopropylbenzene	**10.6**	**10.4**	10.0	10.0	106	104	80-129	2	18	
Bromobenzene	**10.3**	**10.3**	10.0	10.0	103	103	76-128	0	16	
1,1,2,2-Tetrachloroethane	**10.1**	**9.97**	10.0	10.0	101	100	74-130	1	15	
1,2,3-Trichloropropane	**10.5**	**10.3**	10.0	10.0	105	103	71-129	2	25	
n-Propylbenzene	**10.8**	**10.7**	10.0	10.0	108	107	80-129	1	19	
2-Chlorotoluene	**10.6**	**10.5**	10.0	10.0	106	105	80-128	1	18	
4-Chlorotoluene	**10.7**	**10.6**	10.0	10.0	107	106	80-130	1	19	
1,3,5-Trimethylbenzene	**10.6**	**10.5**	10.0	10.0	106	105	80-131	1	18	
tert-Butylbenzene	**10.7**	**10.7**	10.0	10.0	107	107	80-130	0	18	
1,2,4-Trimethylbenzene	**10.6**	**10.5**	10.0	10.0	106	105	80-130	1	18	
sec-Butylbenzene	**10.8**	**10.7**	10.0	10.0	108	107	80-130	1	18	
1,3-Dichlorobenzene	**10.6**	**10.6**	10.0	10.0	106	106	80-126	0	17	
p-Isopropyltoluene	**11.0**	**11.0**	10.0	10.0	110	110	80-132	0	18	
1,4-Dichlorobenzene	**10.3**	**10.3**	10.0	10.0	103	103	80-121	0	17	
1,2-Dichlorobenzene	**10.3**	**10.2**	10.0	10.0	103	102	79-125	1	15	
n-Butylbenzene	**10.9**	**10.9**	10.0	10.0	109	109	80-138	0	19	
1,2-Dibromo-3-chloropropane	**9.66**	**9.77**	10.0	10.0	97	98	73-133	1	15	
1,2,4-Trichlorobenzene	**11.2**	**11.3**	10.0	10.0	112	113	80-139	1	18	
Hexachlorobutadiene	**11.2**	**11.3**	10.0	10.0	112	113	80-151	1	18	
Naphthalene	**9.65**	**10.2**	10.0	10.0	97	102	68-144	6	25	
1,2,3-Trichlorobenzene	**10.3**	**10.7**	10.0	10.0	103	107	75-146	4	28	
Surrogate:										
Dibromofluoromethane					*105*	*103*	*75-127*			
Toluene-d8					*101*	*98*	*80-127*			
4-Bromofluorobenzene					*100*	*96*	*78-125*			

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Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0804W1									
	SB	SBD	SB	SBD	SB	SBD				
Dichlorodifluoromethane	**11.6**	**11.4**	10.0	10.0	116	114	34-166	2	21	
Chloromethane	**9.31**	**9.33**	10.0	10.0	93	93	63-138	0	18	
Vinyl Chloride	**10.7**	**10.4**	10.0	10.0	107	104	71-135	3	20	
Bromomethane	**8.72**	**10.2**	10.0	10.0	87	102	20-151	16	36	
Chloroethane	**10.7**	**10.7**	10.0	10.0	107	107	76-125	0	20	
Trichlorofluoromethane	**9.82**	**9.77**	10.0	10.0	98	98	75-131	1	19	
1,1-Dichloroethene	**10.8**	**10.4**	10.0	10.0	108	104	78-125	4	19	
Acetone	**9.84**	**10.1**	10.0	10.0	98	101	76-125	3	18	
Iodomethane	**5.41**	**7.43**	10.0	10.0	54	74	10-155	31	40	
Carbon Disulfide	**9.87**	**10.1**	10.0	10.0	99	101	58-129	2	17	
Methylene Chloride	**10.2**	**10.5**	10.0	10.0	102	105	80-120	3	15	
(trans) 1,2-Dichloroethene	**10.1**	**10.1**	10.0	10.0	101	101	80-125	0	17	
Methyl t-Butyl Ether	**10.0**	**10.1**	10.0	10.0	100	101	80-122	1	15	
1,1-Dichloroethane	**9.90**	**9.90**	10.0	10.0	99	99	80-125	0	17	
Vinyl Acetate	**9.06**	**9.27**	10.0	10.0	91	93	80-131	2	15	
2,2-Dichloropropane	**11.4**	**11.5**	10.0	10.0	114	115	80-146	1	21	
(cis) 1,2-Dichloroethene	**10.2**	**10.4**	10.0	10.0	102	104	80-129	2	17	
2-Butanone	**9.64**	**10.1**	10.0	10.0	96	101	80-129	5	16	
Bromochloromethane	**10.0**	**10.3**	10.0	10.0	100	103	80-125	3	18	
Chloroform	**9.76**	**9.96**	10.0	10.0	98	100	80-123	2	16	
1,1,1-Trichloroethane	**9.85**	**9.88**	10.0	10.0	99	99	80-123	0	18	
Carbon Tetrachloride	**9.68**	**9.92**	10.0	10.0	97	99	80-126	2	17	
1,1-Dichloropropene	**9.49**	**9.63**	10.0	10.0	95	96	80-126	1	18	
Benzene	**9.35**	**9.56**	10.0	10.0	94	96	80-121	2	16	
1,2-Dichloroethane	**9.38**	**9.55**	10.0	10.0	94	96	80-124	2	15	
Trichloroethene	**9.30**	**9.66**	10.0	10.0	93	97	80-122	4	18	
1,2-Dichloropropane	**9.08**	**9.35**	10.0	10.0	91	94	80-123	3	15	
Dibromomethane	**9.73**	**9.72**	10.0	10.0	97	97	80-123	0	15	
Bromodichloromethane	**9.90**	**10.2**	10.0	10.0	99	102	80-125	3	15	
(cis) 1,3-Dichloropropene	**9.08**	**9.36**	10.0	10.0	91	94	80-129	3	15	
Methyl Isobutyl Ketone	**9.33**	**9.56**	10.0	10.0	93	96	80-124	2	15	
Toluene	**8.69**	**8.99**	10.0	10.0	87	90	80-120	3	18	
(trans) 1,3-Dichloropropene	**9.78**	**10.1**	10.0	10.0	98	101	80-134	3	17	

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QUALITY CONTROL
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Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0804W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1,2-Trichloroethane	**10.5**	**10.9**	10.0	10.0	105	109	77-126	4	20	
Tetrachloroethene	**10.3**	**10.5**	10.0	10.0	103	105	80-124	2	18	
1,3-Dichloropropane	**10.4**	**10.6**	10.0	10.0	104	106	80-120	2	15	
2-Hexanone	**10.2**	**11.0**	10.0	10.0	102	110	80-130	8	16	
Dibromochloromethane	**9.65**	**9.87**	10.0	10.0	97	99	80-128	2	15	
1,2-Dibromoethane	**11.0**	**11.1**	10.0	10.0	110	111	80-127	1	15	
Chlorobenzene	**10.1**	**10.3**	10.0	10.0	101	103	80-120	2	17	
1,1,1,2-Tetrachloroethane	**10.9**	**11.0**	10.0	10.0	109	110	80-125	1	17	
Ethylbenzene	**10.3**	**10.4**	10.0	10.0	103	104	80-125	1	18	
m,p-Xylene	**20.7**	**21.1**	20.0	20.0	104	106	80-127	2	18	
o-Xylene	**10.2**	**10.3**	10.0	10.0	102	103	80-126	1	18	
Styrene	**10.7**	**11.0**	10.0	10.0	107	110	80-130	3	17	
Bromoform	**10.0**	**10.1**	10.0	10.0	100	101	80-130	1	15	
Isopropylbenzene	**10.6**	**10.7**	10.0	10.0	106	107	80-129	1	18	
Bromobenzene	**10.3**	**10.4**	10.0	10.0	103	104	76-128	1	16	
1,1,2,2-Tetrachloroethane	**10.6**	**10.8**	10.0	10.0	106	108	74-130	2	15	
1,2,3-Trichloropropane	**10.9**	**11.0**	10.0	10.0	109	110	71-129	1	25	
n-Propylbenzene	**10.7**	**10.8**	10.0	10.0	107	108	80-129	1	19	
2-Chlorotoluene	**10.4**	**10.7**	10.0	10.0	104	107	80-128	3	18	
4-Chlorotoluene	**10.7**	**10.7**	10.0	10.0	107	107	80-130	0	19	
1,3,5-Trimethylbenzene	**10.4**	**10.6**	10.0	10.0	104	106	80-131	2	18	
tert-Butylbenzene	**10.6**	**10.7**	10.0	10.0	106	107	80-130	1	18	
1,2,4-Trimethylbenzene	**10.4**	**10.5**	10.0	10.0	104	105	80-130	1	18	
sec-Butylbenzene	**10.8**	**10.8**	10.0	10.0	108	108	80-130	0	18	
1,3-Dichlorobenzene	**10.5**	**10.7**	10.0	10.0	105	107	80-126	2	17	
p-Isopropyltoluene	**10.9**	**10.9**	10.0	10.0	109	109	80-132	0	18	
1,4-Dichlorobenzene	**10.3**	**10.3**	10.0	10.0	103	103	80-121	0	17	
1,2-Dichlorobenzene	**10.3**	**10.5**	10.0	10.0	103	105	79-125	2	15	
n-Butylbenzene	**11.0**	**11.1**	10.0	10.0	110	111	80-138	1	19	
1,2-Dibromo-3-chloropropane	**10.2**	**10.2**	10.0	10.0	102	102	73-133	0	15	
1,2,4-Trichlorobenzene	**11.1**	**11.6**	10.0	10.0	111	116	80-139	4	18	
Hexachlorobutadiene	**11.0**	**11.2**	10.0	10.0	110	112	80-151	2	18	
Naphthalene	**10.3**	**10.9**	10.0	10.0	103	109	68-144	6	25	
1,2,3-Trichlorobenzene	**10.4**	**10.9**	10.0	10.0	104	109	75-146	5	28	
Surrogate:										
Dibromofluoromethane					*113*	*113*	*75-127*			
Toluene-d8					*103*	*102*	*80-127*			
4-Bromofluorobenzene					*97*	*95*	*78-125*			

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-4-50-072723**					
Laboratory ID:	07-222-03					
Nitrate	**0.054**	0.050	EPA 353.2	7-27-23	7-27-23	
Client ID:	**AS-31-072723**					
Laboratory ID:	07-222-26					
Nitrate	**2.2**	0.050	EPA 353.2	7-27-23	7-27-23	
Client ID:	**AS-35-072723**					
Laboratory ID:	07-222-27					
Nitrate	**0.059**	0.050	EPA 353.2	7-27-23	7-27-23	
Client ID:	**HC-4-072723**					
Laboratory ID:	07-222-30					
Nitrate	**ND**	0.050	EPA 353.2	7-27-23	7-27-23	
Client ID:	**IW-1-072723**					
Laboratory ID:	07-222-34					
Nitrate	**0.31**	0.050	EPA 353.2	7-27-23	7-27-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

NITRATE (as Nitrogen)
EPA 353.2
QUALITY CONTROL

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0727W1					
Nitrate	**ND**	0.050	EPA 353.2	7-27-23	7-27-23	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-220-07							
	ORIG DUP							
Nitrate	**ND** **ND**	NA	NA	NA	NA	NA	19	
MATRIX SPIKE								
Laboratory ID:	07-220-07							
	MS	MS		MS				
Nitrate	**1.93**	2.00	ND	97	85-121	NA	NA	
SPIKE BLANK								
Laboratory ID:	SB0727W1							
	SB	SB		SB				
Nitrate	**2.03**	2.00	NA	102	87-118	NA	NA	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

DISSOLVED METALS
EPA 6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-4-50-072723**					
Laboratory ID:	07-222-03					
Calcium	**25000**	1100	EPA 6010D		8-1-23	
Iron	**ND**	56	EPA 6010D		8-1-23	
Magnesium	**26000**	1100	EPA 6010D		8-1-23	
Manganese	**55**	11	EPA 6010D		8-1-23	
Client ID:	**AS-31-072723**					
Laboratory ID:	07-222-26					
Calcium	**25000**	1100	EPA 6010D		8-1-23	
Iron	**75**	56	EPA 6010D		8-1-23	
Magnesium	**21000**	1100	EPA 6010D		8-1-23	
Manganese	**38**	11	EPA 6010D		8-1-23	
Client ID:	**AS-35-072723**					
Laboratory ID:	07-222-27					
Calcium	**49000**	1100	EPA 6010D		8-1-23	
Iron	**9300**	56	EPA 6010D		8-1-23	
Magnesium	**38000**	1100	EPA 6010D		8-1-23	
Manganese	**5000**	11	EPA 6010D		8-1-23	
Client ID:	**HC-4-072723**					
Laboratory ID:	07-222-30					
Calcium	**22000**	1100	EPA 6010D		8-1-23	
Iron	**140**	56	EPA 6010D		8-1-23	
Magnesium	**25000**	1100	EPA 6010D		8-1-23	
Manganese	**79**	11	EPA 6010D		8-1-23	
Client ID:	**IW-1-072723**					
Laboratory ID:	07-222-34					
Calcium	**140000**	20000	EPA 6010D	7-28-23	8-1-23	
Iron	**290000**	1000	EPA 6010D	7-28-23	8-1-23	
Magnesium	**120000**	20000	EPA 6010D	7-28-23	8-1-23	
Manganese	**22000**	200	EPA 6010D	7-28-23	8-1-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

