RSEC

July 30, 2024

Mr. Gregory Gould, P.E.
Environmental Engineer
Washington State Department of Ecology
Solid Waste Management, Industrial Section
POB 47600
Olympia, WA 98504-7600

RE: 2023 – 2024 Remedial Action Annual Report, LANXESS Corporation, Kalama Site, Kalama, Washington.

Dear Mr. Gould:

On behalf of LANXESS Corporation, RSEC Environmental, Inc. (RSEC) is pleased to provide the attached 2023 – 2024 Remedial Action Annual Report for the Kalama facility.

In summary, the remedial systems at the facility continue to operate as designed. The Annual Report follows the same format and organization as the past several years. A PDF of the entire report and appendices has also been sent via email.

Please feel free to contact me (541) 490-4223 / rich@rsecinc.com if you have any questions or need additional copies of the document.

Sincerely,

RSEC Environmental, Inc.

Richard Truax, P.E.
Senior Project Manager

cc: C. McKinney, LANXESS Corporation

RSEC

Prepared for:
LANXESS Corporation
Kalama Site

Prepared by:
RSEC Environmental

2023-2024
Annual Remedial Action Report
LANXESS Corporation
Kalama Site

July 2024

RSEC

Prepared for:
LANXESS Corporation
Kalama Site

Prepared by:
RSEC Environmental

2023-2024
Remedial Action Annual Report
LANXESS Corporation
Kalama Site

July 2024

Prepared by: RSEC Environmental, Inc.
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Reviewed and certified by Richard H. Truax, P.E.
Registered Professional Engineer
State of Washington #52861

7/30/2024

Contents

List of Appendices

List of Tables

List of Figures

1.0 Introduction

This document presents the annual monitoring report for ongoing remediation activities pursuant to the 2008 Consent Decree (CD) between the Washington State Department of Ecology (Ecology), and BF Goodrich, Inc. and Emerald Kalama Chemical, LLC (EKC), at the Emerald facility in Kalama, Washington. A name change occurred in November 2023 from Emerald Kalama Chemical to LANXESS Corporation – Kalama Site ("the site").

The CD requires operation of the remedial actions (RA) presented in the *Cleanup Action Plan* (CAP) (Exhibit B of the CD; RETEC 2004a). The RAs presented in the CAP constitute the final cleanup actions for the site. This report describes maintenance, operation, and compliance monitoring of the RAs from May 2023 through April 2024.

The remediation systems design, operations, and compliance monitoring are described in the following documents:

- *Revised Design Report – North Impacted Area Interception Trench* (EMCON 1994)
- *West Impacted Area Interim Corrective Measure Phase 3 Final Design Report* (EMCON 1995)
- *Shallow Interception Trench System Operation and Maintenance Guidelines* (RETEC 1997)
- *Feasibility Study* (RETEC 2003)
- *Corrective Action Plan* (CAP; RETEC 2004a)
- *Compliance Monitoring Plan* (CMP; RETEC 2007)
- *Engineering Design Report* (EDR; ENSR/AECOM 2008)
- *Operations and Maintenance Plan* (O&M Plan; AECOM 2009).

Cleanup levels (CUL's) referred to in this document are those presented in the CAP and approved by Ecology on October 11, 2004 (RETEC 2004a). Additional relevant discussion of the location and behavior of contaminants in the intermediate sand at the site are also available in the RCRA WIA ICM Dispute Resolution September 23 – October 4,1996 Documents, ICM Scope of Work WIA (RETEC, November 1996), and ICM Annual Report (RETEC, April 1998) – collectively referred to herein as "ICM DR Documents".

1.1 Background

Historic spills at the site resulted in impacts to the subsurface. These releases are described in the *Remedial Investigation Report, Rev. 2* (ThermoRetec 2000). As detailed in the Remedial Investigation Report, the impacts are contained within the upper sand unit at the remediation areas identified as the NIA and WIA, and the intermediate sand layer that extends under the WIA. The remediation monitoring and systems are therefore located in the North Impacted Area (NIA, shallow sand), West Impacted Area (WIA, shallow sand), and the intermediate sand unit beneath the WIA shallow sand. The layout of the site is shown in Figure 1-1.

1.2 Summary of Remediation Activities and Contaminant Status

This section provides a summary description of remediation activities at the facility, and current contaminant(s) status in each area.

1.2.1 North Impacted Area

The NIA remediation consists of a 1,500-foot-long interception trench with two sumps (east and west) (Figure 1-1). The NIA system was constructed between October and November 1995 and continues to operate pursuant to the CD. The system objectives are to capture affected groundwater in the NIA upper sand aquifer and thereby prevent migration to the wetland north of the NIA trench. The combined east and west sumps of the NIA pump an average of 30-million gallons of water through the site water treatment plant each year. Benzene and diphenyl oxide (DPO) continue to intermittently slightly exceed their cleanup levels (CUL) in the west sump but have been below their CUL in the east sump since 2012 excepting a benzene exceedance in 2020/21. Toluene has not been detected in the east sump and has been non-detect or two orders of magnitude below CUL in the west sump for over a decade.

1.2.2 Central Impacted Area

The Central Impacted Area (CIA, Figure 1-1) contains portions of the shallow sand aquifer upgradient of the WIA and NIA. Remediation efforts in the CIA have targeted mass reduction of toluene via use of a soil vapor extraction system and mass reduction of DPO via use of Waterloo Emitters™; a device intended to provide controlled release of oxygen to groundwater to enhance biodegradation. The soil vapor extraction system was successful in achieving the intended toluene removal goal and was closed with Ecology approval in an Ecology letter dated December 23, 2013. The Waterloo Emitter™ system was closed following EKC's request and Ecology approval in May 2017. Gauging data has shown the CIA potentiometric gradient to be shallow and at times to reverse gradient direction. CIA data is reported in the NIA and WIA data tables and maps according to the shallow sand aquifer groundwater flow direction at the wells (northerly [NIA] and westerly [WIA]).

1.2.3 West Impacted Area

The WIA remediation has consisted of two components (Figure 1-1):

- Two shallow interception trenches (identified as north and south) parallel to the river in the upper sand aquifer. This portion of the WIA remediation has reached CUL and was shut down with Ecology approval in November 2018.
- A groundwater capture system comprised of ten recovery wells with submersible pumps in the intermediate sand aquifer (separate and below the shallow sand aquifer) and aligned parallel to the river (ISRW system).

Summaries of WIA systems are provided in the following subsections.

1.2.3.1 WIA Shallow Interception Trench

The WIA shallow interception trench system was constructed as an ICM during November 1997. The system is comprised of a south and a north trench each with sump and pump. The system objective was to collect contaminated groundwater (originally focused on toluene) from the upper sand aquifer, preventing discharge to the Columbia River. Toluene has been below the CUL since 2008. With the absence of toluene, DPO was the only constituent that continued to be detected but has been below the CUL since 2013 in the North sump and 2011 in the South sump. Based on the below CUL concentrations and lack of constituent mass, EKC requested Ecology approval to cease operation of the trenches. Ecology approved EKC's request in a November 14, 2018 recommended changes to

system operations letter. Per EKC's proposal and Ecology's approval the WIA shallow trench system remains in place and operable but is no longer operated unless future groundwater data indicates a reason to restart the system. Per Ecology's request, a follow-up sampling of the shallow WIA sumps was completed in October 2022 and re-confirmed the below CUL / non-detect concentrations the 2018 system shut down was based on.

1.2.3.2 WIA Intermediate Sand Recovery Wells (ISRW)

The ISRW system is the most active remaining remedial system at the site. The system consists of ten intermediate sand recovery wells (ISRW's); wells one through seven were installed as an ICM during April 1997, and eight through ten added pursuant to the CAP during February 2009. The system objective is to minimize discharge of benzene and toluene affected intermediate sand aquifer groundwater to the Columbia River and reduce the mass of these constituents in the aquifer. This is accomplished by maintaining an inward gradient to the recovery wells from upgradient and somewhat from the river. Submersible pumps in the recovery wells transfer water to the facility low COD ModuTank (Fig 1-1) which discharges to the wastewater treatment plant.

The ISRW benzene and toluene data set indicates decreasing concentrations and areal extent at the upgradient (east), north and south boundaries of the alignment, and somewhat more consistent concentrations in the central area. The site continues to utilize the collected data to focus ISRW operations on constituent mass removal and minimizing discharge to the river. The ISRW wells pumped 720,000 gallons of water to the site water treatment plant in 2023 – 2024 resulting in the removal of 138 pounds of toluene and 0.2 pounds of benzene.

1.3 Report Format

The NIA area groundwater monitoring and interception trench performance is described in Section 2. The WIA shallow groundwater monitoring is described in Section 3. The WIA intermediate sand groundwater monitoring and ISRW system performance is described in Section 4. References are provided in Section 5.

Supporting documentation includes Appendix A – potentiometric surface data tables, Appendix B - laboratory analytical reports (transmitted via e-file with e-copy of this report), and Appendix C – ISRW benzene and toluene concentration trend charts.

A PDF of this entire document has also been transmitted via email e-file.

2.0 NIA Well Monitoring & Interception Trench System

In the NIA, the upper sand aquifer consists of approximately 9 to 17 feet of hydraulically placed sand fill overlying 3 to 7 feet of interbedded sands and silts. The upper sand aquifer is the uppermost hydrostratigraphic unit at the facility. The NIA interception trench is approximately 1,500 feet long and is constructed to variable depths such that it extends to the top of the underlying upper silt (collects groundwater from the shallow formation above the silt). The trench includes two collection sumps: an east sump collecting from approximately 950 feet of the trench, and a west sump collecting from the remaining approximately 550 feet of trench. Water from the sumps is pumped to the facility Low/High COD ModuTanks and then to the wastewater treatment system. The base and downgradient faces of the trench are lined with an impermeable geosynthetic liner. The liner contains groundwater within the trench and reduces the inflow of standing water that may be seasonally present in a wetland downgradient (north) of the trench.

2.1 Monitoring Program Description

The monitoring plan for the upper sand aquifer NIA interception trench consists of three primary components:

1. Collection of data to evaluate the ongoing groundwater quality in the NIA.
2. Collection of groundwater elevation data to monitor ongoing flow direction and gradient in the NIA including the barrier trench and sumps.
3. Visual inspection of ground surface integrity to assure no erosion or other damage of the length of interception trench.

The NIA monitoring program scope is described in the following sections and summarized in Table 2-1. All NIA monitoring locations are provided in Figure 2-1.