DISSOLVED METALS
EPA 6010D
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0728F1					
Calcium	**ND**	1100	EPA 6010D	7-28-23	8-1-23	
Iron	**ND**	56	EPA 6010D	7-28-23	8-1-23	
Magnesium	**ND**	1100	EPA 6010D	7-28-23	8-1-23	
Manganese	**ND**	11	EPA 6010D	7-28-23	8-1-23	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	07-222-30										
	ORIG	DUP									
Calcium	**21600**	**21800**	NA	NA		NA		NA	1	20	
Iron	**138**	**132**	NA	NA		NA		NA	4	20	
Magnesium	**24900**	**25300**	NA	NA		NA		NA	2	20	
Manganese	**79.4**	**80.4**	NA	NA		NA		NA	1	20	
MATRIX SPIKES											
Laboratory ID:	07-222-30										
	MS	MSD	MS	MSD		MS	MSD				
Calcium	**44000**	**43800**	22200	22200	21600	**101**	**100**	75-125	0	20	
Iron	**22500**	**22500**	22200	22200	138	**101**	**101**	75-125	0	20	
Magnesium	**47100**	**47000**	22200	22200	24900	**100**	**99**	75-125	0	20	
Manganese	**612**	**608**	556	556	79.4	**96**	**95**	75-125	1	20	
SPIKE BLANK											
Laboratory ID:	SB0728F1										
Calcium	**23700**		22200		N/A	**107**		80-120			
Iron	**22200**		22200		N/A	**100**		80-120			
Magnesium	**24000**		22200		N/A	**108**		80-120			
Manganese	**529**		556		N/A	**95**		80-120			

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-4-50-072723**					
Laboratory ID:	07-222-03					
Methane	**ND**	0.55	RSK 175	8-2-23	8-2-23	
Ethane	**ND**	0.22	RSK 175	8-2-23	8-2-23	
Ethene	**ND**	0.29	RSK 175	8-2-23	8-2-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*101*	*50-150*				
Client ID:	**AS-35-072723**					
Laboratory ID:	07-222-27					
Methane	**5000**	55	RSK 175	8-2-23	8-2-23	
Ethane	**ND**	0.22	RSK 175	8-2-23	8-2-23	
Ethene	**ND**	0.29	RSK 175	8-2-23	8-2-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*93*	*50-150*				
Client ID:	**HC-4-072723**					
Laboratory ID:	07-222-30					
Methane	**ND**	0.55	RSK 175	8-2-23	8-2-23	
Ethane	**ND**	0.22	RSK 175	8-2-23	8-2-23	
Ethene	**ND**	0.29	RSK 175	8-2-23	8-2-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*105*	*50-150*				
Client ID:	**IW-1-072723**					
Laboratory ID:	07-222-34					
Methane	**4700**	55	RSK 175	8-2-23	8-2-23	
Ethane	**ND**	0.22	RSK 175	8-2-23	8-2-23	
Ethene	**ND**	0.29	RSK 175	8-2-23	8-2-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*93*	*50-150*				

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

DISSOLVED GASES
RSK 175
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0802W1					
Methane	**ND**	0.55	RSK 175	8-2-23	8-2-23	
Ethane	**ND**	0.22	RSK 175	8-2-23	8-2-23	
Ethene	**ND**	0.29	RSK 175	8-2-23	8-2-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*90*	*50-150*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANK										
Laboratory ID:	SB0802W1									
	SB	SBD	SB	SBD	SB	SBD				
Methane	**46.2**	**46.1**	44.2	44.2	105	104	75-125	0	25	
Ethane	**89.4**	**89.9**	83.2	83.2	107	108	75-125	1	25	
Ethene	**81.6**	**82.0**	77.7	77.7	105	106	75-125	0	25	
Surrogate:										
1-Butene					*101*	*102*	*50-150*			

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

TOTAL ORGANIC CARBON
SM 5310B

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-4-50-072723**					
Laboratory ID:	07-222-03					
Total Organic Carbon	**1.1**	1.0	SM 5310B	8-4-23	8-4-23	
Client ID:	**AS-35-072723**					
Laboratory ID:	07-222-27					
Total Organic Carbon	**30**	1.0	SM 5310B	8-4-23	8-4-23	
Client ID:	**HC-4-072723**					
Laboratory ID:	07-222-30					
Total Organic Carbon	**1.1**	1.0	SM 5310B	8-4-23	8-4-23	
Client ID:	**IW-1-072723**					
Laboratory ID:	07-222-34					
Total Organic Carbon	**2400**	100	SM 5310B	8-4-23	8-4-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

TOTAL ORGANIC CARBON
SM 5310B
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0804W1					
Total Organic Carbon	**ND**	1.0	SM 5310B	8-4-23	8-4-23	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	07-222-03								
	ORIG	DUP							
Total Organic Carbon	**1.06**	**ND**	NA	NA	NA	NA	NA	13	
MATRIX SPIKE									
Laboratory ID:	07-222-03								
	MS		MS		MS				
Total Organic Carbon	**10.7**		10.0	1.06	96	86-127	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0804W1								
	SB		SB		SB				
Total Organic Carbon	**9.68**		10.0	NA	97	90-122	NA	NA	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

CHLORIDE
SM 4500-Cl E

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-4-50-072723**					
Laboratory ID:	07-222-03					
Chloride	**23**	2.0	SM 4500-Cl E	7-28-23	7-28-23	
Client ID:	**AS-35-072723**					
Laboratory ID:	07-222-27					
Chloride	**46**	2.0	SM 4500-Cl E	7-28-23	7-28-23	
Client ID:	**HC-4-072723**					
Laboratory ID:	07-222-30					
Chloride	**14**	2.0	SM 4500-Cl E	7-28-23	7-28-23	
Client ID:	**IW-1-072723**					
Laboratory ID:	07-222-34					
Chloride	**89**	2.0	SM 4500-Cl E	7-28-23	7-28-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

CHLORIDE
SM 4500-Cl E
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0728W1					
Chloride	**ND**	2.0	SM 4500-Cl E	7-28-23	7-28-23	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	07-220-07								
	ORIG	DUP							
Chloride	**11.7**	**12.5**	NA	NA	NA	NA	7	12	
MATRIX SPIKE									
Laboratory ID:	07-220-07								
	MS		MS		MS				
Chloride	**60.0**		50.0	11.7	97	83-120	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0728W1								
	SB		SB		SB				
Chloride	**50.7**		50.0	NA	101	83-119	NA	NA	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AC-4-50-072723**					
Laboratory ID:	07-222-03					
Sulfate	**71**	25	ASTM D516-11	7-28-23	7-28-23	
Client ID:	**AS-35-072723**					
Laboratory ID:	07-222-27					
Sulfate	**27**	10	ASTM D516-11	7-28-23	7-28-23	
Client ID:	**HC-4-072723**					
Laboratory ID:	07-222-30					
Sulfate	**25**	10	ASTM D516-11	7-28-23	7-28-23	
Client ID:	**IW-1-072723**					
Laboratory ID:	07-222-34					
Sulfate	**ND**	5.0	ASTM D516-11	7-28-23	7-28-23	

Date of Report: August 7, 2023
Samples Submitted: July 27, 2023
Laboratory Reference: 2307-222
Project: 090030

SULFATE
ASTM D516-11
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0728W1					
Sulfate	**ND**	5.0	ASTM D516-11	7-28-23	7-28-23	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-220-07							
	ORIG DUP							
Sulfate	**ND** **ND**	NA	NA	NA	NA	NA	10	
MATRIX SPIKE								
Laboratory ID:	07-220-07							
	MS	MS		MS				
Sulfate	**11.5**	10.0	ND	115	73-127	NA	NA	
SPIKE BLANK								
Laboratory ID:	SB0728W1							
	SB	SB		SB				
Sulfate	**9.67**	10.0	NA	97	85-114	NA	NA	

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

X2 - Sample extract treated with a silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Aspect Consulting
Project Number: 090030
Project Name: Former Tux Shop
Project Manager: Baxter Call
Sampled by: NTC/RWN

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 07-222

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (SG Clean-up☐)	Volatiles 8260 (+MTBE)	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664	Dissolved analysis: ethanol, methanol by RSK-175	TOC by EPA 415.1 or SW-846 9060	Dissolved Fe, Ca, Mg, Mn by EPA 6020 or SW-846 6010	Chloride, Nitrate, o-Phosphate by EPA 300.0	% Moisture
1	AC-1-25-072623	07/26	1400	W	3					X																	
2	AC-3-25-072623	07/26	1230		3					X																	
3	AC-4-50-072723	07/27	1520		10					X													X	X	X	X	
4	AC-6-25-072623	07/26	0938		3					X																	
5	AC-7-35-072623	07/26	1015		3					X																	
6	AC-8-35-072623	07/26	1303		3					X																	
7	AC-9-32-072523	07/25	1510		3					X																	
8	AC-10-40-072723	07/27	1025		3					X																	
9	AC-11-25-072723	07/27	1340		3					X																	
10	AC-12-35-072723	07/27	1230	↓	3					X																	

	Signature	Company	Date	Time
Relinquished		Aspect Consulting	07/27/23	1750
Received		COE	7/27/23	1750
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Chain of Custody

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Sampled by: NTC/RWN

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 07-222

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (SG Clean-up☐)	Volatiles 8260	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664					% Moisture
11	AC-13-50-072523	07/25	1645	W	3					X																	
12	AC-14-25-072623	07/26	1640																								
13	AC-15-35-072723	07/27	0960																								
14	AC-16-50-072623	07/26	1115																								
15	AC-17-35-072523	07/25	1205																								
16	AC-18-25-072423	07/24	1405																								
17	AC-19-35-072423	07/24	1550																								
18	AC-20-25-072523	07/25	1710																								
19	AC-21-35-072523	07/25	1620																								
20	AC-22-20-072523	07/25	1500	↓	↓					↓																	

	Signature	Company	Date	Time
Relinquished		Aspect Consulting	07/27/23	1750
Received		COE	7/27/23	1750
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Chain of Custody

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Company: Aspect
Project Number: 090030
Project Name: Former Tux Shop
Project Manager: Baxter Call
Sampled by: NTC / RWN

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 07-222

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (SG Clean-up☐)	Volatiles 8260	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	Total MTCA Metals	~~TCLP Metals~~ Nitrate by EPA 300.0	~~HEM (oil and grease) 1664~~ Dissolved Fe by EPA 6020	Dissolved ethanol, ethene, methane by RSK-175	TOC by EPA 415.1 or SW-846 method 9060	Dissolved Fe, Mn, Mg, Ca, K by EPA 6020	Chloride, nitrate, sulfate by EPA 300.0	% Moisture
21	AC-23-30-072523	07/25	1415	W	3					X																	
22	AC-24-25-072423	07/24	1745		1																						
23	AC-25-35-072423	07/24	1650																								
24	AC-26-25-072423	07/24	1445																								
25	AC-27-35-072423	07/24	1350		↓					↓																	
26	AS-31-072723	07/27	1445		2																X	X					
27	AS-35-072723	07/27	1340		10					X													X	X	X	X	
28	AS-39-072623	07/26	1040		3																						
29	AS-45-072623	07/26	0945		3																						
30	HC-4-072723	07/27	0957	↓	10					↓													X	X	X	X	

	Signature	Company	Date	Time
Relinquished		Aspect Consulting	07/27/23	1750
Received		COE	7/27/23	1750
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Dissolved metals samples were field filtered

Data Package: Standard ☐ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.

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Chain of Custody

Company: Aspect
Project Number: 090030
Project Name: Former Tux Shop
Project Manager: Baxter Call
Sampled by: NTC/RWN

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ ________ (other)

Laboratory Number: 07-222

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (SG Clean-up☐)	Volatiles 8260	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664	Dissolved ethane, ethene, Methane by RSK-175	TOC by 415.1 or SW-846 Method 9060	Dissolved Fe, Ca, Mg, Mn by EPA 6020 or 6010B	Chloride, nitrate, sulfate by EPA 300.0	% Moisture
31	HC-5-072623	07/26	1317	W	3					X																	
32	HC-6-072523	07/25	1555	↓	↓					X																	
33	HC-8-072623	07/26	1145	↓	↓					X																	
34	*IW-1-072723	07/27	1215	↓	10					X													X	X	X	X	
35	MW-1A-072523	07/25	1040	↓	3					X																	
36	MW-5A-072523	07/25	1310	↓	3					X																	
37	TB-01	—	—	↓	2					X																	
38	TB-02	—	—	↓	2					X																	

	Signature	Company	Date	Time
Relinquished	[signature]	Aspect Consulting	07/27/23	1750
Received	[signature]	OSE	7/27/23	1750
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
* IW-1 dissolved metals sample was Not field filtered. Turbidity >1000 NTU, will need to be filtered.

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

10515 Research Drive
Knoxville, TN 37932
Phone: (865) 573-8188
Fax: (865) 573-8133

Client: Baxter Call
Aspect Consulting
710 Second Ave South
Suite 550
Seattle, WA 98104

Phone:

Fax:

Identifier: 092UG **Date Rec:** 07/31/2023 **Report Date:** 08/04/2023

Client Project #: 090030 **Client Project Name:** Former Tux Shop

Purchase Order #:

Test results provided for: CENSUS

Reviewed By:

Results relate only to the items tested and the sample(s) as received by the laboratory.

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **Aspect Consulting**
Project: Former Tux Shop

MI Project Number: **092UG**
Date Received: 07/31/2023

Sample Information

Client Sample ID:	**AC-4-50-072723**	**AS-35-072723**	**HC-4-072723**	**IW-1-072723**
Sample Date:	07/27/2023	07/27/2023	07/27/2023	07/27/2023
Units:	cells/mL	cells/mL	cells/mL	cells/mL
Analyst/Reviewer:	AR/OR	AR/OR	AR/OR	AR/OR

Dechlorinating Bacteria

Dehalococcoides	*DHC*	**9.30E+00**	**3.30E+00**	<5.00E-01	<2.63E+01
tceA Reductase	TCE	<5.00E-01	<1.40E+00	<5.00E-01	<2.63E+01
BAV1 Vinyl Chloride Reductase	BVC	<5.00E-01	**5.00E-01 (J)**	<5.00E-01	<2.63E+01
Vinyl Chloride Reductase	VCR	<5.00E-01	<1.40E+00	<5.00E-01	<2.63E+01

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

Quality Assurance/Quality Control Data

Samples Received **7/29/2023**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
BVC	07/29/2023	08/04/2023	0 °C	96%	non-detect	non-detect
TCE	07/29/2023	08/04/2023	0 °C	90%	non-detect	non-detect
VCR	07/29/2023	08/04/2023	0 °C	95%	non-detect	non-detect
DHC	07/29/2023	08/04/2023	0 °C	105%	non-detect	non-detect

APPENDIX B

Reagent Information

Product Sheet

EHC® LIQUID

EHC® Liquid

A DYNAMIC SOLUTION PROMOTING ABIOTIC AND BIOTIC PROCESSES

EHC® Liquid is an in situ chemical reduction (ISCR) product for the treatment of impacted groundwater. It is a cold-water soluble formulation that is specially designed for injection via existing wells or hydraulic injection networks for the treatment of a wide range of groundwater contaminants. EHC® Liquid creates strong reducing conditions and promotes both biotic and abiotic dechlorination reactions. EHC® Liquid is composed of two parts: EHC® Liquid Reagent Mix, an organo-iron compound, and ELS® Micro, which are easily combined and diluted for injection.

KEY BENEFITS

- Stimulation of biotic reductive dechlorination through the generation of strong reducing conditions
- Structurally bound nutrients phosphorous and nitrogen released to bacteria via the fermentation of the lecithin molecule
- Direct chemical reduction from redox reaction of organoiron compound
- Surface dechlorination by magnetite and green rust precipitates from iron corrosion
- Replenished reactive iron surface provided by the cycling of iron from ferrous to ferric state in the presence of a carbon source – anticipated longevity of 2-3 yrs. depending on site conditions
- Easy to handle and cold water soluble

CONTAMINANTS TREATED

- Chlorinated solvents such as PCE, TCE, TCA, DCA, CCl_4, chloroform and methylene chloride
- Chlorobenzenes including di- and tri-chlorobenzene
- Energetic compounds such as TNT, DNT, HMX, RDX, nitroglycerine and perchlorate
- Most pesticides including DDT, DDE, dieldrin, 2,4-D and 2,4,5-T
- Chlorofluorocarbons
- Nitrate compounds
- Chromium

THE SOUND SCIENCE OF EHC® LIQUID

Organic carbon addition in the saturated zone is well-known to promote conventional enzymatic reductive dechlorination reactions. This happens because the carbon in the subsurface will support the growth of indigenous microbes in the groundwater environment. As bacteria feed on the soluble carbon, they consume dissolved oxygen and other electron acceptors, thereby reducing the redox potential in groundwater. As bacteria ferment the ELS® Microemulsion, they release a variety of volatile fatty acids (VFAs) such as lactic, propionic and butyric, which diffuse from the site of fermentation into the groundwater plume and serve as electron donors for other bacteria, including dehalogenators. The biogenolysis/hydrogenolysis reaction for the reduction of PCE is shown on the next page (Figure 2).

ISCR reactions of Fe^{2+} with chlorinated contaminants and formation of Fe^{3+}

Bacterial extraction of electrons from carbon restore Fe^{3+} to Fe^{2+} (Fe^{3+} is the e^- acceptor)

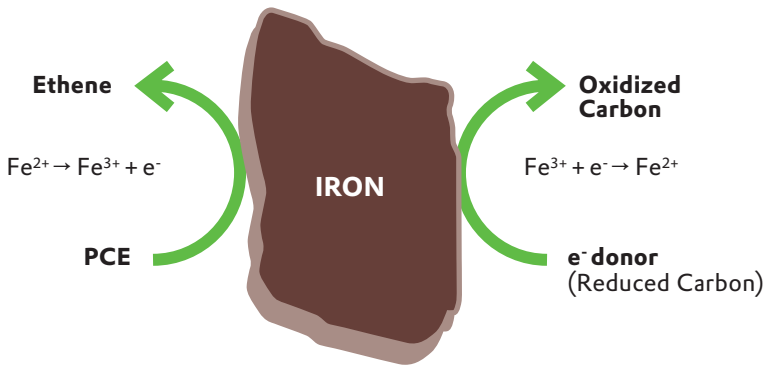


Figure 1

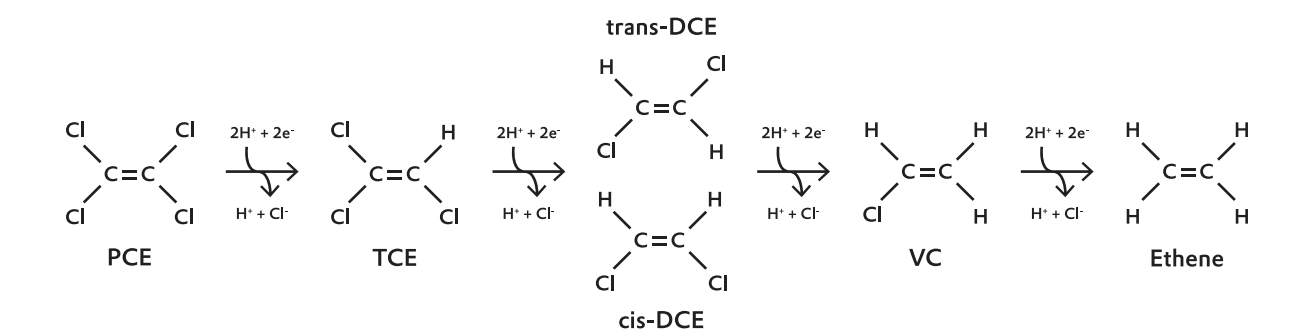


Figure 2

Lecithin itself is composed primarily of phospholipids, which have both hydrophilic and hydrophobic regions in their molecular structure. As a result, ELS® emulsions tend to be stable emulsions, expectedly more stable than with only hydrophobic compounds. Further, phospholipids support remediation by providing essential nutrients (carbon, nitrogen, phosphorus) to bacteria.

The soluble organo-iron compound is comprised of a ferrous iron (Fe^{+2}) that can form a variety of iron minerals (e.g. magnetite, pyrite) that are capable of reducing contaminants as they oxidize further to the ferric (Fe^{+3}) state via one electron transfer. The ferric ion can be "recycled" back to ferrous as long as other electrons from supplied carbon and indigenous carbon are available.

EHC® Liquid is primarily recommended for plume treatment. It can be used as a source treatment depending on site conditions.

APPLICATION METHODS

- Direct push injection
- Gravity feed through existing wells
- Low pressure injections
- Recirculation systems

For more information and detailed case studies, please visit our website.

Evonik Operations GmbH
Smart Materials
Active Oxygens Business Line
Soil & Groundwater Remediation

remediation@evonik.com
www.evonik.com/remediation

EVONIK
Leading Beyond Chemistry

Mixing Guidelines for EHC® Liquid Reagent

EHC® Liquid reagent is a cold-water soluble formulation specially designed to be emplaced via existing wells and/or hydraulic injection networks for the treatment of a wide range of groundwater contaminants. EHC Liquid is delivered as two components that are mixed together on site. The first component, ELS™ Microemulsion is a 25% liquid emulsion of food-grade lecithin, provided in 55-USG drums containing 50 USG. The second component, EHC Liquid Mix is a food-grade powdered organo-iron compound. The two components are proportioned such that one bag of the EHC Liquid Mix is required for every 50 USG of ELS Microemulsion.

This document provides guidelines for the preparation of diluted EHC Liquid for injection.

Packaging

Part 1: ELS Microemulsion delivered in 55-USG drums, filled with 50 USG / 420 lbs per drum (190 L / 190 Kg)

Part 2: EHC Liquid Mix, water soluble powder with the organo-iron compound in 24.5 lb bags (11.1 Kg)

EHC Liquid Injection Volumes and Dilutions

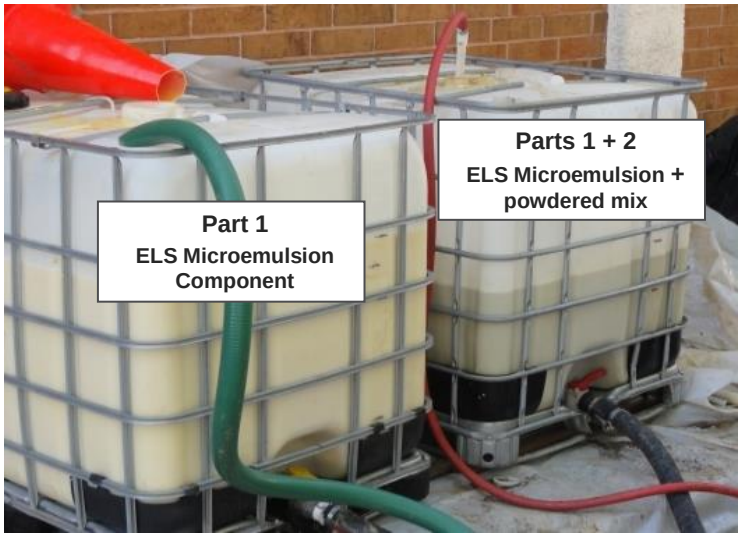
Depending on the application method, between 10% and 100% of the effective porosity is normally targeted during EHC Liquid injection, with a higher percent pore fill normally targeted during low-flow injections into wells and injection networks. This is in contrast to applications via direct push technology where normally around 10 to 15% of effective porosity is targeted. To facilitate the desired injection volume, the components are diluted in the field. The table below shows examples of mixing ratios for a 55-USG drum of ELS Microemulsion in United States customary units (USC) and metric units.

Dilution (USC):	**3-fold**	**5-fold**	**10-fold**	**25-fold**
Volume of Part 1 - ELS Microemulsion per drum (USG)	50			
Mass of Part 2 - EHC Liquid Mix component (lbs)	24.5			
Volume water (USG)	100	200	450	1200
Resulting total volume (USG)	150	250	500	1250
Resulting EHC Liquid concentration (wt%)	10.5%	6.3%	3.2%	1.3%
Dilution (Metric):	**3-fold**	**5-fold**	**10-fold**	**25-fold**
Volume of Part 1 - ELS Microemulsion per drum (L)	190			
Mass of Part 2 - EHC Liquid Mix component (Kg)	11.1			
Volume water (L)	380	760	1710	4560
Resulting total volume (L)	570	950	1900	4750
Resulting EHC Liquid concentration (wt%)	10.5%	6.3%	3.2%	1.3%

General Mixing Procedure

Proportioning can be varied to accommodate mixing tank size. The general mixing procedure is:

1. Fill mixing tank with required amount of dilution water per the treatment design.
2. Transfer Part 1 – ELS Microemulsion to mixing tank. Note that this material is pre-emulsified, has a viscosity of about 3,000 – 4,000 centipoise and will require an appropriate pump for transfer from the drum. Alternatively, the emulsion may be transferred in pails by hand. A paddle mixer and/or recirculation pump is sufficient for mixing.
3. Add Part 2 – EHC Liquid Mix organo-iron powder and continue mixing. Ensure no solids remain on bottom of tank.
4. If other additives are used (e.g., pH buffers), they may be added at this time.
5. Mixing time depends on equipment used (typically 5-10 min). Continue to mix until uniform.



Health and Safety

EHC Liquid is safe when handled properly in accordance with instructions for use and the SDS's. The SDS's are posted on our web site at: http://www.peroxychem.com/markets/environment. When working with EHC Liquid the use of standard personal protective equipment, including safety glasses, protective clothing and gloves are recommended. Additional safety equipment may be required for mechanical and site operations.

Please contact PeroxyChem for additional guidance.