2.2 Visual Inspection of Integrity of NIA Trench

The entire 1,500-foot length of the NIA trench and barrier wall was inspected for ground surface indications of damage, leaks, or erosion during the April 2024 groundwater sampling event. This inspection involved walking the top of the soil berm above the barrier wall / trench alignment. No indications of damage, leaks or erosion were observed. The entire length is heavily vegetated, firm, and well established. As in the past, the inspection included removing areas of downed trees and brush presenting obstructions to trench operation and monitoring locations.

2.3 Groundwater Levels and Flow

NIA groundwater levels are measured annually (during the April monitoring event) at the following locations:

- Shallow (upper) sand monitor wells and piezometers (KC-8, KC-9, KC-21, KC-23, PZ-102, PDW-117, MW-210, MW-230, MW-232, MW-245, and MW-256) located upgradient of the trench. These locations include NIA and CIA areas from which groundwater is generally flowing northerly towards the NIA barrier and recovery trench.
- Three piezometers (NTP-1, NTP-2, NTP-3) along the length of the trench that monitor groundwater elevations in the trench.
- Wetland staff gauge.

The NIA and CIA groundwater and wetland elevation data are provided in respective tables Appendix A. The data were used to construct a shallow sand potentiometric surface map (Figure 2-1) for April 2024.

The wetland staff gauge indicated a water depth of 2.5-feet during the April 2024 monitoring event. This is in the typical range of historical data for the wetland during spring-runoff. As shown on Figure 2-1 water elevations in the trench were below up-gradient groundwater elevations indicating the ongoing normal operation of the trench.

NIA aquifer groundwater flow is towards the north (Figure 2-1) and is consistent with historical monitoring results. The groundwater gradient is shallow in the CIA region of northerly flow and steepens as it approaches the containment recovery trench. The overall average northerly gradient was 0.008 ft/ft.

2.4 Groundwater Quality

The NIA groundwater quality monitoring network is comprised of four wells (MW-245, MW-256, PDW-117, and KC-9), and the east and west NIA trench sumps.

Monitoring results are described below and presented in Table 2-2. Areal distributions for benzene and DPO are provided in Figures 2-2 and 2-3 respectively and include an overlay of the potentiometric contours. Laboratory data reports are provided in Appendix B (e-file).

2.4.1 Sampling and Analytical Procedures

All sampling and laboratory analyses were completed in accordance with the *Sampling and Analysis Plan* (SAP; RETEC 2004c). The April 2024 samples were submitted to ALS Laboratories (Kelso, WA). The following analytical methods we utilized per the sample requirements (Table 2-1):

- Volatile organic compounds (VOCs) [benzene and toluene] using EPA Method 8260C.
- Semi-volatile organic compounds (SVOCs) [diphenyl oxide (DPO), and in the east and west sumps biphenyl] using EPA Method 8270D.

2.4.2 Upper Sand Aquifer Sampling Results

The analytical results are detailed on Table 2-2. Benzene was detected above the CUL (1.2 ug/L) at one location (west sump [14 ug/L]). DPO was detected above the CUL (410 ug/L) at two locations (PDW-117 [1,700 ug/L] & KC-9 [900 ug/L]). Figures 2-2 (benzene) and 2-3 (DPO) provide areal map views of concentration data for these constituents. These data agree with historical location and concentration trends for the NIA. The east sump has typically shown below CUL / ND results, except for benzene in 2020/2021 as discussed in prior reports. The west sump has typically shown benzene concentrations fluctuating above / below the CUL, and DPO more frequently above than below the CUL. Wells PDW-117 and KC-9 DPO concentrations have been persistent similar to the 2024 results. Benzene concentrations at PDW-117 and KC-9 have drifted below the CUL in recent years. Biphenyl is sampled in the sumps and results continued consistent at non-detect in the east sump and just above detection at 7.0 ug/L far below CUL (230 ug/L) in the west sump.

2.5 NIA Trench & Sump System Monitoring

The NIA interception trench system operated continuously throughout the monitoring period. Monitoring results are described below and summarized in Tables 2-3 and 2-4.

2.5.1 Groundwater Extraction

Table 2-3 summarizes the east and west sump pump operation data, the volume of water removed from the trench, and the average pumping rates during the 2023 - 2024 and past performance periods. Approximately 28 million gallons of water were pumped from the NIA interception trench during 23/24. The 28-million-gallon total volume is somewhat above the annual average of 26.5 million gallons since 1999). The NIA trench water volumes are dependent on annual precipitation and the flows vary with wetter / drier seasons.

2.5.2 Mass Removal

Table 2-4 provides data for the east and west sump discharges and the approximate mass of contaminants removed during the 23/24 performance period. The contaminant mass calculations were determined by multiplying semi-annual sump sample concentration data by the cumulative pump discharge volume for the corresponding 6-month period. Approximately 0.4-pounds of benzene, 0.1-pounds of toluene, and 75 pounds of DPO were removed during this reporting period.

The annual quantities of benzene, toluene and DPO removed from the 2007-2008 monitoring period to present are summarized in the table below. Historical soil vapor extraction system operations also played a role in the NIA VOC reductions as shown by the significant reductions in benzene and toluene mass removals (and analytical sample concentrations) in the earlier years of NIA operations.

Performance Period	Benzene Removed (lbs)	Toluene Removed (lbs)	DPO Removed (lbs)
2023-24	0.4	0.1	75
2022-23	0.2	0.1	93
2021-22	0.2	0	39
2020-21	4.2	0.3	103.3
2019-20	0.5	0.5	89.9
2018-19	0.9	0.5	82.7
2017-18	1.5	0.7	97.8
2016-17	4.5	2.9	58.9
2015-16	3.5	2.4	35.1
2014-15	3.2	3.4	91.3
2013-14	5.4	7.5	90.1
2012-13	5.1	7.8	103.5
2011-12	6.4	24.0	98.0
2010-11	7.6	16.6	105
2009-10	6.0	38.1	103
2008-09	6.6	46.1	127
2007-08	26.4	254	207
Total	**82**	**405**	**1,525**

2.5.3 System Maintenance

LANXESS has maintained system flows via regular maintenance including pipe cleaning using compressed air agitation and line-pigging. Other significant maintenance efforts conducted from time to time as needed include vacuum removal of sediments from the sump bottoms, flushing the NIA

trench collection pipe, replacing old PVC piping with stainless steel piping, and replacing/repairing pumps. In addition, the sump areas and outlying NIA wells and piezometers are maintained with tree and brush clearing for access along with paint and label identification upkeep.

2.6 Performance Evaluation

The NIA data set dating back to October 2007 is indicative of the groundwater constituent plume being in a state of ongoing intrinsic biodegradation, decreasing constituent concentrations, and continued recovery trench operation to contain any residuals that may eventually migrate to the trench. The trench system continues to fulfill its purpose of hydraulic control of the NIA, preventing discharge of groundwater from the upper sand aquifer to the wetland.

2.7 Recommended Changes to NIA Operation / Monitoring

No changes are proposed for the NIA operations and monitoring program.

3.0 WIA Shallow Wells & Interception Trench System

3.1 Monitoring Program Description

The WIA shallow well monitoring is described in the following sections and summarized in Table 3-1. All monitoring locations are shown on Figure 2-1. The monitoring plan for the shallow WIA wells consists of two primary components:

1) collection of water elevation data to define groundwater flow direction and gradient, and

2) collection of water quality data to evaluate the occurrence and movement, if any, of dissolved residual constituents of interest.

3.2 Groundwater Levels and Flow

Water levels are measured annually at the following upper sand (shallow) locations:

- KC-24R, PZ-104, PZ-107, USRW-2, KC-13, MW-238, MW-255, PZ-110, and the North and South WIA-trench sumps.

The WIA groundwater elevation data is provided in the titled table Appendix A. The data were used to construct the shallow potentiometric surface map for April 2024 (Figure 2-1).

3.3 WIA Upper Sand Aquifer Groundwater Flow

In the WIA, groundwater flow within the upper sand aquifer is westerly from a nearly flat gradient in the PZ-104 / -107 / MW-230 area to the westerly USRW-2 / MW-255 area (Figure 2-1). The average hydraulic gradient across this area during April 2024 was 0.009 ft/ft. These flow data are similar to past years.

3.4 WIA Upper Sand Groundwater Quality

Groundwater samples were collected from WIA upper sand wells USRW-2, PZ-104, and PZ-107.

3.4.1 Sampling and Analytical Procedures

All sampling and laboratory analyses were completed in accordance with the SAP and analyte revisions approved by Ecology. The April 2024 samples were submitted to ALS Laboratories (Kelso, WA). Samples were analyzed using one or both of the following methods per the sample analytical requirement (Table 3-1):

- Volatile organic compounds (VOCs) [benzene and toluene] using EPA Method 8260C.
- Semi-volatile organic compounds (SVOCs) [DPO, biphenyl, and bis(2-ethylhexyl) phthalate] using EPA Method 8270D.

Laboratory data are included in Appendix B (e-file).

3.4.2 Upper Sand Aquifer Sampling Results

The WIA upper sand data are summarized in Table 3-2 and shown on Figures 2-3 (benzene) and 2-4 (DPO).

DPO concentrations in the area of the WIA shallow trench (USRW-2) continue to agree with historical results indicating non-detect (<1.0 ug/L). USRW-2 DPO concentrations have been below the CUL (410 ug/L) since 2013 with one exception in 2015.

Over 300-feet upgradient of the WIA trenches, in the shallow westerly flow gradient portion of the CIA area, wells PZ-104 and PZ-107 continue to show detections of DPO and biphenyl. The concentration of DPO at PZ-104 has been relatively consistent over time and indicated 4,000 ug/L in April 2024. PZ-107 indicated 72 ug/L DPO in April 2024 continuing the above / below CUL concentration fluctuations since 2020 and further below more historical concentrations. Biphenyl concentrations continued below the CUL (230 ug/L) at both wells with 110 ug/L at PZ-104 and 29 ug/L at PZ-107.

Benzene concentrations followed recent results at both wells with just above the CUL at PZ-104 (1.3 ug/L) and non-detect at PZ-107 (<0.50 ug/L). Toluene has never been detected at PZ-104 (excepting a one-time 6.8 ug/L detection in 2018), and far below the CUL at PZ-107 since 2013 with non-detects in more recent data.

Bis (2-ethylhexyl) phthalate was not detected in either PZ-104 and PZ-107 at the achieved method detection level of 2.4 ug/L.