APPENDIX C

HASP

PROJECT-SPECIFIC HEALTH AND SAFETY PLAN

Property Name:	Former Tux Shop		
Project Number:	AS090030A		
Prepared By:	Risi Naa	Date:	5/29/2024
Reviewed By:	Delia Massey	Date:	5/30/2024

1 INTRODUCTION

This project-specific health and safety plan establishes procedures and practices to protect employees of Aspect Consulting (Aspect) from potential hazards posed by field activities at the subject site. In this health and safety plan, measures are provided to minimize potential exposure, accidents, and physical injuries that may occur during daily activities and adverse conditions. Contingency arrangements are also provided for emergency situations.

2 EMERGENCY CONTACT INFORMATION

PROPERTY LOCATION	Walgreens 5409 15th Avenue NW, Seattle, WA, 98107
NEAREST HOSPITAL	Swedish Medical Center Ballard Campus 5300 Tallman Ave NW Seattle, WA 98107 (206) 782-2700 **Attached figure shows route to hospital.**
EMERGENCY RESPONDERS	Police, Ambulance, Fire ……**911**
OTHER CONTACTS	Aaron Fitts (mobile) ……..……...(207) 650-6191 Aspect, Seattle Office ……..……(206) 328-7443 Jackie Ayzenberg (Client)……..……(206) 819-2882
IN EVENT OF EMERGENCY, CALL FOR HELP AS SOON AS POSSIBLE	Give the following information: ✓ **Where You Are:** address, cross streets, or landmarks ✓ **Phone Number** you are calling from ✓ **What Happened:** type of accident, injury ✓ **How Many Persons** need help ✓ **What is Being Done** for the victims ✓ **You Hang Up Last:** let whomever you called hang up first

In case of serious injuries or other emergency, immediately call Aaron Fitts, Aspect Corporate Safety Manager, at (207) 650-6191 or (360)-746-8926. If no response, call Tim Flynn at (206) 780-9370.

3 PERSONNEL ORGANIZATION AND CHAIN OF COMMAND

The Aspect Project Manager assigns the Site Safety Supervisor and other field personnel for this project, and has ultimate responsibility for developing this project-specific health and safety plan and ensuring it is complied with during project execution. The Aspect Site Safety Supervisor has responsibility and authority for Aspect employees' safety during site activities. Other Aspect personnel on site have the responsibility to comply with this project-specific health and safety plan in coordination with the Site Safety Supervisor.

Aspect Personnel			
Role	**Name**	**Office Phone**	**Mobile/Cell Phone**
Project Manager	Delia Massey	206-812-4749	860-368-9745
Project Engineer	Delia Massey	206-812-4749	860-368-9745
Person-in-Charge (PIC)	Jeremy Porter	206-838-5835	206-790-2129
Site Safety Supervisor	Daniel Babcock	206-838-5846	316-617-0499
Corporate Safety Manager	Aaron Fitts	360-746-8926	207-650-6191
Other Field Personnel	Emily Rusen	206-413-5407	973-294-2634
Aspect's Subcontractors Working On Site			
Name	**Task/Role**	**Contact**	**Phone**
APS	Private utility locate	Daniel Herrera	206-914-4642
Cascade	Drilling contractor	Kasey Goble	425-466-8588

Aspect will inform its subcontractors working onsite of potential fire, explosion, health, safety or other hazards associated with planned site activities, and can make available to them this project-specific health and safety plan. **However, all subcontractors are solely responsible for preparation of their own health and safety plan, and for the safety of their employees.**

4 SITE CONTROL PLAN

4.1 Property Description

Property Name:	Walgreens	
Property Location or Address:	5409 15th Avenue NW, Seattle, WA, 98107	
Owners/Tenants:	F&N Investment Company, LLC	
Current Property Use:	Commercial	
Designated Hazardous Waste Site?	No	If yes, specify federal, state, or other: NO
Industrial Site?	No	
Topography:	Generally flat	
Surround Land Use/Nearest Population:	Mixed commercial and residential	
Drinking Water/Sanitary Facilities:	On-site	
Site Map:	Include with HASP	

4.2 Site Access Control

Describe controls to be used to prevent entry by unauthorized persons:

- Traffic cones, barriers, chain-link fence, and caution tape, as needed.

Describe how exclusion zones and contamination reduction zones will be designated:

- Drilling will be performed in multiple areas of the property.
- The area immediately adjacent to each boring/monitoring well/test pit location will be considered an exclusion zone.
- The subcontractor will mark the limits of the exclusion zone using cones, caution tape, etc.
- The contamination reduction zone will be located adjacent to the driller's/excavation contractor's mobile decontamination trailer, and will include steam cleaning equipment for equipment decontamination.
- Aspect field personnel will remain vigilant about preventing unauthorized persons from approaching the exclusion zone.

4.3 Worker Hygiene Practices

Aspect personnel will use the following hygiene practices while working on site:

- No person will eat, drink, chew gum or tobacco in potentially contaminated areas. Drinking of replacement fluids for heat stress control will be permitted only in areas that are free from contamination, except in emergency situations.
- Smoking is prohibited except in designated areas of the site.
- Long hair will be secured away from the face so that it does not interfere with any activities.
- All personnel leaving potentially contaminated areas will wash their hands and face prior to entering any eating areas.
- Personnel leaving potentially contaminated areas will shower (including washing hair) and change to clean clothing as soon as practical after leaving the property.

4.4 Emergency Communications

Aspect workers on site will have a mobile (cell) phone on site, which will be used for communications should an emergency arise. Phone numbers for Aspect site personnel are listed in Section 3: Personnel Organization and Chain of Command.

4.5 Nearest Medical Assistance

FIRST CALL 911. The route from the site to the nearest hospital is shown in the attached figure.

5 SITE WORK PLAN

Proposed Work Activities On Site:	• Well installation • Injection of in situ treatment • Groundwater monitoring
Objectives of Site Activities:	Evaluate the in situ treatment of the tetrachloroethene (PCE) plume
Proposed Work Dates:	2024-2025
Will On-site Personnel Potentially be Exposed to Hazardous Substances?	Likely. The property historically included a dry cleaning business with associated support facilities. Based on the Groundwater Investigation Memo, potential chemical hazards include: • Chlorinated solvents • Injection reagent (iron salts)
Do Personnel Conducting Site Activities have Training in Accordance with WAC 296-843-200?	Yes, see Section 13 below.

6 DECONTAMINATION

Goals	Procedures
To prevent the distribution of contaminants outside the exclusion zone or cross-contamination of samples, the following procedures will be used to decontaminate sample equipment:	• Decontamination process involving Alconox wash, tap water rinse, and deionized water rinse (with air dry). • Dedicated tubing used for groundwater sampling will be disposed of or retained (bagged) for future use, but not decontaminated.
To prevent the distribution of contaminants outside the exclusion zone via vehicles, the following procedures will be used:	• Unnecessary vehicles will not be allowed inside the exclusion zone. For vehicles required in the exclusion zone (e.g., drill rig, excavator). • Contractor is responsible for cleaning all equipment prior to leaving any contamination reduction zones.
To minimize or prevent worker exposure to hazardous substances, all personnel working in the exclusion zone and contamination reduction zones will comply with the following decontamination procedures:	• Wash boots and rain gear that have come into contact with soil or groundwater with Alconox/tap water and air dry. • Dispose of disposable personal protective equipment (PPE such as gloves, Tyvek) into Department of Transportation (DOT) approved and appropriately labeled 55-gallon drums.
Soil cuttings, monitoring well purge water, and decontamination wastewater will be managed in the following manner:	• Place soil and groundwater from each location in DOT approved drums at the property for future disposal by the owner.

7 HAZARD ANALYSIS

The potential hazards and corresponding control measures for planned site work activities are as follows:

Work Activity	Primary Potential Hazards	Control Measures
Injection oversight	• Excavator and other heavy equipment present significant overhead hazards.	• Stay back from excavator whenever possible and stay alert and maintain open eye contact with operator. • Modified Level D PPE (with hard hat, traffic vest, steel-toe boots).
	• Excessive noise.	• Wear hearing protection.
	• Chemical exposure (skin contact, ingestion, inhalation).	• Modified Level D PPE. • Air monitoring.
Soil sampling and sample handling	• Chemical exposure (skin contact, ingestion, inhalation).	• Modified Level D PPE. • Air monitoring.
Well development and groundwater sampling	• Chemical exposure (skin or eye contact, ingestion).	• Modified Level D PPE. • Securely join pump tubing and other connectors.

Work Activity	Primary Potential Hazards	Control Measures
All	• Getting hit by other vehicles or equipment working on the property.	• Wear traffic vest. • Stay back from roads and stay alert.
	• Heat stress.	• Take breaks, seek shade, and increase fluid intake.

Potentially Hazardous Chemicals Known or Suspected at the Property and Permissible Exposure Limits (air)					
Substance	**Medium**	**OHSA PEL**	**OSHA STEL**	**IDLH**	**Carcinogen or Other Hazard**
PCE	Soil, GW	100 ppm	100 ppm	150 ppm	C
Trichloroethylene (TCE)	Soil, GW	100 ppm	100 ppm	1000 ppm	C
Cis-1,2-dichlorethylene (DCE)	Soil, GW	200 ppm	200 ppm	1000 ppm	--
Vinyl Chloride	Soil, GW	1 ppm	--	NA ppm	C
ELS® Concentrate[1]	Injection reagent	--	--	--	--
5 micron ZVI[1]	Injection reagent	1 mg/m^3	--	--	--
GeoForm™ (iron salts)	Injection reagent	1 mg/m^3	--	--	--

Notes:
-- = none established
C = carcinogen
GW = groundwater
IDLH = immediately dangerous to life or health
N/A = not applicable/not available
OHSA = Occupational Safety and Health Administration
T = toxic
PEL = permissible exposure level (8-hour time-weighted average)
STEL = short-term exposure level
ZVI = zero valent iron

1. Safety Data Sheet (SDS) attached.

Chemicals Known or Suspected On-site (check box)			
Chemical Class	**Known**	**Possible**	**Unlikely**
Corrosive (if expected, specify)			x
Ignitable (if expected, specify)			x
Reactive			x
Volatile		x	
Radioactive			x
Explosive			x
Biological Agent			x
Particulate or Fibers			x
If known or likely, describe:			

8 PERSONAL PROTECTIVE EQUIPMENT

Based on the hazards identified above, the following personal protective equipment (PPE) will be required for the following field activities. This section specifies both an initial level of protection and a more protective (contingency) level or protection, in the event conditions should change. The contingency defines the PPE that will be available on site.

Work Activity	Level of Protection	
	Initial	Contingency
Drilling/Injection oversight	D	Mod. D
Well development/groundwater sampling	D	Mod. D
Other activities (list):		

Each level of protection will incorporate the following equipment (specify type of protective clothing, boots, gloves, respiratory cartridges or other protection, safety glasses, hardhat, and hearing protection):

Level of Protection	Specific PPE
Level D	Work clothing, traffic vest, rubber (nitrile) gloves, steel toe and shank boots, safety glasses, hearing protection, and hardhat.
Modified D	Level D plus Tyvek coveralls or rain gear, and neoprene outer gloves.

NOTE: Project personnel are not permitted to deviate from the specified levels of protection without the prior approval of the Site Safety Supervisor. A traffic vest is not needed if work clothes are suitably visible (e.g., orange/yellow rain gear or white/yellow chemical protective clothing).

9 AIR MONITORING

Air monitoring will be conducted for all subsurface explorations (soil borings, monitoring wells, and test pit excavations) to identify potentially hazardous environments and determine reference or background concentrations. Air monitoring can be used to define exclusion zones. Air monitoring can also be conducted to evaluate relative concentrations of volatile organic chemicals in samples.

The following equipment will be used to monitor air quality in the breathing zone during work activities:

Monitoring Instrument	Calibration Frequency	Parameters of Interest	Sampling Frequency
PID	Daily	Volatile organic compounds	• During collection of each soil sample during excavation. • During trenching if workers smell gasoline odor. • During routine monitoring of remediation equipment.

Use the following action levels to determine the appropriate level of personal protection to be used during field activities:

Monitoring Instrument	Reading in Breathing Zone	Action	Comments
PID	10 PID units above background for 5 minutes	Confirm with detector tube (*PCE*) or upgrade to Level C PPE (air-purifying respirator with organic vapor cartridge).	Alternatively, use engineering controls (ventilation) or leave location and return at a later time.
PID	100 PID units above background for 5 minutes	Leave location pending further evaluation by Aspect Corporate Safety Officer.	

10 SAFETY EQUIPMENT

The following safety equipment will be on site during the proposed field activities:

Other Required Items (check items required)	
First aid kit	x
Eyewash (e.g., bottled water)	x
PID	x
Drinking water	x
Fire extinguisher	x
Brush fan	
Wind sox	
Other:	

11 SPILL CONTAINMENT

Will the proposed field work include the handling of bulk chemicals?	Yes X	No
If yes, describe spill containment provisions for the property: Injection reagents will be stored in large plastic totes, with sealed lid on top. Reagent will be pumped out from the totes and totes will not be tipped on their side. The reagent storage and mixing will be enveloped within secondary containment. Any spills will be mitigated by Aspect staff and their contractor. No incremental PPE is required for spill management activities, however this HASP does not preclude additional PPE, if conditions warrant.		