3.5 WIA Shallow Trench Operations

The WIA shallow interception trench system was recommended to be shut down in the 2017-18 Annual Report and Ecology approved this recommendation in the November 14, 2018, Recommended Changes letter. Pumping of the shallow trench ceased on November 28, 2018. In accordance with Ecology's approval the system remains in place and available for future operations if indicated by future monitoring.

As discussed in Section 3.4, the ongoing data set continues to support the WIA Shallow Trench shutdown. In addition, Section 3.4.3 of the 22/23 Annual Report and Table 3-2 include analytical VOC and SVOC results of an Ecology requested additional sampling of the north and south WIA-sumps. The additional sampling further confirmed the historical data including non-detect (<0.50 ug/L) for benzene and toluene (the original target constituents) indicating a lack of shallow soils VOCs upgradient of the WIA north and south trenches.

3.6 Recommended Changes to WIA Shallow Monitoring

No changes are proposed for the shallow WIA operations and monitoring program.

4.0 WIA Intermediate Sand System

The ISRW system includes 10 recovery wells (ISRW-1 through ISRW-10). Seven of the recovery wells (ISRW-1 through ISRW- 7) were installed as part of interim corrective measures (ICM) in February and March 1997. Recovery wells ISRW-1, ISRW-2b, ISRW-3, and ISRW-4 began operation during April 1997; groundwater modeling provided in the ICM Scope of Work (RETEC, 1986) indicated pumping these four wells at one gallon per minute would capture the targeted intermediate sand aquifer flow. Subsequent operation data (ICM Annual Report, RETEC 1998) confirmed the modeled design basis, however at the request of Ecology, pumping of recovery wells ISRW-5, ISRW-6, and ISRW-7 was added during November and December 1997; this was done for added groundwater capture protection and operational backup redundancy of the system. Recovery wells ISRW-8, ISRW-9, and ISRW-10 were then added during February 2009 pursuant to the CAP and began operation during March 2009. These additional wells were requested by Ecology to further ensure containment capability and redundancy.

An important ISRW operations understanding is that the 10-well system provides significant capture zone overlap and dewatering redundancy. As a result, the capture alignment is maintained even in the event of some ISRW's being temporarily off-line; for example, ISRW-1, -2, -3, and -4 captured the entire targeted alignment on their own when first constructed as documented in Section 4 of the 1998 ICM Annual Report (RETEC, 1998). LANXESS continues to maintain the system in a manner to keep all wells operational and maximize benzene and toluene mass removal.

4.1 Monitoring Program Description

The monitoring plan for the WIA intermediate sand recovery well (ISRW) system consists of the following components: 1) weekly monitoring of recovery system operation and water volume production with appropriate operation adjustments; 2) semi-annual sampling of recovery wells discharge water quality; and 3) semi-annual water quality sampling and water elevation gauging of monitoring wells. WIA intermediate sand monitoring is described in the following sections and is summarized in Table 4-1.

In 2018 EKC elected to voluntarily increase the sampling frequency at the 10 ISRW wells from semi-annual to quarterly. The additional ISRW data are to assist in focusing benzene and toluene mass removal efforts at the ISRW wells as described further in the following sections.

4.2 Groundwater and River Elevations and Groundwater Flow

Intermediate sand aquifer groundwater elevations were measured quarterly in July & October 2023, and January and April 2024. Groundwater elevations are recorded at the following locations:

- Recovery wells ISRW-1 through ISRW-10
- Monitoring wells KC-6, KC-14, MW-239, MW-243, and MW-250
- Piezometers PZ-117 and PZ-118

The intermediate sand quarterly groundwater elevation data are provided in tabular form in Appendix A. The data was used to construct WIA potentiometric surface maps quarterly for the intermediate sand zone (Figures 4-1 through 4-4). As shown on Figures 4-1 through 4-4, the ISRW well alignment maintains an inward groundwater depression capturing intermediate sand groundwater and some portion of river water. The ISRW system is designed and operated to maintain ISRW well pumping elevations below the river elevation and thereby maintain some inward gradient from the river.

4.3 Groundwater Quality

Groundwater samples were collected semi-annually (October and April) from 10 recovery wells (ISRW-1 through ISRW-10) and four monitoring wells: KC-14, MW-239, MW-243, and MW-250. Laboratory data reports are included in Appendix B (e-file). As noted earlier, LANXESS also elected to continue to collect two additional rounds (January and July) of groundwater samples for benzene and toluene analysis from just the 10 ISRW wells resulting in quarterly data for the ISRW wells.

4.3.1 Sampling and Analytical Procedures

All monitoring program sampling and laboratory analyses were completed in accordance with the SAP (RETEC 2004c), and Ecology approved revisions reported in past Annual Reports. All samples were submitted to ALS Laboratories (Kelso, WA) with all analyses being conducted using EPA Method 8260C (as noted on Table 4-2).

4.3.2 Intermediate Sand Aquifer Sampling Results

The monitor well and ISRW groundwater quality analytical results are summarized in Table 4-2, and Figures 4-5 (benzene) and 4-6 (toluene). In summary, the 2023-24 data set compares similarly with the recent past few years at the respective wells and the overall trends for the ISRW area. Benzene and toluene concentration trend charts for each of the ISRW wells are provided in Appendix C and help visualization of concentration trends. As can be observed on the charts, benzene and toluene concentrations are generally decreasing over time, some significantly, while wells in the central portion of the ISRW alignment indicate somewhat steadier concentrations; several specific notes and observations include:

The overall data set (Table 4-2, generally 2007 – 2024) for five of the ISRW Wells (1 & 2, 4 & 7, and 6) located at the up-gradient (east), southern, and northern plume boundaries respectively, indicate reduced concentrations and receding of the plume:

1. ISRW's 1&2 both indicate decreasing concentration averages over the sampling timeframe. ISRW's 1&2 are located on the upgradient (east) side of the original plume – adjacent to the original recovery trench believed to have provided the conduit for contaminant mass to the intermediate sand. The dropping concentrations at these wells indicates reduction of the plume from the origination upgradient area.
2. ISRW-7 is the southern boundary of the ISRW alignment and concentrations have dropped from one- to two-orders of magnitude above CULs to consistently below CUL / ND for both benzene and toluene for several years now. ISRW-4 is north and closer to the river from ISRW-7. ISRW-4 concentrations have dropped over the sampling period (significantly from early operations), and more recently vary above/below CULs. The ISRW-7 & 4 data indicate reduction of the plume from the original southern boundary area.
3. ISRW-6 is located at the northern boundary of the ISRW alignment. ISRW-6 concentrations have also dropped from early operations, and more recently vary above/below CUL. The ISRW-6 concentration variations do not suggest near term shut-down but are indicative of a well on the plume boundary including below CUL results.

The remaining five ISRW wells (10, 5, 9, 3, and 8, moving south to north along the river) are located centrally in the plume area and continue comparatively higher mass removal:

1. ISRW's 5, 9, and 10 concentration averages are similar over the sampling timeframe – these wells are centrally located in the plume alignment and can be expected to maintain higher contaminant concentrations and mass removals.

2. ISRW's 3 and 8 concentrations are also similar over the sampling timeframe. LNAPL was occasionally reported in ISRW-3 during the ICM operations timeframe (1997 – 2007). ICM and dispute resolution documents suggest ISRW-3 and -8 are located in an area of the intermediate sand with a "sand dome" creating a possible collection area for LNAPL during the original spill timeframe. Based on their location in the plume, these wells are expected to be later in showing significant concentration reductions.

During the 23/24 monitoring period, three of the four intermediate sand monitoring network wells (MW-243, KC-14, MW-250) indicate non-detect results for benzene and toluene. These results agree with the historical data at these wells. Monitor well MW-239 results continued above the CUL (1.2 ug/L) for benzene for both the fall (9.3 ug/L) and spring (10 ug/L) sample events, and notably below historical concentrations that were often above 100 ug/L. The MW-239 toluene fall 2023 result was 9 ug/L and the spring 2024 result was 330 ug/L. These toluene results for MW-239 are also below historical concentrations and continue what may become a trend since fall 2021.

4.4 ISRW System Description and Performance

The following sections provide a description of the ISRW system operations and performance.

4.4.1 ISRW Mass Removal

Table 4-3 presents the ISRW water extraction volumes for the monitoring period including the total volume of groundwater pumped from each well. As shown, approximately 700,000 gallons of groundwater were extracted from the WIA intermediate sand aquifer during the 2023–2024 performance period. Table 4-4 combines the groundwater extraction volumes and average benzene and toluene concentrations to calculate the mass removals for the ISRW wells. Approximately 0.2 pounds of benzene and 138 pounds of toluene were removed during the 2023-2024 performance period.

Based on statements from historical reports and calculation of more recent data, estimated benzene and toluene removals to date:

Toluene Removed Since ISRW Startup April 1997: 52,964 lbs.

Benzene Removed Since 2011 (earlier data not specific): 108 lbs.

4.4.2 ISRW System Maintenance

The ISRW system operated continuously throughout the monitoring period, except during short-duration individual well shutdowns (typically 1 – 2 hours for an individual well while other wells continue to operate). The ISRW maintenance activities for the current reporting period included:

- Pump and float removal, cleaning, and reinstallation. This maintenance is conducted on an approximately monthly per well rolling schedule.
- As-needed replacement of electrical system fuses, capacitors, level floats, totalizers, and power cables due to normal wear.
- Replacement of submersible pumps and/or motors when required – typically due to wear of bearings, pump mechanisms, and pump motors.

- Ongoing maintenance of above ground apparatus including well-heads, hoses, and connections.

These ongoing maintenance efforts have ensured continued uninterrupted operation of the ISRW system.

4.4.3 ISRW Future Operations Plan

The WIA ISRW system continues to minimize discharge of affected intermediate sand groundwater to the Columbia River and reduce the mass of constituents in the aquifer. Ongoing appropriate system monitoring and maintenance will continue to minimize pump down times and equipment replacement requirements.

ISRW operations will continue much as they have in the recent past. ISRW-7 is currently shut-down and expected to remain that way unless groundwater samples return to above CULs. LANXESS will continue to operate the system in accordance with the requirements and goals described herein.

4.5 Recommended Changes to System Operation

LANXESS is not proposing any revisions to the ISRW operations and monitoring program.