12 CONFINED SPACE ENTRY

Will the proposed field work include confined space entry?	Yes	No X
If yes, attach to this plan the confined space entry checklist and permit.		

13 ASPECT TRAINING AND MEDICAL MONITORING

Aspect employees who perform site work are responsible for understanding potential health and safety hazards of the site. All Aspect site workers will have health and safety training for hazardous waste operations, in accordance with WAC 296-843-200. In addition, Aspect requires medical monitoring for all employees potentially exposed to chemical hazards in concentrations in excess of the permissible exposure limit (PEL) for more than 30 days per year, as required under WAC 296-843-210. Employees who use respirators for their work will have a respirator medical evaluation as required under Chapter 296-842-WAC.

14 DISCLAIMER

Aspect Consulting does not guarantee the health or safety of any person entering the property. Because of the potentially hazardous nature of this property and the activity occurring thereon, it is not possible to discover, evaluate, and provide protection for all possible hazards that may be encountered. Strict adherence to the health and safety guidelines set forth herein will reduce, but not eliminate, the potential for injury and illness at this property. The health and safety guidelines in this plan were prepared specifically for this site and should not be used on any other property without prior evaluation by trained health and safety personnel.

FIELD SAFETY PLAN CONSENT AGREEMENT

Aspect Consulting Employees

I have reviewed the project specific health and safety plan, dated (*specify month, date, year*) for the (*give project name and type of*) fieldwork. I understand the purpose of the plan and I consent to adhere to its procedures and guidelines while conducting activities on site that are described in the plan.

Employee Printed Name	Signature	Date

Site Visitors

I have been briefed on the contents of the project-specific health and safety plan. I am responsible for my own health and safety.

Visitor Printed Name and Organization/Company	Signature	Date

Aspect
A Geosyntec Company

FIELD SAFETY MEETING MINUTES

Site Name _____**Project No.** _____

Meeting Location _____

Meeting Date _____ **Time** _____ **Conducted by**_____

Pre-field Work Orientation_____ **Weekly Safety Meeting**_____ **Other**_____

Subject Discussed _____

_____

_____

_____

Site Safety Supervisor Comments _____

_____

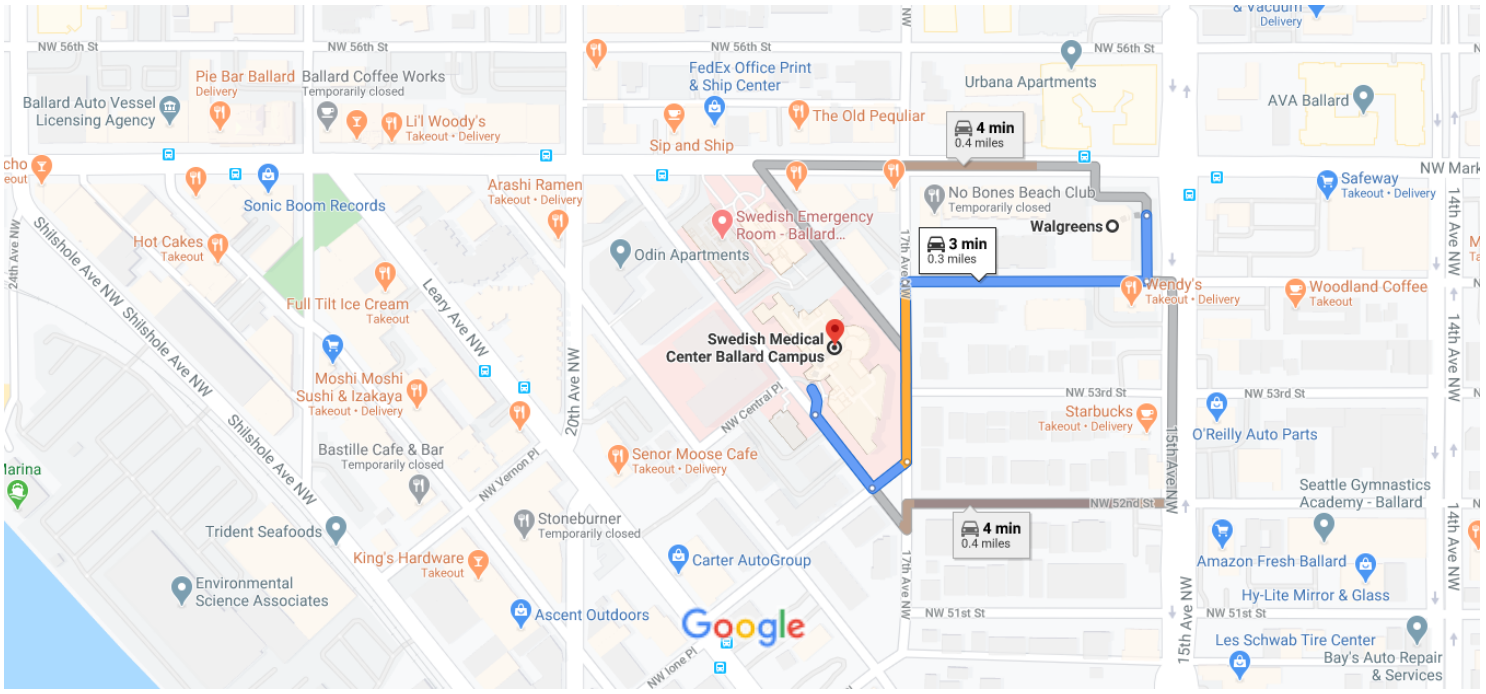
_____

_____

Participants

Printed Name (and company if subcontractor)	Signature

Google Maps **Walgreens to Swedish Medical Center Ballard Campus** Drive 0.3 mile, 3 min



Map data ©2020 Google 200 ft

Walgreens

5409 15th Ave NW, Seattle, WA 98107

1. Head south toward NW 54th St

157 ft

2. Turn right onto NW 54th St

Pass by Wendy's (on the left)

0.1 mi

3. Turn left onto 17th Ave NW

433 ft

4. Turn right onto NW Ione Pl

105 ft

5. Turn right at the 1st cross street onto Tallman Ave NW

223 ft

6. Turn right onto NW Central Pl

Destination will be on the right

66 ft

Swedish Medical Center Ballard Campus

5300 Tallman Ave NW, Seattle, WA 98107

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to

differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

SAFETY DATA SHEET

Classified in accordance 29 CFR 1910.1200

1. Identification

Product identifier: ELS® Concentrate

Other means of identification
None.

Recommended restrictions

Recommended use: Remediation of contaminated soil and groundwater.
Restrictions on use: Not known.

Manufacturer/Importer/Distributor Information

Company Name	:	Evonik Corporation 2 Turner Place Piscataway, NJ 08854 USA
Telephone	:	+1 732 981 5000
E-mail	:	product-regulatory-services@evonik.com

Emergency telephone number:

24-Hour Health Emergency	:	+1 800 424 9300 (CHEMTREC - US & CANADA) 800 681 9531 (CHEMTREC MEXICO) +1 703 527 3887 (CHEMTREC WORLD)

2. Hazard(s) identification

Hazard Classification

Label Elements

Hazard Symbol:	No symbol
Signal Word:	No signal word.
Hazard Statement:	Not applicable
Precautionary Statements	Not applicable

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Mixtures

Composition Comments: The components are not hazardous or are below required disclosure limits.

4. First-aid measures

Description of necessary first-aid measures

Inhalation: If inhaled, remove to fresh air. Get medical attention if any discomfort continues.

Skin Contact: Wash skin with soap and water. Get medical attention if irritation develops and persists.

Eye contact: If in eyes wash out immediately with water. Get medical attention if any discomfort continues.

Ingestion: Drink 1 or 2 glasses of water. Get medical attention if symptoms occur. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

Personal Protection for First-aid Responders: No data available.

Most important symptoms and effects, both acute and delayed

Symptoms: No data available.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: No data available.

5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Carbon Dioxide. Dry chemicals. Dry powder

Unsuitable extinguishing media: No data available.

Special hazards arising from the substance or mixture: No data available.

Special protective equipment and precautions for fire-fighters

Special fire-fighting procedures: No data available.

Special protective equipment for fire-fighters: As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	See Section 8 of the SDS for Personal Protective Equipment.
Accidental release measures:	No data available.
Methods and material for containment and cleaning up:	Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.
Environmental Precautions:	Do not permit to enter into surface water, stretches of water, soil undiluted.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation):	No data available.
Safe handling advice:	Handle in accordance with good industrial hygiene and safety practice.
Contact avoidance measures:	No data available.

Storage

Safe storage conditions:	Store and handle in properly designed pressure vessels and equipment. Keep away from open flames, hot surfaces and sources of ignition.
Safe packaging materials:	No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits.

Biological Limit Values

No biological exposure limits noted for the ingredient(s).

Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

Eye/face protection:	Safety glasses with side shields

Skin Protection

Hand Protection:	Additional Information: Use protective gloves.
Skin and Body Protection:	Wear suitable protective clothing.
Respiratory Protection:	In case of inadequate ventilation use suitable respirator.

Hygiene measures:	When using do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Physical state:	liquid
Form:	Viscous Liquid
Color:	Amber
Odor:	Odorless
Odor Threshold:	No data available.
Freezing point:	No data available.
Boiling Point:	> 212 °F/> 100 °C (1,013 hPa) Not known.
Flammability:	No data available.

Upper/lower limit on flammability or explosive limits

Explosive limit - upper:	No data available.
Explosive limit - lower:	No data available.
Flash Point:	> 392 °F/> 200 °C
Self Ignition Temperature:	The substance or mixture is not classified as pyrophoric.
Decomposition Temperature:	The substance or mixture is not classified self-reactive.
pH:	6.5 - 6.9

Viscosity

Dynamic viscosity:	No data available.
Kinematic viscosity:	No data available.
Flow Time:	No data available.

Solubility(ies)

Solubility in Water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Vapor pressure:	No data available.
Relative density:	No data available.
Density:	No data available.
Bulk density:	No data available.
Relative vapor density:	No data available.

Other information

Oxidizing properties:	The substance or mixture is not classified as oxidizing.
Self-heating:	The substance or mixture is not classified as self heating.
Formation of Flammable Gases:	Substance or mixture, which in contact with water, does not emit flammable gas
Peroxides:	The substance or mixture is not classified as organic peroxide.
Metal Corrosion:	Not corrosive to metals

10. Stability and reactivity

Reactivity:	No data available.

Chemical Stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	No data available.
Incompatible Materials:	Strong oxidizing agents. Water. Alkalies.
Hazardous Decomposition Products:	In case of fire, toxic and corrosive gases may be formed. Carbon oxides

11. Toxicological information

Information on toxicological effects

Information on likely routes of exposure

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Acute toxicity (list all possible routes of exposure)

Oral
Product: Not classified for acute toxicity based on available data.

Dermal
Product: Not classified for acute toxicity based on available data.

Inhalation
Product: Not classified for acute toxicity based on available data.

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.

Respiratory or Skin Sensitization
Product: No data available.

Carcinogenicity
Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogens present or none present in regulated quantities

ACGIH: US.ACGIH Threshold Limit Values:
No carcinogens present or none present in regulated quantities

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogens present or none present in regulated quantities

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended:
No carcinogens present or none present in regulated quantities

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: Not classified

Information on health hazards

Other hazards
Product: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Toxicity to microorganisms
Product: No data available.

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Toxicity to microorganisms

Product: No data available.

Persistence and Degradability

Biodegradation
Product: No data available.

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in soil:

Product No data available.

Results of PBT and vPvB assessment:

Product No data available.

Other adverse effects:

Other hazards
Product: No data available.

13. Disposal considerations

Disposal methods: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Recycle empty drums at an appropriate facility in accordance with current applicable laws and regulations, and product characteristics at time of disposal. Ensure drums are tightly sealed.

Contaminated Packaging: No data available.

14. Transport information

Domestic regulation

49 CFR
Not regulated as a dangerous good

International Regulations

UNRTDG
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Not classified

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

None present or none present in regulated quantities.

US. EPCRA (SARA Title III Section 313 Toxic Chemical Release Inventory (TRI) Reporting

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

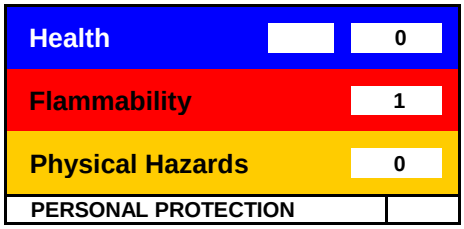
No ingredient requiring a warning under CA Prop 65.

Inventory Status:

US TSCA Inventory:	Included on Inventory.	

16.Other information, including date of preparation or last revision

HMIS Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

Issue Date: 09/09/2022

Version #: 1.0

Further Information: No data available.

Revision Information Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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SAFETY DATA SHEET

Classified in accordance with 29 CFR 1910.1200

1. Identification

Product identifier: 5 micron ZVI

Other means of identification
None.

Recommended restrictions

Recommended use: Remediation of contaminated soil and groundwater.
Restrictions on use: Not determined.

Manufacturer/Importer/Distributor Information

Company Name	:	Evonik Corporation 2 Turner Place Piscataway, NJ 08854 USA
Telephone	:	+1 732 981 5000
E-mail	:	product-regulatory-services@evonik.com

Emergency telephone number:

24-Hour Health Emergency	:	+1 800 424 9300 (CHEMTREC - US & CANADA) 800 681 9531 (CHEMTREC MEXICO) +1 703 527 3887 (CHEMTREC WORLD)

2. Hazard(s) identification

Hazard Classification
Not classified

Label Elements

Hazard Symbol: No symbol

Signal Word: No signal word.

Hazard Statement: Not applicable

Precautionary Statements

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
iron		7439-89-6	35 - 45%
Glycerol		56-81-5	45 - 65%
Water		7732-18-5	>15%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

The exact concentration has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

Inhalation: If aerosol or mists are formed: Take affected persons out into the fresh air.

Skin Contact: Gently wash with plenty of soap and water.

Eye contact: In case of contact, immediately flush eyes with plenty of water. Obtain medical attention if irritation develops.

Ingestion: If accidentally swallowed, rinse mouth thoroughly with water and afterwards, drink plenty of water. In case of discomfort, obtain medical attention.

Personal Protection for First-aid Responders: No data available.

Most important symptoms and effects, both acute and delayed

Symptoms: None known.

Hazards: None known.

Indication of immediate medical attention and special treatment needed

Treatment: No hazards which require special first aid measures.

5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray, foam, CO2, dry powder. Adapt fire-extinguishing measures to surroundings

Unsuitable extinguishing media: None known.

Special hazards arising from the substance or mixture: No data available.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	As in any fire, wear self-contained positive-pressure breathing apparatus, (MSHA/NIOSH approved or equivalent) and full protective gear.
Special protective equipment for fire-fighters:	No data available.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment.
Accidental release measures:	No data available.
Methods and material for containment and cleaning up:	Pick up mechanically with an adsorbent and collect in a suitable container. Rinse with water in suitable containers.
Environmental Precautions:	Do not allow entrance in sewage water, soil stretches of water, groundwater, drainage systems.

7. Handling and storage

Handling

Technical measures:	Ensure suitable suction/aeration at the work place and with operational machinery.
Local/Total ventilation:	No data available.
Safe handling advice:	Handle in accordance with good industrial hygiene and safety practice. If there is the possibility of skin/eye contact, the indicated hand/eye/body protection should be used. If workplace exposure limits are exceeded and/or larger amounts are released (leakage, spilling, dust) the indicated respiratory protection should be used.Stir and/or shake well before use.
Contact avoidance measures:	No data available.

Storage

Safe storage conditions:	Observe specified storage time because of re-agglomeration.Avoid frost. Keep container tightly closed.
Safe packaging materials:	No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values		Source
Glycerol - Total dust.	PEL		15 mg/m3	OSHA Z1 (03 2016)

Glycerol - Respirable fraction.	PEL		5 mg/m3	OSHA Z1 (03 2016)
Glycerol - Vapor.	ST ESL		1,000 µg/m3	TX ESL (11 2016)
	AN ESL		100 µg/m3	TX ESL (11 2016)

Please refer to the latest edition of the appropriate source text and consult an industrial hygienist or similar professional, or local agencies, for further information.

Biological Limit Values
No biological exposure limits noted for the ingredient(s).

Appropriate Engineering Controls Ensure suitable suction/aeration at the work place and with operational machinery.

Individual protection measures, such as personal protective equipment

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin Protection
Hand Protection: Additional Information: Use impermeable gloves.

Skin and Body Protection: No special protective equipment required. Take off contaminated clothing and wash it before reuse. When handling larger quantities: disposable protective suit (Solvent-resistant)

Respiratory Protection: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.

Hygiene measures: When using, do not eat, drink or smoke. Wash face and/or hands before break and end of work. To ensure ideal skin protection: use super fatted soaps and skin cream for skin care. Wash contaminated clothing before reuse.

9. Physical and chemical properties

Information on basic physical and chemical properties
Appearance

Physical state:	liquid
Form:	Slurry
Color:	Black
Odor:	Slight
Odor Threshold:	Not applicable
Freezing point:	No data available.
Boiling Point:	No data available.

Flammability:	not to be expected, given the composition employed
Upper/lower limit on flammability or explosive limits	
Explosive limit - upper:	Not applicable
Explosive limit - lower:	Not applicable
Flash Point:	not relevant, since based on water
Auto-ignition temperature:	not flammable
Decomposition Temperature:	No data available.
pH:	Not applicable
Viscosity	
Dynamic viscosity:	2,000 - 5,000 mPa.s
Kinematic viscosity:	No data available.
Flow Time:	No data available.
Solubility(ies)	
Solubility in Water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Vapor pressure:	No data available.
Relative density:	No data available.
Density:	1.8 g/cm3 at 68 °F/20 °C
Bulk density:	No data available.
Relative vapor density:	No data available.

Other information

Explosive properties:	not to be expected, given the composition employed
Oxidizing properties:	not to be expected, given the composition employed
Peroxides:	Not applicable
Miscible (water):	partly miscible
Minimum ignition energy:	Not applicable

10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical Stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Strong acids.
Incompatible Materials:	Strong oxidizing agents. Strong acids.
Hazardous Decomposition Products:	No decomposition if stored and applied as directed. Stable under normal conditions. Product will not undergo hazardous polymerization.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Acute toxicity (list all possible routes of exposure)

Oral

Product:	Not classified for acute toxicity based on available data.

Dermal

Product:	Not classified for acute toxicity based on available data.

Inhalation

Product:	Not classified for acute toxicity based on available data.

Repeated dose toxicity

Product:	No data available.
Components:	
Glycerol	NOAEL Rat, Female, Male, Oral, 90 d, daily, 4,580 mg/kg NOAEC, Rat, Female, Male, Inhalation - dust and mist, 90 d, 5 days/weeks, 6 hours/day, 167 mg/m³ NOAEL Rabbit, Dermal, 315 d, 5 days/weeks, 5,040 mg/kg

Skin Corrosion/Irritation

Product:	No data available.
Components:	
iron	Not irritating, OECD 404, Rabbit
Glycerol	Not irritating, Rabbit
Water	Not irritating

Serious Eye Damage/Eye Irritation

Product:	No data available.
Components:	
iron	Not irritating, OECD 405, Rabbit
Glycerol	Not irritating, Rabbit
Water	Not irritating

Respiratory or Skin Sensitization

Product:	No data available.
Components:	
iron	Optimizations-test, Guinea Pig, Not a skin sensitizer.
Glycerol	Local Lymph Node Assay (LLNA), OECD 429, Mouse, Not a skin sensitizer. Not a respiratory sensitizer
Water	Not a skin sensitizer. Not a respiratory sensitizer

Carcinogenicity

Product:	No data available.
Components:	
Glycerol	Not classified
Water	Not classified

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogens present or none present in regulated quantities

ACGIH: US.ACGIH Threshold Limit Values:
No carcinogens present or none present in regulated quantities

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogens present or none present in regulated quantities

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended:
No carcinogens present or none present in regulated quantities

Germ Cell Mutagenicity
In vitro

Product:	No data available.
Components:	
iron	gene mutation test, OECD 471: , negative gene mutation test, OECD 476: , negative
Glycerol	Ames test, OECD 471: , negative gene mutation test, OECD 476: , negative Chromosomal aberration, OECD 473: , negative DNA damage and/or repair, OECD 482: , negative

In vivo

Product:	No data available.

Reproductive toxicity

Product:	No data available.
Components:	
Glycerol	Not classified
Water	Not classified

Specific Target Organ Toxicity - Single Exposure

Product:	No data available.
Components:	
Glycerol	Not classified
Water	Not classified

Specific Target Organ Toxicity - Repeated Exposure

Product:	No data available.
Components:	
Glycerol	Not classified
Water	Not classified

Aspiration Hazard

Product:	No data available.
Components:	
iron	Not applicable
Glycerol	Not classified
Water	Not classified

Information on health hazards

Other hazards
Product: No data available.

12. Ecological information

Ecotoxicity:
Acute hazards to the aquatic environment:

Fish
Product: No data available.
Components:
Glycerol LC 50, Oncorhynchus mykiss, 96 h, 54,000 mg/l

Aquatic Invertebrates
Product: No data available.
Components:
Glycerol LC 50, Daphnia magna, 48 h, 1,955 mg/l

Toxicity to Aquatic Plants
Product: No data available.
Components:
Glycerol EC 50, Scenedesmus quadricauda (Green algae), 8 d, 2,900 mg/l

Toxicity to microorganisms
Product: No data available.
Components:
Glycerol EC 50, Pseudomonas putida, 16 h, > 10,000 mg/l

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to microorganisms
Product: No data available.
Components:
Glycerol EC 50, Pseudomonas putida, 16 h, > 10,000 mg/l

Persistence and Degradability

Biodegradation

Product: not biodegradable

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)
Product: No data available.

Components:

Glycerol	Bioaccumulation is not to be expected. Literature

Partition Coefficient n-octanol / water (log Kow)

Product:	No data available.
Components:	
Glycerol	-1.76

Mobility in soil:

Product: No data available.

Results of PBT and vPvB assessment:

Product: No data available.

Other adverse effects:

Other hazards

Product: No data available.

13. Disposal considerations

Disposal methods: Waste must be disposed of in accordance with federal, state, provincial and local regulations.

Contaminated Packaging: Packaging material should be recycled or disposed of in accordance with federal, state and local regulations.

14. Transport information

Domestic regulation

49 CFR
Not regulated as a dangerous good

International Regulations

UNRTDG
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
None present or none present in regulated quantities (on the basis of current knowledge of the product composition).

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities (on the basis of current knowledge of the product composition).

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended

None present or none present in regulated quantities (on the basis of current knowledge of the product composition).

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities (on the basis of current knowledge of the product composition).

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Not classified

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

None present or none present in regulated quantities (on the basis of current knowledge of the product composition).

US. EPCRA (SARA Title III Section 313 Toxic Chemical Release Inventory (TRI) Reporting

None present or none present in regulated quantities (on the basis of current knowledge of the product composition).

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities (on the basis of current knowledge of the product composition).

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities (on the basis of current knowledge of the product composition).

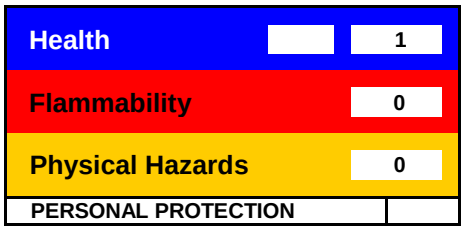
US State Regulations

US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

16.Other information, including date of preparation or last revision

HMIS Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

Version #: 1.1

Generation date: 04/16/2024

Date of first report version: 04/16/2024

Abbreviations and acronyms:

OSHA_TRANS:	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended
TX ESL:	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended
OSHA_TRANS / PEL:	Permissible exposure limit:
TX ESL / ST ESL:	Short-Term ESL:
TX ESL / AN ESL:	Annual ESL:

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic

Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Further Information: No data available.

Revision Information Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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SAFETY DATA SHEET
GeoForm™ Extended Release

SDS # : GEOS
Revision date: 2021-10-14
Format: NA
Version 1.02

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name GeoForm™ Extended Release

Recommended use of the chemical and restrictions on use

Recommended Use: Remediation of contaminated soil and groundwater

Restrictions on Use Use as recommended by the label.

Manufacturer/Supplier

Evonik Active Oxygens, LLC
2005 Market Street
Suite 3200
Philadelphia, PA 19103
Phone: +1 267/ 422-2400 (General Information)
E-Mail: Product-regulatory-services@evonik.com

Emergency telephone numbers

For leak, fire, spill or accident emergencies, call:
1 800 / 424 9300 (CHEMTREC - U.S.A.)
1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)
+1 303/ 389-1409 (Medical - U.S. - Call Collect)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the 2015 Workplace Hazardous Materials Information System (WHMIS)

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Combustible dust	

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

Warning

Hazard Statements
May form combustible dust concentrations in air
H315 - Causes skin irritation
H319 - Causes serious eye irritation

Precautionary Statements - Prevention
P264 - Wash hands thoroughly after handling
P280 - Wear protective gloves and eye/face protection
Keep away from all ignition sources including heat,sparks and flame.
Keep container closed and grounded.
Prevent dust accumulations to minimize explosion hazard.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/ attention
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P332 + P313 - If skin irritation occurs: Get medical advice/ attention

Hazards not otherwise classified (HNOC)

No hazards not otherwise classified were identified.

Other Information

CONTAINMENT HAZARD: Any vessel that contains wet product must be vented due to potential pressure build up from gases.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS-No	Weight %
Ferrous Sulfate Monohydrate	17375-41-6	10 - 15
Iron	7439-89-6	40 - 50
Organic amendment	Proprietary	20 - 30%
Starch	Proprietary	< 10

4. FIRST AID MEASURES

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If irritation persists, call a physician.

Skin Contact Wash off with warm water and soap. In the case of skin irritation or allergic reactions see a physician.

Inhalation Remove person to fresh air. If breathing is difficult or if discomfort occurs and persists, obtain medical attention.

Ingestion Clean mouth with water and afterwards drink plenty of water. Get medical attention if symptoms occur.