5.0 References

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Tables

Table 2-1
NIA Monitoring Program 2023 - 2024

Well Location	Sampling Frequency	Field Parameters	Analytical Parameters	Gauging Frequency
NTP-1, NTP-2, NTP-3, KC-8, KC-9, KC-21, KC-23, MW-210, MW-232, MW-230, PZ-102, PDW-117, MW-245, MW-256, Wetland Staff Gauge	—	—	—	Annually
East Sump, West Sump	Semiannually	—	Benzene, Toluene, Biphenyl, DPO	
KC-9, PDW-117	Annually	Temperature, pH, ORP, conductivity, turbidity, DO	Benzene, Toluene, DPO	
MW-245, MW-256	Annually	Temperature, pH, ORP, conductivity, turbidity, DO	DPO	
Observation Walk Length of NIA Containment Trench Ground Surface	Annually	Visual observation for surface damage that may impact trench & subsurface containment berm	—	—

Notes:
DO = dissolved oxygen; ORP = oxidation reduction potential; NIA = North Impacted Area; DEHP / Bis(2-ethylhexyl)phthalate not required at MW-232, -245 & -256 Ecy 112916 & 111418; DPO = Diphenyl Oxide; biphenyl add NIA E&W, remove -210, -231, -230, -9, -117 Ecy 111418. Cease sampling MW-210 & -232 (continue gauging) Ecy 111418.

Table 2-2
NIA Groundwater Analytical Data (10/2007 – 4/2024)

Well	Date	VOCs (µg/L) (EPA Method 8021B/8260)		SVOCs (µg/L) (EPA Method 8270C SIM)				
		Benzene	Toluene	Benzoic Acid	Biphenyl	Bis (2-ethylhexyl) phthalate	Diphenyl Oxide	Phenol
	Cleanup Level	**1.2**	**2,000**	**24,590**	**230**	**1.8**	**410**	**2,560**
MW-210	10/20/2009	**51**	< 1.0	< 9.6 J	**74**	< 0.96	**1,800**	**19**
	4/22/2010	**23**	< 1.0	<10 J	**79**	< 1.0	**820**	**27**
	10/21/2010	**22**	< 1.0	< 9.8	**39**	<0.98	**1,700**	**17**
	10/10/2011	**7.7**	< 1.0	<9.3	**100**	**<2.4**	**1,400**	**11**
	4/18/2012	**16**	< 1.0	**9.6**	**150**	<0.93	**990**	**40**
	11/8/2012	**5.7**	< 1.0	<9.5 UJ	**21**	<0.95	**850**	**4.8**
	4/11/2013	**1.5**	< 1.0	<9.5	**10**	<0.95	**580**	**4.9**
	10/15/2013	< 1.0	< 1.0	<9.9 UJ	<0.99	<0.99	**250**	**7.6**
	4/16/2014	< 1.0	< 1.0	<9.5	<0.95	<0.95	**490**	<1.9
	10/23/2014	< 0.060	< 0.11	< 0.39 H	< 0.095 H	< 0.26 H	**590 H**	**1.2 JH**
	4/22/2015	< 0.42	< 0.44	< 0.39	< 0.095	**1.2 JB**	**330**	**2.2 J**
	10/20/2015	< 1.0	< 1.0	< 9.5	< 0.95	< 0.95	**1,500 D**	**14**
	4/13/2016	< 1.0	< 1.0	< 9.5	< 0.95	< 0.95	**44**	**8.5**
	10/28/2016	< 1.0	< 1.0	NA	**1.6**	NA	**780 D**	NA
	4/11/2017	< 0.50	< 1.0	NA	**1.8**	NA	**32**	NA
	10/5/2017	< 0.50	< 1.0	NA	< 0.97	NA	**210**	NA
	4/26/2018	< 1.0	< 1.0	NA	< 0.96	NA	**88**	NA
	10/2/2018	< 0.30	< 1.0	NA	< 0.47	NA	**654 D**	NA
		MW-210 Ecy Approved Cease Sampling, Continue Water Level Gauging 11-14-18						
MW-230	10/22/2009	**32**	**9.9**	**91 J**	**380**	**1.7**	**520**	**12**
	4/23/2010	**18**	**5.9**	**< 200 J**	**350**	**<20**	**390**	**93**
	10/20/2010	**23**	**5.2**	**74**	**470**	**6.8**	**590**	**44**
	10/11/2011	**44**	**5.2**	**22**	**450**	**<2.4**	**460**	**27**
	4/18/2012	**10**	**1.3**	**180**	**160**	<0.95	**220**	**38**
	11/7/2012	**16**	**2.7**	**30 J**	**130**	<0.95	**220**	**48**
	4/11/2013	**31**	**5.4**	**130**	**160**	<0.95	**240**	**39**
	10/16/2013	**8.8**	**8.0**	**79,000 J**	**170**	<1.1	**420**	**210**
	4/15/2014	**7.9**	**6.0**	<48	**500**	**<4.8**	**520**	**22**
	10/23/2014	**6.4**	**1.2**	< 0.39 H	**490 H**	< 0.26 H	**690 H**	**22 H**
	10/23/2014 Dup	**4.8**	**0.87 J**	**9.3 JH**	**520 H**	< 0.26 H	**690 H**	**23 H**
	4/22/2015	**14**	**0.90 J**	**28**	**250**	**2.5 JB**	**320**	**20 J**
	10/21/2015	**7.4**	**3.8**	< 9.5	**150**	< 0.95	**480 D**	**7.4**
	10/21/2015 Dup	**7.5**	**3.6**	< 9.5	**160**	< 0.95	**400 D**	**6.8**
	4/12/2016	**11**	< 1.0	**15**	**200**	< 0.95	**260 D**	**11**
	10/28/2016	**10**	**1.0**	**60**	**190**	< 0.95	**450 D**	**51**
	10/28/2016 Dup	**11**	**1.0**	**64**	**200**	<0.95	**420**	**45**
	4/11/2017	**2.4**	< 1.0	NA	**110 D**	NA	**180 D**	NA
	4/11/2017 Dup	**2.3**	< 1.0	NA	**99 D**	NA	**160 D**	NA
	10/5/2017	**7.0**	< 1.0	NA	**190**	NA	**240**	NA
	10/5/2017 Dup	**6.8**	< 1.0	NA	**160**	NA	**230**	NA
	4/25/2018	**1.4**	< 1.0	NA	**120**	NA	**120**	NA
	4/25/2018 Dup	**1.5**	< 1.0	NA	**130**	NA	**130**	NA
	10/2/2018	**1.8**	**1.6**	NA	**109 D**	NA	**192 D**	NA
	10/2/2018 Dup	**2.5**	**2.0**	NA	**89**	NA	**172**	NA
	4/15/2019	**0.98**	< 1.0	NA	NA	NA	**119 D**	NA
	4/15/2019 Dup	**0.64**	< 1.0	NA	NA	NA	**129 D**	NA
	10/15/2019	**1.75**	**1.99**	NA	NA	NA	**312**	NA
	4/9/2020	<0.300	<1.00	NA	NA	NA	**74.6 D**	NA
	10/20/2020	**1.70**	**1.13**	NA	NA	NA	**312 D**	NA
	4/12/2021	**1.18**	**1.82**	NA	NA	NA	**373 D**	NA
	10/6/2021	**2.18**	<1.00	NA	NA	NA	**375 D**	NA
	4/21/2022	<0.50 U	<0.50 U	NA	NA	NA	**110**	NA
		MW-230 Ecy Apprvd Cease Sampling, Continue Gauging 10-2022						
MW-231	10/22/2009	**110**	**68,000**	**30 J**	**840**	<0.95	**2,300**	**14**
	4/22/2010	**48**	**18,000**	**14 J**	**410**	<0.95	**920**	**4.7**
	10/20/2010	**110**	**48,000**	**23**	**260**	<0.96	**710**	**2.5**
	10/11/2011	**50**	**48,000**	**13**	**560**	**<2.4**	**1,700**	**44**
	4/18/2012	**5.3**	**1,200**	<9.5	**32**	<0.95	**110**	**4.0**
	11/8/2012	**75**	**23,100**	**15 J**	**210**	<0.95	**730**	**5.5**
	4/11/2013	**25**	**14,000**	**22**	**220**	<0.95	**930**	**14**
	10/16/2013	**13**	**15,000**	**230 J**	**240**	<0.95	**820**	**3.9**
	4/15/2014	**9.1**	**6,200**	<9.5	**77**	<0.95	**370**	**3.4**
	10/23/2014	**< 60**	**6,600**	< 0.39 H	**450 H**	**0.86 JH**	**2,200 H**	**3.5 JH**
	4/22/2015	**< 21**	**3,600**	< 0.39	**320**	**1.3 JB**	**1,700**	**2.6 J**
	4/22/2015 Dup	**< 100**	**3,800**	< 0.39	**300**	**1.4 JB**	**1,800**	**3.8 J**
	10/19/2015	**13 D**	**14,000 D**	**11**	**200**	< 0.95	**1,700 D**	**3.3**
	4/11/2016	< 1.0	**52**	< 9.5	< 0.95	< 0.95	**1.3**	< 1.9
	4/11/2016 Dup	< 1.0	**63**	< 9.5	< 0.95	< 0.95	**5.5**	< 1.9
	10/27/2016	< 2.0	**1,800 D**	NA	**160**	NA	**850 D**	NA
	4/10/2017	< 1.0	**13**	NA	**17**	NA	**67.0**	NA
	10/4/2017	< 0.50	**3,600 D**	NA	**370 D**	NA	**1,200 D**	NA
	4/26/2018	< 1.0	< 1.0	NA	**5.6**	NA	**26**	NA
	10/2/2018	1.0	**1,110 D**	NA	**163**	NA	**639**	NA
	4/12/2019	**16.1**	**61.9**	NA	NA	NA	**1060 D**	NA
	10/15/2019	**1.1**	**2.68**	NA	NA	NA	**1190 D**	NA
	4/9/2020	**1,370 D**	**57,800 D**	NA	NA	NA	**91.0 D**	NA
	5/12/2020	**0.590**	<1.00	NA	NA	NA	NA	NA
	5/12/2020 Dup	**0.540**	<1.00	NA	NA	NA	NA	NA
	10/20/2020	**0.710**	**2.88**	NA	NA	NA	**1,670 D**	NA
	10/20/2020 Dup	**0.770**	**3.22**	NA	NA	NA	**1,650 D**	NA
	4/13/2021	< 0.300	< 1.00	NA	NA	NA	**56.1**	NA
	4/13/2021 Dup	< 0.300	< 1.00	NA	NA	NA	**52.9**	NA
	10/6/2021	**0.370**	**3.65**	NA	NA	NA	**51.1 D**	NA
	4/21/2022	**0.56**	<0.50 U	NA	NA	NA	**45**	NA
		MW-231 Ecy Apprvd Cease Sampling & Gauging 10-2022						
MW-232	10/22/2009	< 1.0	< 1.0	< 9.7 J	<0.97	<0.97	**280**	**7.3**
	4/22/2010	< 1.0	< 1.0	<10 J	< 1.0	< 1.0	**220**	**9.2**
	10/20/2010	< 1.0	< 1.0	<9.6	<0.96	<0.96	**260**	**3.5**
	10/10/2011	<1.0	< 1.0	<9.3	<0.93	<0.93	**190 J**	**10 J**
	4/19/2012	<1.0	< 1.0	<9.5	<0.95	**<2.4**	**110**	**3.3**
	11/8/2012	<1.0	< 1.0	**<9.5 UJ**	<0.95	<0.95	**200**	**7.0**
	4/10/2013	<1.0	< 1.0	11	<0.95	**1.9**	**160**	**6.7**
	10/15/2013	<1.0	< 1.0	<10 UJ	<1.0	<1.0	**130**	**23**
	4/16/2014	< 1.0	< 1.0	<9.5	<0.95	<0.95	**140**	8.3
	10/21/2014	< 0.06	NA	NA	NA	< 0.26	**92**	NA
	4/21/2015	< 0.42	NA	NA	NA	1.3 JB	**190**	NA
	10/20/2015	< 0.50	NA	NA	NA	< 0.95	**150**	NA
	4/13/2016	< 0.50	NA	NA	NA	< 0.95	**84**	NA
	10/27/2016	NA	NA	NA	NA	NA	**180**	NA
	4/11/2017	NA	NA	NA	NA	NA	**96**	NA
	10/5/2017	NA	NA	NA	NA	NA	**160**	NA
	4/25/2018	NA	NA	NA	NA	NA	**68**	NA
	10/1/2018	NA	NA	NA	NA	NA	**52 D**	NA
		MW-232 Ecy Approved Cease Sampling, Continue Water Level Gauging 11-14-18						