Most important symptoms and effects, both acute and delayed May cause skin and eye irritation.

Indication of immediate medical attention and special treatment needed, if necessary Treat symptomatically

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Carbon dioxide (CO_2). Dry chemical. Water spray. Foam.

Specific Hazards Arising from the Chemical Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Flammable properties Not combustible

Hazardous Combustion Products Oxides of sulfur. Carbon monoxide.

Explosion data
Sensitivity to Mechanical Impact Not sensitive.
Sensitivity to Static Discharge Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Protective equipment and precautions for firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Avoid contact with eyes. Use personal protective equipment. For personal protection see Section 8. Avoid dust formation. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area).

Other For further clean-up instructions, call PeroxyChem Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

Environmental Precautions Prevent entry into waterways, sewers, basements or confined areas.

Methods for Containment Maintain good housekeeping practices to avoid accumulation of settled dust, especially on overhead surfaces. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.

Methods for cleaning up Pick up and transfer to properly labeled containers. Take precautionary measures against static discharges. Avoid wetting dust and clean up as a dry powder with appropriate PPE for handling dry dusty materials; store in containers that keep material dry, segregated but allow to vent. The waste may be recovered and recycled.

7. HANDLING AND STORAGE

Handling Avoid contact with eyes. Avoid breathing dust. Wear personal protective equipment. Refer to Section 8. Minimize dust generation and accumulation. Keep away from open flames, hot surfaces and sources of ignition. Dry powdered material can build static electricity when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmosphere.

Storage Store in a well-ventilated place. Keep cool. Keep away from open flames, hot surfaces and sources of ignition. Any vessel that contains wet product must be vented due to potential pressure build up from gases.

Incompatible products Oxidizing agents. Strong acids. Strong bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
Ferrous Sulfate Monohydrate 17375-41-6	TWA: 1 mg/m³	-	-	-
salt	TWA: 10 mg/m³	-	-	Mexico: TWA 10 mg/m³

Chemical name	British Columbia	Quebec	Ontario TWAEV	Alberta
Ferrous Sulfate Monohydrate 17375-41-6	TWA: 1 mg/m³	TWA: 1.0 mg/m³	TWA: 1 mg/m³	TWA: 1 mg/m³
salt	TWA: 10 mg/m³	-	TWA: 10 mg/m³ inhalable	-

Appropriate engineering controls

Engineering measures Adequate engineering controls and/or personal protective equipment must be used to prevent contact with skin and eyes. Provide emergency on-site eyewash. Provide appropriate exhaust ventilation at places where dust is formed. Use grounding and bonding of dry handling equipment for pneumatics or free falling powder during processing in

enclosed systems. Use only appropriately classified electrical equipment and powered industrial trucks.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Whenever airborn dust concentrations are high, appropriate protective eyewear, such as mono-goggles, should be worn to prevent eye contact.

Skin and Body Protection Wear suitable protective clothing. Protective shoes or boots.

Hand Protection Wear suitable gloves (tested to EN374): Nitrile rubber, Rubber/latex/neoprene or other suitable chemical resistant gloves.

Respiratory Protection Whenever dust in the worker's breathing zone cannot be controlled with ventilation or other engineering means, workers should wear respirators or dust masks approved by NIOSH/MSHA, EU CEN or comparable organization to protect against airborne dust.

Hygiene measures Do not eat, drink or smoke when using this product. Must have clean water available for washing in case of eye or skin contamination. Wash skin before eating, drinking, chewing gum, or using snuff. Shower after work. Remove contaminated clothing and wash before reuse. Wash all work clothing separately; do not mix with household laundry.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Brown Powder
Physical State	Solid
Color	Brown
Odor	Nearly odorless
Odor threshold	Not applicable
pH	6 - 8
Melting point/freezing point	No information available
Boiling Point/Range	No information available
Flash point	No information available
Evaporation Rate	No information available
Flammability (solid, gas)	Combustible material
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	No information available
Vapor density	No information available
Density	No information available
Specific gravity	No information available
Water solubility	Insoluble in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	Not applicable (Solid)
Viscosity, dynamic	Not applicable
Explosive properties	Low level dust explosion hazard
Oxidizing properties	Not applicable

Other Information

Molecular weight No information available

0.92 g/cm³ (loose) / 1.13 g/cm³ (tapped)

10. STABILITY AND REACTIVITY

Reactivity None under normal use conditions.

Chemical Stability Stable under recommended storage conditions.

Possibility of Hazardous Reactions Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Product may form by-products during processing which can be toxic or potentially explosive such as hydrogen, hydrogen sulfide and carbon monoxide.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid Heat, flames and sparks.

Incompatible materials Oxidizing agents. Strong acids. Strong bases.

Hazardous Decomposition Products Thermal decomposition can lead to release of irritating and toxic gases and vapors: Hydrogen sulfide, Hydrogen gas, Sulfur oxides, Carbon oxides (COx),

11. TOXICOLOGICAL INFORMATION

Product Information

Product does not present an acute toxicity hazard based on known information.

LD50 Oral Iron Salt: > 670 mg/kg (mouse, 4-hr)
LD50 Dermal No information available
LC50 Inhalation No information available

Serious eye damage/eye irritation Irritating to eyes.
Skin corrosion/irritation Irritating to skin.

Sensitization Not expected to be sensitizing based on the components.

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation	NOAEL Oral Value
Iron (7439-89-6)	98600 mg/kg (Rat)			
Trade secret ()	= 8500 mg/kg (Rat)			
Viscosity modifier ()	6770 mg/kg (Rat)			

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity Contains no ingredients above reportable quantities listed as a carcinogen.

Mutagenicity No known mutagenic or teratogenic effects.

Reproductive toxicity This product does not contain any known or suspected reproductive hazards.

STOT - single exposure No information available.
STOT - repeated exposure No information available.

Aspiration hazard No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects Not expected to have significant environmental effects

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to Microorganisms	Toxicity to daphnia and other aquatic invertebrates
Iron		96 h LC50: = 13.6 mg/L (Morone saxatilis) static		48 h Daphnia magna EC50 = 8934.78 mg/l
Trade secret		96 h LC50: 220 - 460 mg/L (Leuciscus idus) static		24 h LC50: = 330 mg/L (Psammechinus miliaris)
Magnesium Hydroxide		96 h LC50: = 511.31 mg/L (Pimephales promelas) static		

Persistence and degradability The organic components are biodegradable and can be expected to contribute to BOD. Biodegradability does not pertain to inorganic substances.

Bioaccumulation Bioaccumulation is unlikely.

Mobility No information available.

Other Adverse Effects None known.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements. Recovery/recycling recommended.

Contaminated Packaging Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

DOT NOT REGULATED

TDG NOT REGULATED

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories
This product is not subject to reporting under the Emergency Planning and Community Right-to-Know rule.

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA/EPCRA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

U.S. State Right-to-Know Regulations
This product contains the following substances regulated under state Right-to-Know laws:

Chemical name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
salt					X
Trade secret			X		

California Proposition 65
This product does not contain any Proposition 65 chemicals

CANADA

Environmental Emergencies
This product contains no substances listed under Canada's Environmental Emergency regulations.

Canadian National Pollutant Release Inventory
This product contains no substances reportable under Canada's National Pollutant Release Inventory regulations.

International Inventories

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)	NZIoC (New Zealand)
Ferrous Sulfate Monohydrate 17375-41-6		H	H	X	H	H	H	X	X
Iron 7439-89-6	X	X	231-096-4	X	X	X	X	X	X
Organic amendment		X	281-689-7		X		X	X	X
salt					X		X	X	X
Starch	X	X	232-940-4	X	X	X	X	X	X

All ingredients are directly listed on the active TSCA Inventory

Mexico

Mexico - Grade Minimum risk, Grade 0

16. OTHER INFORMATION

NFPA	**Health Hazards** 1	**Flammability** 1	**Stability** 0	**Special Hazards** -
HMIS	**Health Hazards** 1	**Flammability** 1	**Physical hazard** 0	**Special precautions** -

Revision date: 2021-10-14
Revision note Manufacturer name changed.

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Prepared By:

Evonik

End of Safety Data Sheet

APPENDIX D

Injection Logs

Breakthrough Monitoring Log

Former Tux Shop 090030

Field Staff: _____

Monitoring Well	Date	Time	Water Level (ft bTOC)	Specific Conductance (µS/cm)	Observations[1]

Notes

1) Note any visual evidence of injection reagent in monitoring wells.

ft bTOC = feet below top of casing

µS/cm = microsiemens/centimeter

Aspect Consulting

6/4/2024

Injection Monitoring Log

Field Staff: __________

Former Tux Shop 090030

Injection Well	Date	Time	Injection Rate (gpm)	Injection Pressure (psig)	Cumulative Injected Volume (gal)

Notes

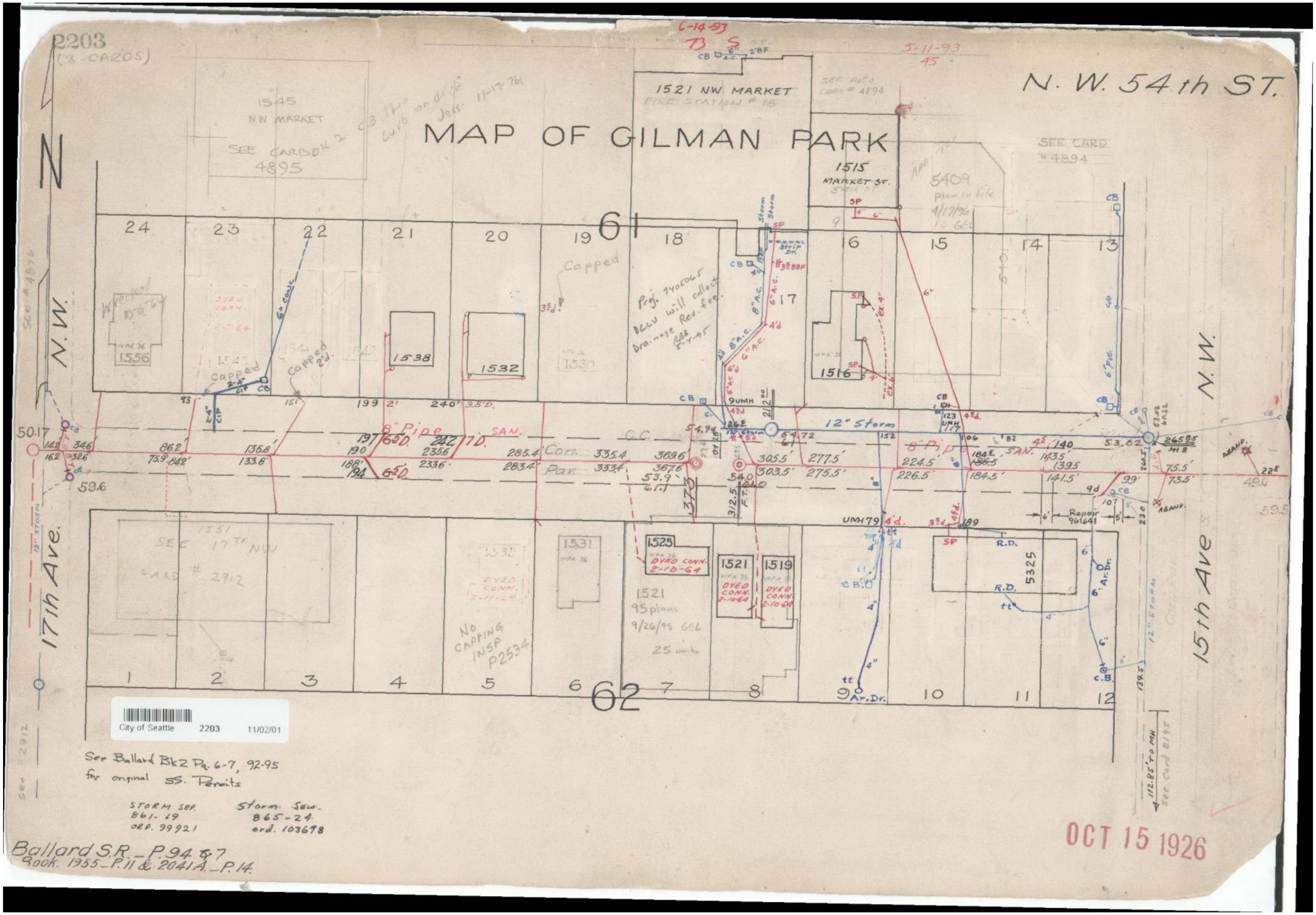
gpm = gallons per minute

psig = pounds per square inch, gauge

gal = gallons

APPENDIX E

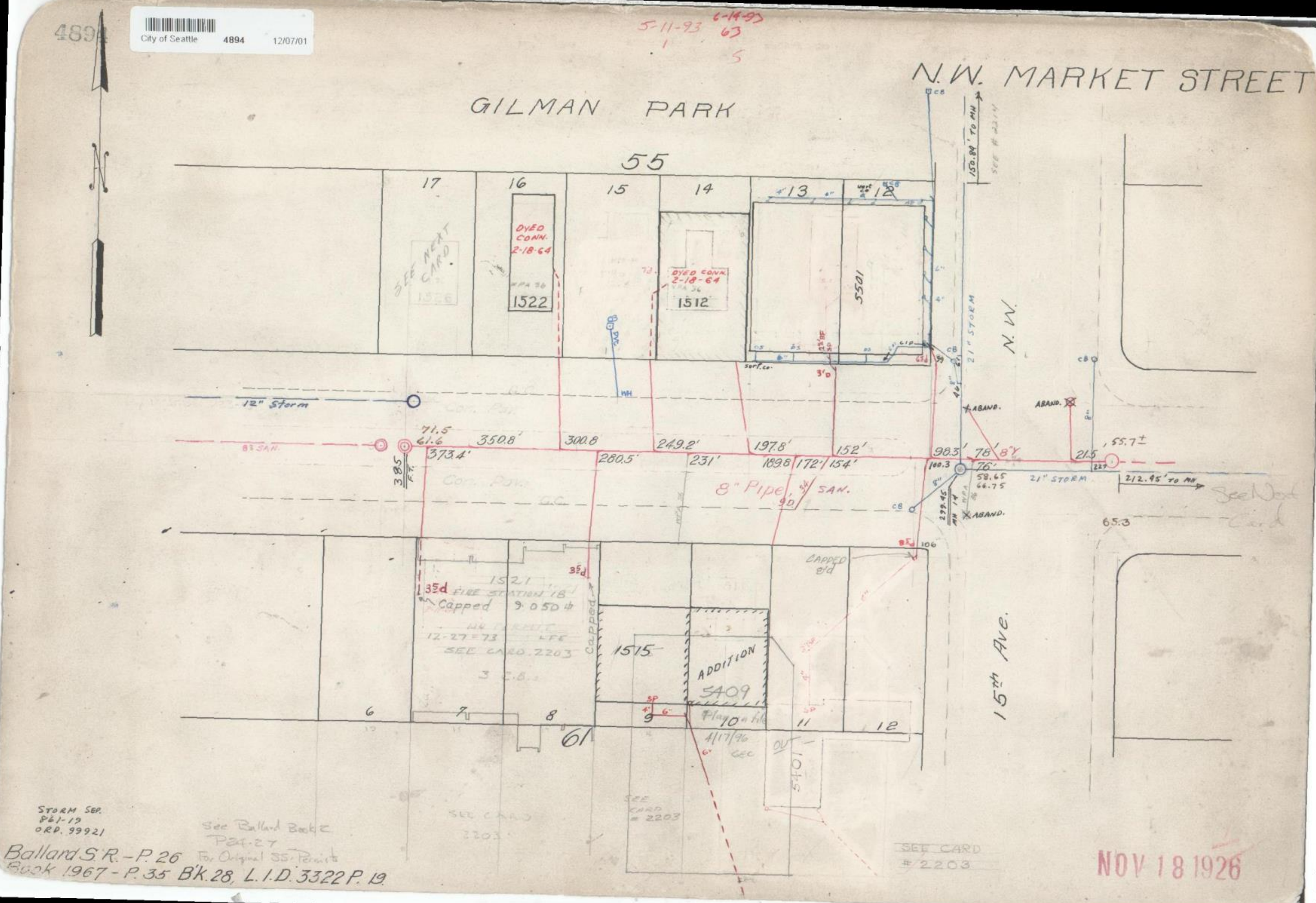
Utility Maps


2203
(3-CARDS)
MAP OF GILMAN PARK
N. W. 54th ST.
N.W. 17th Ave.
N.W. 15th Ave
1545 NW MARKET
SEE CARD 4895
1521 NW MARKET
FIRE STATION # 18
1515 MARKET ST.
SEE ALSO CARD # 4894
SEE CARD #4894
5409
61
62
24
23
22
21
20
19
18
17
16
15
14
13
1
2
3
4
5
6
7
8
9
10
11
12
1556
1538
1532
1530
1516
1525
1521
1519
1531
5325
Capped
8" Pipe SAN.
12" Storm
Con. Pav.
DYED CONN. 2-10-64
Proj. 9405065 DCLU will collect Drainage Rev. fee.
1521 95 plans 9/26/95 GEL 25 units
NO CAPPING INSP P2534
SEE 17th NW CARD # 2912
Repair 961641
ABAND.
50.17
59.6
49.0
59.5
City of Seattle 2203 11/02/01
See Ballard Bk2 Pg. 6-7, 92-95 for original SS. Permits
STORM SEP. B61-29 ORD. 99921
Storm Sew. 865-24 ord. 103698
Ballard S.R._P.94 & 7
Book. 1955_P.11 & 2041A._P.14.
OCT 15 1926

The City of Seattle
ENGINEER'S DEPARTMENT

ENG. FORM 110. 1M. 3-11. L. & H. 25838

HOUSE NUMBER	PERMIT AND PLAT NUMBER	DATE ISSUED	APPROVED	OWNER	CONTRACTOR	INSPECTOR	DATE INSPECTION	REMARKS
1511	14003	9-23-10	A.A.M.	Wm Flindal	P. Rodal	Slingerland	10-4-10	
1542-46	21999	9-19-14	A.G.T.	P. Jakobson.	T. Christensen.	B.F. Smith	9-24-14	
1518	A-3229	6-24-19	F.N.H	Wm Greeley	O. Grohm	H.A. Cameron	6-27-19	
1532	B-19706	8-18-27	H.A.L.	W.M. Samanskee	E.B. Erickson.	Tourtellot	8-20-27	
1855	C1855	4-4-28	HH	Eugene Strahna	Owner	"	4-23-28	inside
1506	D-6119	11-21-35	C.E.H.	Wm Kauffman	"	"	11-25-35	" repair - No record of Original Conn.
1538	D-8364	1-10-38	"	M. Somoski	M. Pederson	"	1-13-38	
15th Ave. NW 5315	E-3047	11-15-40	"	B. Ruft	John Patricelli	"	12-3-40	
1525	F-4456	9-27-46	R.W.	Henry Madsen	owner	No inspection		
1516	H-907	5-12-52	E.W.	Edgar G. Johnson	"	P. Tourtellot	5-13-52	Inside Treas. Rec. No. 76650 Fee 2.50
5315	H-5531	4-30-54	[illegible]	W.C. Ruff	A. & F. Const.	" "	5-5-54	Treas. Rec. No. 05303 Fee 20.00 2 - C.B. conn.
545-51-57	K4326	7-22-59	Kertes	Torkelson	McFarland Wreckers	H. Walin	4-13-60	Treas. Rec. No. no Fee Fee Cap Sewer
5314-18	K-5815	11-24-59	N.B.	" "	M. Malaspino	Walin	12-29-59	Treas. Rec. No. 28878 Fee 117.23 + 25 ins 2 units 5 - C.B. 57.23
NW 54th 1515	M-3523	5-4-64	Isakson	Gardner	—	W. Jess	6-12-64	Fee Pd on Pt # K-1121 Fee No Fee Record Only
5401	N-2496	11-13-67	Withrow	Union Oil Co.	Modern	R.S. Garnett	12-15-67	Treas. Rec. No. Fee $28.04 No ins. $10.00 for C.B. Recp # 75627 For
5325 15th NW	N-8112	3-26-70	White	Herfy's Inc	Able	W. Ankney	7-28-70	Incl. 2. C.B. Fee $45.11 .25 ins
1518 1524	N-8404	6-4-70	Driessche	Nordic Hall	by Martin Excav.	W. Ankney	6-23-70	N.C. to Cap Only
1544 1548	P-5342	12-21-73	Withrow	Rainier National Life	Sterling Co	E. McGifford	4-12-74	$40.00 .25 ins. to cap only
1535	P-2534	2-13-73	Alex	Arf Andersen	Owner	E. McGifford	6-19-74	20.00 Cap / Side Sewer
1521	P-2930	10-8-74	Alex	Fire Dept.	Modern	McGifford	2-20-75	$170.50 Incl. 4 C.B.
1530	P-7009	4-21-75	White	Roy Pemberton	Owner	McGifford	5-22-75	$20.00 Cap only
1515 NW Market	940980	8-10-94	SRC	Gertrude Friedman	Owner	[illegible]		65.00 Cap/Side Sewer
5401-5409	941468	12-15-94	Scott	Unocal	Owner	E. Wolff-Miller	12-28-94	$400.00 Direct Connect
5409-15 NW	961198	9-18-96	SRC	Walgreens	Hobart Backhoe	L. Gamet	7-16-96	$468.00 Sani. $1005.00 Storm Dir. Conn. MDCA9609180329
1521 NW Market	982075	12-18-98	SRC	City of Seattle	Owner (RDS Const. Inc.)			$250.00 On Site Reroute Sani & Storm



4894
City of Seattle 4894 12/07/01
5-11-93
6-14-93
63
N.W. MARKET STREET
GILMAN PARK
55
17
16
15
14
13
12
SEE NEXT CARD
DYED CONN. 2-18-64
1522
DYED CONN. 2-18-64
1512
5501
21" STORM
N.W.
150.84' TO MH
12" Storm
71.5
61.6
350.8'
300.8
249.2'
197.8'
152'
98.3'
78'
8"
21.5
55.7±
373.4'
280.5'
231'
189.8
172'
154'
76'
100.3
58.65
66.75
21" STORM
212.95' TO MH
8" SAN.
3.85
8" Pipe, SAN.
ABAND.
See Next Card
65.3
CAPPED
1521
FIRE STATION 18
Capped
SEE CARD 2203
Capped
1515
ADDITION
5409
15th Ave.
6
7
8
9
10
11
12
61
4/17/96
5401
STORM SEP.
ORD. 99921
See Ballard Book
SEE CARD 2203
SEE CARD #2203
Balland S.R. - P. 26
Book 1967 - P. 35 B'k. 28, L.I.D. 3322 P. 19.
NOV 18 1926

ENG. FORM 10 500-8-10 L. & H.

HOUSE NUMBER	PERMIT AND PLAT NUMBER	DATE ISSUED	APPROVED	OWNER	CONTRACTOR	INSPECTOR	DATE INSPECTION	REMARKS
1501	Market	11-9-10	A.A.M.	H. Linsjo	Chas Michael	Slingerland	11-15-10	
1521	A-4391	11-29-19	M.T.	M.A. Paulson	Oscar Grohn.	H.A. Cameron	12-1-19	Inside only – Sewer lowered.
1501	D-6152	12-10-35	C.E.H.	Capt Neilson	Ballard Plum Co.	Parker	3-26-36	inside
1504	F-8964	6-3-48	E.J.D.	Shell Oil Co	P.H. Deeny	P. Tourtellot	6-18-48	
15TH N.W. 5415	G-7506	1-8-51	FINNEY	McKALES, INC.	R.E. POST	" "	1-10-51	
1515	K-1121	2-19-59	Koetes	C. Sibley	Ermeino	H. WALIN	3-3-59	Treas. Rec. No. 6145 Fee 09369 25 ft ins. inch 1-CB.
1515	M-3523	5-4-64	Isakson	Gardner	—	W. Jess	6-12-64	No Fee. Record only. Fee Paid on Permit # K-1121
5501 15th Ave NW	M-3640	5-20-64	Withrow	Mannings Inc.	Washington Dev. Co.	W. Jess	6-26-64	$85.50 25 ins.
5401 15th NW	N-2496	11-13-67	"	Union Oil	Modern	R.S. GARNETT	12-15-67	$10.00 Add'l fees paid for C.B 11-28-67 ew; $28.04 Ins Addition
1521 1527	N-8403	6-4-70	Dreissche	Nordic Hall	by Martin Excav.	W. ANKNEY	6-22-70	N/C to cap only
5501 15th NW	N-9142	12-28-70	White	City Light	City Light	E.G. McGIFFORD	12-29-70	$20.00 25 ins Repair In St.
1516	P7388	8-7-75	L.F. EMRY	BALLARDMALL, INC.	MERIDIAN EXCAV. & WRKG.	BLAKE	8-19-75	$20.00 CAP S.S.
1522	S1594	5-23-84	ANDERSON	Dennys Rest	MODERN Sewer	SEE #1895	5-31-84	30.00 CAP
5501-15 NW	S1812	7-12-84	Green	Denny's	Modern Sewer	R. PEHRRSON	7-13-84	25.00 ADD'L CONN.
1510	T1963	8-27-90	Scott	JSH Properties	Owner DEENY CONST	M. McDaniel	8-31-90	$60.00 Dir. Dischg. to P/L + $60.00 1-CB
1510	T1986	8-29-90	Scott	JSH Properties	~~Owner~~	M. McDaniel	8-31-90	$65.00 weephole from P/L to curb
5401 15TH NW	T-5687	1-8-92	RBB	UNICAL	A.L. SLEISTER & SONS	L. GAMET	1-27-93	$65.00 S/S CAP
1515	940980	8-10-94	SRC	GERTRUDE FRIEDMAN	OWNER			65.00 S/S CAP SEE CARD #2203 9609180329
5409-15NW	961198	9-18-96	SRC	WALGREENS	HOBART BACKHOE			$468.00 SANI $1005.00 STORM DIR. CONN; MDC# ~~96019~~
1522	010282	2-5-2001	SRC	HANK TYERMAN	RESCUE ROOTER			$65.00 ON SITE REPAIR