Table 2-2
NIA Groundwater Analytical Data (10/2007 – 4/2024)

Well	Date	VOCs (µg/L) (EPA Method 8021B/8260)		SVOCs (µg/L) (EPA Method 8270C SIM)				
		Benzene	Toluene	Benzoic Acid	Biphenyl	Bis (2-ethylhexyl) phthalate	Diphenyl Oxide	Phenol
	Cleanup Level	**1.2**	**2,000**	**24,590**	**230**	**1.8**	**410**	**2,560**
MW-245	10/25/2007	**4.4**	< 1.0	<10 UJ	< 1.0	< 1.0	**870**	**18**
	4/17/2008	**3.2**	< 1.0	<9.6 UJ	<0.96	<0.96	**1,600**	**23**
	10/24/2008	< 1	< 1.0	NA	<0.98	<0.98	**700**	**17**
	4/20/2009	< 1.0	< 1.0	< 9.6 J	<0.96	<0.96	**770**	**12**
	10/22/2009	< 1.0	< 1.0	**< 9.6 J**	<0.96	<0.96	400	**7.3**
	4/22/2010	< 1.0	< 1.0	< 9.0 J	<0.99	<0.99	**470**	**14**
	10/21/2010	< 1.0	< 1.0	< 10	< 1.0	< 1.0	**320**	**15**
	10/10/2011	<1.0	< 1.0	<9.3	<0.93	<0.93	**330 J**	**12 J**
	4/19/2012	<1.0	< 1.0	<9.5	<0.95	**<2.4**	**350**	**8.3**
	11/7/2012	<1.0	< 1.0	<9.5 UJ	<0.95	<0.95	**180**	**2.1**
	4/10/2013	<1.0	< 1.0	<9.6	<0.96	<0.96	**260**	**7.5**
	10/16/2013	<1.0	< 1.0	<9.5 UJ	<0.95	<0.95	**150**	**5.7**
	4/15/2014	< 1.0	< 1.0	<9.5	<0.95	**21**	**130**	3.0
	10/21/2014	< 0.06	NA	NA	NA	< 0.26	**140**	NA
	4/21/2015	< 0.42	NA	NA	NA	**1.1 JB**	**200**	NA
	10/20/2015	< 0.50	NA	NA	NA	< 0.95	**77**	NA
	4/13/2016	< 0.50	NA	NA	NA	< 0.95	**180**	NA
	10/27/2016	NA	NA	NA	NA	< 0.96	**140**	NA
	4/11/2017	NA	NA	NA	NA	< 0.95	**130**	NA
	10/5/2017	NA	NA	NA	NA	< 2.5	**96**	NA
	4/26/2018	NA	NA	NA	NA	< 0.96	**120**	NA
	10/1/2018	NA	NA	NA	NA	< 0.50	**81**	NA
	4/12/2019	NA	NA	NA	NA	NA	**161 D**	NA
	10/15/2019	NA	NA	NA	NA	NA	**74**	NA
	4/7/2020	NA	NA	NA	NA	NA	**124 D**	NA
	10/20/2020	NA	NA	NA	NA	NA	**97.5 D**	NA
	4/12/2021	NA	NA	NA	NA	NA	**105 D**	NA
	10/4/2021	NA	NA	NA	NA	NA	**101 D**	NA
	4/21/2022	NA	NA	NA	NA	NA	**97**	NA
	4/19/2023	NA	NA	NA	NA	NA	**98**	NA
	4/4/2024	NA	NA	NA	NA	NA	**80**	NA
MW-256	10/25/2007	< 1.0	< 1.0	<11 UJ	< 1.1	< 1.1	**200**	**6.6**
	4/17/2008	< 1.0	< 1.0	**< 9.5 UJ**	<0.95	<0.95	**120**	**1.9**
	10/28/2008	< 1.0	< 1.0	17 J	<0.95	<0.95	**150**	4.7
	4/20/2009	< 1.0	< 1.0	<9.6 J	<0.96	<0.96	**47**	< 2
	10/22/2009	< 1.0	< 1.0	<9.5 J	<0.95	<0.95	**22**	<1.9
	4/22/2010	< 1.0	< 1.0	<9.0 J	<0.95	<0.95	**28**	<1.0
	10/21/2010	< 1.0	< 1.0	<9.9	<0.99	<0.99	**25**	<2.0
	10/10/2011	< 1.0	< 1.0	<9.3	<0.93	<0.93	**31 J**	<1.9
	4/18/2012	< 1.0	< 1.0	<9.7	<0.97	**<2.4**	**5.9**	<2.0
	11/8/2012	< 1.0	< 1.0	<9.5 UJ	<0.95	<0.95	**23**	<1.9
	4/10/2013	< 1.0	< 1.0	<9.5	<0.95	<0.95	**5.6**	<1.9
	10/16/2013	< 1.0	< 1.0	<9.5 UJ	<0.95	<0.95	**23**	<1.9
	4/15/2014	< 1.0	< 1.0	<9.5	<0.95	<0.95	**24**	<1.9
	10/21/2014	< 0.06	NA	NA	NA	NA	**27**	NA
	4/21/2015	< 0.42	NA	NA	NA	NA	**26**	NA
	10/20/2015	< 0.50	NA	NA	NA	NA	**16**	NA
	4/13/2016	< 0.50	NA	NA	NA	NA	**30**	NA
	10/27/2016	NA	NA	NA	NA	NA	**10**	NA
	4/11/2017	NA	NA	NA	NA	NA	**1.5**	NA
	10/5/2017	NA	NA	NA	NA	NA	**23**	NA
	4/26/2018	NA	NA	NA	NA	NA	**5.0**	NA
	10/1/2018	NA	NA	NA	NA	NA	**14.9**	NA
	4/12/2019	NA	NA	NA	NA	NA	**17.5**	NA
	10/15/2019	NA	NA	NA	NA	NA	**21.3**	NA
	4/7/2020	NA	NA	NA	NA	NA	<0.517	NA
	10/20/2020	NA	NA	NA	NA	NA	**21.6**	NA
	4/12/2021	NA	NA	NA	NA	NA	**8.64**	NA
	10/4/2021	NA	NA	NA	NA	NA	**8.24 D**	NA
	4/21/2022	NA	NA	NA	NA	NA	**14**	NA
	4/19/2023	NA	NA	NA	NA	NA	**15**	NA
	4/4/2024	NA	NA	NA	NA	NA	**15**	NA
KC-9	10/22/2009	**28**	**1.7**	< 9.5 J	**1300**	< 0.95	**5,400**	**21**
	4/23/2010	**5**	< 1.0	< 9.0 J	**170**	< 0.98	**730**	**7.4**
	10/21/2010	**14**	< 1.0	< 9.6	**840**	< 0.96	**3,600**	**18**
	10/10/2011	**10**	<1.0	<9.3	**420**	**<2.4**	**1,900**	**21**
	4/18/2012	**3.6**	<1.0	<9.5	**150**	<0.93	**600**	**8.7**
	11/8/2012	**2.2**	<1.0	<9.5 UJ	**170**	<0.95	**1,000**	**10**
	4/10/2013	**3.7**	< 1.0	**11**	**110**	<0.95	**810**	**5.1**
	10/16/2013	**4.3**	< 1.0	<9.5 UJ	**99**	<0.95	**1,300**	**6.6**
	4/15/2014	**2.8**	< 1.0	<9.5	**51**	<0.95	**740**	**6.4**
	10/21/2014	**Inaccessible due to construction; not sampled**						
	4/21/2015	**5.8**	< 0.44	**5.4 J**	**150**	**1.2 JB**	**1,300**	**9.4 J**
	10/20/2015	**18**	< 1.0	< 9.5	**570 D**	< 0.95	**4,000 D**	**25**
	4/13/2016	**3.5**	< 1.0	< 9.5	**100**	**< 0.95**	**690 D**	**12**
	10/27/2016	**3.0**	< 1.0	NA	**120**	**NA**	**1,800 D**	NA
	4/11/2017	**1.3**	< 1.0	NA	**62**	NA	**810 D**	NA
	10/5/2017	**2.2**	< 1.0	NA	**73**	NA	**1,900 D**	NA
	4/26/2018	**2.9**	< 1.0	NA	**57**	NA	**1,600 D**	NA
	10/1/2018	**4.9**	< 1.0	NA	**53 D**	NA	**2,010 D**	NA
	4/15/2019	**2.09**	< 1.0	NA	NA	NA	**5,980 D**	NA
	10/15/2019	**3.58**	<1.00	NA	NA	NA	**3,290 D**	NA
	4/7/2020	<0.300	<1.00	NA	NA	NA	**1,930 D**	NA
	10/20/2020	**2.79**	<1.00	NA	NA	NA	**2,660 D**	NA
	4/12/2021	**2.37**	<1.00	NA	NA	NA	**2,870 D**	NA
	10/4/2021	**2.96**	<1.00	NA	NA	NA	**2,630 D**	NA
	4/19/2022	**1.0**	< 0.50 U	NA	NA	NA	**1,400 D**	NA
	4/19/2023	**0.9**	< 0.50 U	NA	NA	NA	**1,800 D**	NA
	4/4/2024	< 0.50 U	< 0.50 U	NA	NA	NA	**900 D**	NA
PDW-117	10/22/2009	**21**	**5.4**	**36 J**	**750**	**6.5**	**1,700**	**6.2**
	4/22/2010	**< 1.0**	< 1.0	<9.0 J	**47**	<0.95	**140**	**5.6**
	10/20/2010	**5.7**	< 1.0	<9.9	**180**	<0.99	**970**	**15**
	10/11/2011	**7.6**	< 1.0	<9.5	**57**	**<2.4**	**400**	**8.4**
	4/18/2012	**1.1**	< 1.0	<9.5	**41**	<0.95	**180**	**4.4**
	11/8/2012	**23**	< 1.0	<9.5 UJ	**48**	<0.95	**360**	**20**
	4/11/2013	**4.4**	< 1.0	<9.5	**160**	<0.95	**1,200**	**6.3**
	10/15/2013	**5.9**	< 1.0	< 10 UJ	**150**	<1.0	**1,000**	**12**
	4/16/2014	**4.7**	< 1.0	<9.5	**59**	<0.95	**740**	**6.3**
	10/23/2014	**7**	**0.23 J**	**4.8 JH**	**22 H**	< 0.26 H	**1,700 H**	**8.6 JH**
	4/22/2015	**3.6**	< 0.44	< 0.40	**8.7**	< 0.26	**1,900**	**16**
	10/20/2015	**7.1**	< 1.0	< 9.5	**34**	< 0.95	**2,500 D**	**19**
	4/13/2016	< 1.0	< 1.0	< 9.5	**38**	< 0.95	**310 D**	**4.9**
	10/28/2016	< 1.0	< 1.0	NA	**1.0**	NA	**140**	NA
	4/11/2017	< 1.0	< 1.0	NA	**7.9**	NA	**150**	NA
	10/5/2017	**2**	< 1.0	NA	< 0.97	NA	**540 D**	NA
	4/26/2018	< 1.0	< 1.0	NA	< 0.96	NA	**1,700 D**	NA
	10/2/2018	**2.6**	< 1.0	NA	**9.6 D**	NA	**524 D**	NA
	4/15/2019	**0.99**	< 1.0	NA	NA	NA	**4,600 D**	NA
	10/15/2019	**2.06**	<1.00	NA	NA	NA	**1950 D**	NA
	4/9/2020	**0.860**	<1.00	NA	NA	NA	**2040 D**	NA
	4/9/2020 Dup	**0.930**	<1.00	NA	NA	NA	**1560 D**	NA
	10/20/2020	**0.500**	<1.00	NA	NA	NA	**1,570 D**	NA
	4/12/2021	< 0.300	< 1.00	NA	NA	NA	**1,070 D**	NA
	10/4/2021	**0.680**	<1.00	NA	NA	NA	**1,030 D**	NA
	4/19/2022	< 0.50 U	< 0.50 U	NA	NA	NA	**1,300 D**	NA
	4/19/2023	< 0.50 U	< 0.50 U	NA	NA	NA	**1,900 D**	NA
	4/4/2024	< 0.50 U	< 0.50 U	NA	NA	NA	**1,700 D**	NA

Table 2-2
NIA Groundwater Analytical Data (10/2007 – 4/2024)

Well	Date	VOCs (µg/L) (EPA Method 8021B/8260)		SVOCs (µg/L) (EPA Method 8270C SIM)				
		Benzene	Toluene	Benzoic Acid	Biphenyl	Bis (2-ethylhexyl) phthalate	Diphenyl Oxide	Phenol
	Cleanup Level	**1.2**	**2,000**	**24,590**	**230**	**1.8**	**410**	**2,560**
East Sump	7/25/2007	**7.5**	**30**	< 9.5 U	**29**	<0.95 U	**910 D**	**8**
	10/24/2007	**6**	**16**	< 9.0 UJ	**13**	<0.96	**960**	**11**
	1/17/2008	**9.7 D**	**160 D**	< 9.5 U	**13**	<0.95 U	**650 D**	**8.1**
	4/15/2008	**12**	**710**	< 9.5 UJ	**19**	<0.95	**730**	**27**
	7/28/2008	**5.6**	**69**	< 9.6	**21**	<0.96	**600**	**5.6**
	10/24/2008	**7.9**	**57**	NA	**17**	<0.97	**1,200**	**14**
	1/30/2009	**2.3**	< 1	< 9.5	**13**	<0.95	**580**	**6.2**
	4/20/2009	**4.3**	79	< 9.6 J	**7.6**	<0.96	**590**	**3.6**
	10/21/2009	**2.4**	< 1.0	< 11 J	**3.4**	< 1.1	**500**	**15**
	4/22/2010	**1.9**	< 1.0	< 10 J	**4.4**	< 1.0	**330**	**4.4**
	10/21/2010	**14**	< 1.0	< 10	**6.7**	< 1.0	**760**	**18**
	10/10/2011	**9.7**	< 1.0	<9.5	**3.3 J**	<0.95	**310 J**	**5.1 J**
	4/19/2012	**1.9**	< 1.0	<9.5	**4.4**	<2.4	**280**	<1.9
	11/7/2012	<1.0	< 1.0	<9.5 UJ	**2.4**	<0.95	**220**	**2.4**
	4/10/2013	<1.0	< 1.0	<9.5	**2.0**	<0.95	**200**	**2.8**
	10/16/2013	<1.0	< 1.0	<9.5 UJ	**1.8**	<0.95	**260**	**2.8**
	4/14/2014	< 1.0	< 1.0	<9.5	**1.6**	<0.95	**190**	<1.9
	10/21/2014	< 0.06	< 0.11	NA	NA	NA	**200**	NA
	4/20/2015	< 0.42	**1.2 J**	NA	NA	NA	**150**	NA
	10/20/2015	< 1.0	< 1.0	NA	NA	NA	<0.95	NA
	4/13/2016	< 1.0	< 1.0	NA	NA	NA	**260 D**	NA
	10/27/2016	< 1.0	< 1.0	NA	NA	NA	**53**	NA
	4/10/2017	< 1.0	< 1.0	NA	NA	NA	**170**	NA
	10/4/2017	< 0.50	< 1.0	NA	NA	NA	**360 D**	NA
	4/23/2018	< 1.0	< 1.0	NA	NA	NA	**140**	NA
	10/2/2018	< 0.3	< 1.0	NA	NA	NA	**92 D**	NA
	4/12/2019	< 0.3	< 1.0	NA	< 0.644	NA	**112**	NA
	10/15/2019	<0.300	<1.00	NA	<0.473	NA	**266**	NA
	4/7/2020	<0.300	<1.00	NA	<0.475	NA	**80.5 D**	NA
	10/19/2020	**54.5**	<1.00	NA	<0.481	NA	**216 D**	NA
	10/19/2020 Dup	**55.1**	<1.00	NA	<0.483	NA	**278**	NA
	1/15/2021	**5.98**	<1.00	NA	NA	NA	NA	NA
	4/8/2021	**15.5**	<1.00	NA	<0.479	NA	**117 D**	NA
	7/16/21 ALS 8260	**2.0**		NA	NA	NA	NA	NA
	7/16/21 Spclty 802	**2.19**	**1.15**	NA	NA	NA	NA	NA
	10/1/2021 Spclty 8	<0.300	<1.00	NA	<0.473	NA	**104 H (lab)**	NA
	10/1/2021 DUP	<0.300	<1.00	NA	<0.474	NA	NA	NA
	4/14/2022 ALS	<0.50 U	<0.50 U	NA	<0.94	NA	**99**	NA
	4/14/2022 DUP	<0.50 U	<0.50 U	NA	<0.94	NA	**99**	NA
	10/18/2022	< 0.50 U	<0.50 U	NA	<0.66 U	NA	**290 D**	NA
	4/19/2023	< 0.50 U	< 0.50 U	NA	<0.98 U	NA	**95**	NA
	10/12/2023	< 0.50 U	< 0.50 U	NA	<0.94 U	NA	**160**	NA
	4/4/2024	< 0.50 U	< 0.50 U	NA	<0.96 U	NA	**200 D**	NA
West Sump	7/25/2007	**270 D**	**1,900 D**	**12**	**180 D**	<0.95 U	**1,600 D**	**9.5**
	7/25/2007 Dup	**270 D**	**1,500 D**	**11**	**160 D**	**2.5**	**1,600 D**	**14**
	10/24/2007	**270 J**	**1,300 J**	**32 J**	**190**	<0.96	**2,200**	**22 J**
	10/24/2007 Dup	**450 J**	**2,000 J**	**20 J**	**210**	<0.95	**2,100**	**16 J**
	1/17/2008	**410 D**	**8,300 D**	9.8	**45**	<0.96 U	**620 D**	**62 D**
	1/17/2008 Dup	**400 D**	**7,900 D**	< 9.7 U	**42**	<0.97 U	**600 D**	**55 D**
	4/15/2008	**79**	**820**	< 9.5 UJ	**160**	**1.1**	**1,200**	**8.7**
	4/15/2008 Dup	**83**	**780**	< 9.5 UJ	**160**	<0.95	**1,200**	**8.4**
	7/28/2008	**200**	**740**	< 9.5	**140**	<0.95	**1,300**	**18**
	7/28/2008 Dup	**200**	**740**	< 9.5	**140**	<0.95	**1,200**	**21**
	10/24/2008	**140**	**1,700**	**26 J-**	**110**	<0.95	**1,000**	**15**
	1/30/2009	**160**	**1,400**	26	**78**	<0.95	**880**	**2.5**
	1/30/2009 Dup	**150**	**1,300**	< 9.5	**110**	<0.95	**870**	**17**
	4/20/2009	**26**	**78**	< 9.6 J	**150**	<0.96	**1,100**	**5.7**
	4/20/2009 Dup	**27**	**78**	< 9.6 J	**130**	<0.96	**1,000**	**5.3**
	10/20/2009	**100**	**1,100**	< 9.5 J	**5.0 J**	<0.95	**570 J**	**31**
	10/21/2009 Dup	**100**	**1,100**	< 9.5 J	**59 J**	<0.95	**970 J**	**28**
	4/22/2010	**56**	**77**	< 9.0 J	**46**	<0.95	**490**	**5**
	4/22/2010 Dup	**59**	**85**	< 9.0 J	**45**	<0.99	**490**	**6.8**
	10/21/2010	**42**	**69**	< 9.8	**15**	< 0.98	**470**	**100**
	10/10/2011	**33**	**210**	<9.5	**45 J**	<0.95	**730 J**	**8.7 J**
	10/10/2011 Dup	**33**	**210**	<9.3	**23 J**	<0.93	**560 J**	**20 J**
	4/19/2012	**71**	**230**	<9.5	**27**	**< 2.4**	**320**	**4.2**
	4/19/2012 Dup	**71**	**230**	<9.5	**27**	**< 2.4**	**310**	**4.3**
	11/7/2012	**52**	**109**	<9.5 UJ	**49**	<0.95	**760**	**6.1**
	11/7/2012 Dup	**48**	**101**	<9.5 UJ	**46**	<0.95	**750**	**6.1**
	4/10/2013	**34**	**23**	**12**	**42**	<0.95	**410**	**5.0**
	4/10/2013 Dup	**34**	**22**	**9.8**	**42**	<0.95	**430**	**5.3**
	10/16/2013	**33**	**18**	<9.5	**45**	<0.95	**770**	**4.6**
	10/16/2013 Dup	**33**	**19**	<9.5	**42**	<0.95	**750**	**5.1**
	4/14/2014	**67**	**120**	<9.5 UJ	**47**	<0.95	**520**	**7.4**
	4/14/2014 Dup	**72**	**120**	<9.5 UJ	**46**	<0.95	**520**	**8.4**
	10/21/2014	**4.4**	**0.91**	NA	NA	NA	**830**	NA
	10/21/2014 Dup	**4.4**	**0.85**	NA	NA	NA	**980**	NA
	4/20/2015	**56**	**60**	NA	NA	NA	**550**	NA
	10/20/2015	**4.4**	< 1.0	NA	NA	NA	200	NA
	10/20/2015 Dup	4.5	< 1.0	NA	NA	NA	**200**	NA
	4/13/2016	**74**	**51**	NA	NA	NA	**180**	NA
	4/13/2016 Dup	**71**	**50**	NA	NA	NA	**190**	NA
	10/27/2016	**5.0**	**5.5**	NA	NA	NA	**1,100 D**	NA
	10/27/2016 Dup	**6.1**	**7.1**	NA	NA	NA	**1,100 D**	NA
	4/10/2017	**65 D**	**40 D**	NA	NA	NA	**100**	NA
	4/10/2017 Dup	**68 D**	**42 D**	NA	NA	NA	**100**	NA
	10/4/2017	**2.7**	**3.7**	NA	NA	NA	**790 D**	NA
	10/4/2017 Dup	**2.8**	**3.4**	NA	NA	NA	**770 D**	NA
	4/23/2018	**21**	**8.6**	NA	NA	NA	**300 D**	NA
	4/23/2018 Dup	**21**	**8.6**	NA	NA	NA	**300 D**	NA
	10/2/2018	**3.3**	**< 1.0**	NA	NA	NA	**844 D**	NA
	10/2/2018 Dup	**2.9**	**< 1.0**	NA	NA	NA	**595 D**	NA
	4/12/2019	**18.2**	**11.8**	NA	**37.8**	NA	**898 D**	NA
	4/12/2019 Dup	**18.6**	**12.4**	NA	**37.8**	NA	**962 D**	NA
	10/15/2019	**1.11**	<1.00	NA	**22.1**	NA	**996 D**	NA
	10/15/2019 Dup	**1.16**	<1.00	NA	**24.1**	NA	**1020 D**	NA
	4/7/2020	**9.57**	**11.8**	NA	**11.9**	NA	**532 D**	NA
	4/7/2020 Dup	**9.69**	**10.7**	NA	**12.9**	NA	**603 D**	NA
	10/19/2020	**0.970**	<1.00	NA	**13.1**	NA	**874 D**	NA
	1/15/2021	**15.2**	**2.45**	NA	**NA**	NA	**NA**	NA
	4/8/2021	**4.51**	**1.86**	NA	**8.82**	NA	**690 D**	NA
	10/1/2021	**0.500**	<1.00	NA	<0.474	NA	**119 H (lab)**	NA
	4/14/2022	**2.7**	<0.50 U	NA	**5.4**	NA	**400 D**	NA
	10/18/2022	**0.55**	<0.50 U	NA	**6.1**	NA	**750 D**	NA
	4/19/2023	**2.3**	**3.0**	NA	**7.0**	NA	**410 D**	NA
	10/12/2023	< 0.50 U	< 0,50 U	NA	**2.9**	NA	**820 D**	NA
	4/4/2024	**14**	**2.6**	NA	**2.7**	NA	**230 D**	NA

Notes:
< - Result is non-detected above the laboratory detection limit.
< - Detection limit above cleanup level.
Bold indicates detection.
Dup - Field Duplicate Sample.
NA - Not analyzed per Ecology approval.
J - Estimated concentration.
UJ - Not detected, estimate concentration.
Bold and shaded Detection above cleanup level.
EPA = U.S. Environmental Protection Agency; µg/L micrograms per liter; mg/L = milligrams per liter; NIA = North Impacted Area;

Table 2-3
NIA Interception Trench Sump Pump Operation Data (2023-2024)

Current Reporting Year: Monthly Data	Total Groundwater Extracted			Days of Operation	Average Flow Rate[1]	
	East Sump (gallons)	West Sump (gallons)	Combined (gallons)		(gallons per day)	(gallons per minute)
April 2024	1,988,864	1,499,465	3,488,329	27	129,197	90
March 2024	2,164,960	962,558	3,127,518	35	89,358	62
February 2024	1,805,949	979,343	2,785,292	28	99,475	69
January 2024	1,844,764	984,516	2,829,280	28	101,046	70
December 2023	1,992,250	1,153,322	3,145,572	28	112,342	78
November 2023	1,230,168	869,811	2,099,979	35	59,999	42
October 2023	423,479	411,470	834,949	28	29,820	21
September 2023	529,671	565,340	1,095,011	35	31,286	22
August 2023	487,542	527,657	1,015,199	28	36,257	25
July 2023	928,783	649,828	1,578,611	29	54,435	38
June 2023	2,173,639	1,142,530	3,316,169	35	94,748	66
May 2023	1,834,225	1,188,206	3,022,431	28	107,944	75
Data by Year (1999 – 2024)						
May 2023 - April 2024 Total			28,338,340	365	77,639	54
May 2022 - April 2023 Total			33,363,099	365	91,406	63
May 2021 - April 2022 Total			29,004,774	364	79,683	55
May 2020 - April 2021 Total			25,686,164	335	76,675	53
May 2019 - April 2020 Total			25,672,040	364	70,528	49
May 2018 - April 2019 Total			26,892,240	365	73,677	51
May 2017 - April 2018 Total			34,527,000	365	94,595	66
May 2016 - April 2017 Total			27,211,420	357	76,222	53
May 2015 - April 2016 Total			22,279,780	364	61,208	43
May 2014 - April 2015 Total			28,283,351	364	77,702	54
May 2013 - April 2014 Total			26,146,043	364	71,830	50
May 2012 - April 2013 Total			32,377,430	367	88,222	61
May 2011 - April 2012 Total			29,560,750	364	81,211	56
May 2010 - April 2011 Total			27,198,659	364	74,722	52
May 2009 - April 2010 Total			23,801,041	365	66,114	46
May 2008 - April 2009 Total			24,827,910	365	68,022	47
May 2007 - April 2008 Total			24,318,988	366	66,493	46
May 2006 - April 2007 Total			30,981,555	365	85,000	59
May 2005 - April 2006 Total			28,741,209	365	78,986	55
May 2004 - April 2005 Total			22,890,809	365	62,791	44
May 2003 - April 2004 Total			25,980,637	366	71,036	49
May 2002 - April 2003 Total			22,689,839	363	62,700	44
May 2001 - April 2002 Total			18,336,898	365	50,465	35
May 2000 - April 2001 Total			16,158,522	365	44,230	31
May 1999 - April 2000 Total			27,663,437	366	75,565	53
		Averages:	26,517,277		75,143	52

Notes:

[1] Calculated based on weekly totalizer readings.

NIA = North Impacted Area

Table 2-4
NIA Discharge Data (2023 – 2024)

East Sump

Chemical Name	Average Concentration (µg/L)*		May 2023 - October 2023 Contaminant Removal (lb)	November 2023 - April 2024 Contaminant Removal (lb)	East Sump Total Removal (lb)
	4/23 & 10/23 Avg.	10/23 & 4/24 Avg.			
Volatile Organic Compounds (EPA Method 8260)					
Benzene	0	0	0.00	0.00	0.00
Toluene	0	0	0.00	0.000	0.00
Semivolatile Organic Compounds (EPA Method 8270 mod.)					
Diphenyl Oxide	**128**	**180**	6.81	16.56	23.38

West Sump

Chemical Name	Average Concentration (µg/L)*		May 2023 - October 2023 Contaminant Removal (lb)	November 2023 - April 2024 Contaminant Removal (lb)	West Sump Total Removal (lb)
	4/23 & 10/23 Avg.	10/23 & 4/24 Avg.			
Volatile Organic Compounds (EPA Method 8260)					
Benzene	**1.2**	**7**	0.04	0.38	0.42
Toluene	**1.5**	**1.3**	0.06	0.07	0.13
Semivolatile Organic Compounds (EPA Method 8270 mod.)					
Diphenyl Oxide	**615**	**525**	23.02	28.26	51.27

East & West Combined NIA Total

Chemical Name	May 2023 - October 2023 Contaminant Removal (lb)	November 2023 - April 2024 Contaminant Removal (lb)	Combined NIA Total Removal (lb)
Volatile Organic Compounds (EPA Method 8260)			
Benzene	0.04	0.38	0.4
Toluene	0.06	0.07	0.1
Semivolatile Organic Compounds (EPA Method 8270 mod.)			
Diphenyl Oxide	29.83	44.82	74.7

Notes:
East Sump groundwater extracted = 17,404,294
West Sump groundwater extracted = 10,934,046
***Chemical concentrations are average for the period (May&Oct, Oct&April)**
Contaminant removal results are rounded.
EPA = U.S. Environmental Protection Agency; lb = pound; µg/L = micrograms per liter; NIA = North Impacted Area

Table 3-1
WIA Shallow Interception Trench Monitoring Program 2023 - 2024

Well Location	Sampling Frequency	Field Parameters	Analytical Parameters	Gauging Frequency
KC-13, KC-24R, PZ-110, MW-238, MW-255, N&S Sumps	—	—	—	Annually
PZ-104, PZ-107	Annually	Temperature, pH, ORP, conductivity, turbidity, DO	Benzene, Toluene, Biphenyl, DEHP, DPO	
USRW-2	Annually	Temperature, pH, ORP, conductivity, turbidity, DO	DPO	

Notes:
DO = dissolved oxygen; ORP = oxidation reduction potential; DPO = Diphenyl Oxide; DEHP = Bis (2-ethylhexyl) phthalate.
Ecy 11-28-17 Approval of EKC recommendation: Remove Well KC-11 from sampling and gauging list (already sampled Oct 2017)

Table 3-2
WIA Upper Sand Analytical Data (10/2007 – 4/2024)

Well	Date	VOCs (µg/L) (EPA Method 8021B / 8260)		SVOCs (µg/L) (EPA Method 8270C SIM)				
		Benzene	Toluene	Benzoic Acid	Biphenyl	Bis (2-ethylhexyl) phthalate	Diphenyl Oxide	Phenol
	Cleanup Level	**1.2**	**2,000**	**24,590**	**230**	**1.8**	**410**	**2,560**
PZ-104	10/20/2009	**5.8**	< 1.0	<9.7 J	**550**	<0.97	**3,600**	**12**
	4/23/2010	**4.5**	< 1.0	<9.0 J	**180**	<0.95	**2,600**	**8.6**
	10/20/2010	**8.3**	< 1.0	< 10	**260**	< 1.0	**4,100**	**83**
	10/10/2011	**7.7**	< 1.0	<9.5	**150**	**<2.4**	**4,700**	**69**
	4/19/2012	**5.8**	< 1.0	<9.5	**29**	<0.95	**3,600**	**37**
	11/8/2012	**9.2**	< 1.0	<9.5 UJ	**36**	<0.95	**4,600**	**80**
	4/11/2013	**5.5**	< 1.0	<9.5	**47**	<0.95	**3,100**	**30**
	10/16/2013	**5.5**	< 1.0	<9.5 UJ	**4.9**	<0.95	**2,600**	**38**
	4/15/2014	**2.9**	< 1.0	<9.5	**13**	<0.95	**2,400**	**37**
	10/23/2014	**5.3**	< 0.11	< 0.40 H	**10 H**	< 0.26 H	**4,800 H**	**38 H**
	4/22/2015	**3**	< 0.44	< 0.40	**6.4**	**1.3 JB**	**3000**	**52**
	4/22/2015 Dup	**3**	< 0.44	< 0.39	**6.3**	**1.2 JB**	**3100**	**46**
	10/20/2015	**1.9**	< 1.0	< 9.5	**2.3**	< 0.95	**3,300 D**	**48**
	4/12/2016	< 1.0	< 1.0	< 9.5	**2.8**	**69**	**1,700 D**	**31**
	10/28/2016	**1.9**	< 1.0	NA	< 0.95	< 0.95	**3,700 D**	NA
	4/12/2017	< 0.50	< 1.0	NA	**2.2**	< 0.95	**1,600**	NA
	10/5/2017	**2.2**	< 1.0	NA	**4.7**	< 2.5	**2,800 D**	NA
	4/25/2018	< 1.0	< 1.0	NA	< 0.96	< 0.96	**1,600 D**	NA
	10/2/2018	**4.3**	**6.8**	NA	**50.2 D**	< 4.7 D	**3,620 D**	NA
	4/15/2019	**12.2**	< 1.0	NA	**381 D**	< 0.505	**8,350 D**	NA
	10/15/2019	**5.29**	<1.00	NA	**0.665**	<0.475	**2,740 D**	NA
	4/9/2020	**9.28**	<1.00	NA	**79.7 D**	**47.3 D**	**4,740 D**	NA
	5/12/2020	NA	NA	NA	**268 D**	<0.484	**12,100 D**	NA
	10/20/2020	**1.65**	<1.00	NA	**16.6**	<0.478	**3,140 D**	NA
	10/20/2020 Dup M	**1.66**	<1.00	NA	**22.4 D**	<0.479	**3,420 D**	NA
	4/12/2021	**5.67**	<1.00	NA	**86.1**	<0.478	**4,530 D**	NA
	10/4/2021	**0.970**	<1.00	NA	**81.5 D**	<47.9 D	**4,300 D**	NA
	10/4/2021 Dup	**0.760**	<1.00	NA	**3,430 D**	<47.8 D	**4,080 D****	NA
	4/21/2022	**1.7**	<0.50 U	NA	**54**	<1.9 U	**3,300 D**	NA
	4/21/2022 Dup 4	**1.6**	<0.50 U	NA	**44**	<1.9 U	**2,900 D**	NA
	4/18/2023	**2.3**	<0.50 U	NA	**34**	**2.5 B**	**2,900 D**	
	4/18/2023 Dup 4	**2.4**	<0.50 U	NA	**40**	**2.5 B**	**3,000 D**	NA
	4/4/2024	**1.3**	<0.50 U	NA	**110 D**	< 2.4 U	**4000 D**	NA
	4/4/2024 Dup4	**1.4**	<0.50 U	NA	**100**	< 2.4 U	**3700 D**	NA
PZ-107	10/22/2009	NA	NA	NA	NA	NA	NA	NA
	4/23/2010	**5.3**	**590**	**1,300 J**	**1,500**	**<4.0**	**3,600**	**210**
	10/20/2010	**37**	**5,300**	**4,300**	**24,000**	**<200**	**65,000**	< 390
	10/11/2011 s	**100**	**5,300**	**38,000**	**110,000**	**3.4**	**300,000**	**220**
	4/19/2012 s	**18**	**130**	**7,400**	**1,700**	**600**	**4,300**	**140**
	11/7/2012 s	**19**	**227**	**900 J**	**4,400**	**30**	**12,000**	**41**
	4/11/2013 s	**160**	**2,000**	**8,000**	**140,000**	**1,200**	**330,000**	**270**
	10/16/2013 s	**13**	**200**	**450 J**	**1,200**	**6.4**	**4,400**	**40**
	4/15/2014 s	**5.5**	**57**	**640**	**1,000**	**<9.5**	**2,800**	**53**
	10/23/2014 s	**Not sampled**						
	4/23/2015 s	**6.6**	**82**	**2100**	**720**	**6.2 B**	**2,200**	**19**
	10/20/2015 s	**12**	**530 D**	**2,600 D**	**5,700 D**	**62 D**	**20,000 D**	< 48
	4/12/2016	**2.5**	**30**	**1,200 D**	**930 D**	<0.95	**2,300 D**	**36**
	10/28/2016	< 1.0	**6.8**	NA	**760 D**	< 0.96	**2,100 D**	NA
	4/12/2017	**0.62**	**15**	NA	**860 D**	< 9.5	**1,900 D**	NA
	10/5/2017	**1.2**	**32 D**	NA	**440 D**	2.7	**1,100 D**	NA
	4/25/2018	< 1.0	**1.7**	NA	**670 D**	< 9.6	**1,600 D**	NA
	10/3/2018	< 0.30	**3.9**	NA	**404 D**	< 4.7 D	**936 D**	NA
	4/15/2019	< 0.30	< 1.0	NA	**269 D**	<0.625	**622 D**	NA
	10/15/2019	<0.300	**1.45**	NA	**209**	<0.473	**1,080 D**	NA
	4/9/2020	<0.300	<1.00	NA	**22.1**	**1.08**	**176 D**	NA
	5/12/2020	NA	NA	NA	**159 D**	<0.487	**1,430 D**	NA
	10/20/2020	<0.300	<1.00	NA	**261 D**	<0.480	**649 D**	NA
	4/12/2021	<0.300	**3.67**	NA	**33.4**	<0.478	**85.8 D**	NA
	10/4/2021	<0.300	<1.00	NA	**60.9**	<0.345	**21.8**	NA
	4/21/2022	<0.50 U	<0.50 U	NA	**17**	<1.9 U	**64**	NA
	4/19/2023	<0.50 U	<0.50 U	NA	**150**	**2.7 B**	**480 D**	NA
	4/4/2024	<0.50 U	<0.50 U	NA	**29**	< 2.4 U	**72**	NA
MW-244	10/24/2007	**1.1**	< 1.0	< 9.8 UJ	< 0.98	< 0.98	**720**	**30**
	4/17/2008	**1.1**	< 1.0	< 9.7 UJ	< 0.97	< 0.97	**560**	**16**
	10/27/2008	**3**	< 1.0	**11 J**	< 0.95	< 0.95	**960**	**20**
	4/22/2009	**1**	< 1.0	< 9.6 J	< 0.96	< 0.96	**1,300**	**9.1**
	10/20/2009	**1.3**	< 1.0	< 9.8 J	< 0.98	< 0.98	**820**	**41**
	4/22/2010	< 1.0	< 1.0	< 9.0 J	< 0.98	< 0.98	**1,000**	**38**
	10/19/2010	< 1.0	< 1.0	< 9.6	< 0.96	< 0.96	**340**	**5.7**
	10/11/2011	< 1.0	< 1.0	<9.5	<0.95	<0.95	**68**	<1.9
	4/18/2012	< 1.0	**2,400**	<9.5	<0.95	**<2.4**	**550**	**4.8**
	11/8/2012	< 1.0	< 1.0	<9.5 UJ	<0.95	<0.95	**590**	**7.8**
	11/8/2012 Dup	< 1.0	< 1.0	<9.5 UJ	<0.95	<0.95	**600**	**8.4**
	4/11/2013	< 1.0	< 1.0	<9.5	<0.95	<0.95	**530**	**14**
	4/11/2013 Dup	< 1.0	< 1.0	<9.5	<0.95	<0.95	**610**	**14**
	10/17/2013	< 1.0	< 1.0	<9.5 UJ	<0.95	<0.95	**410**	**8.2**
	4/15/2014	< 1.0	< 1.0	<9.5	<0.95	<0.95	**600**	**9.4**
	10/22/2014	**0.12 J**	< 0.11	NA	NA	< 0.28	**570**	NA
	4/21/2015	< 0.42	< 0.44	NA	NA	**1.2 JB**	**450**	NA
	10/20/2015	NA	NA	NA	NA	NA	**780 D**	NA
	4/13/2016	NA	NA	NA	NA	NA	**190**	NA
	10/27/2016	NA	NA	NA	NA	NA	**470 D**	NA
	4/11/2017	NA	NA	NA	NA	NA	**68**	NA
	10/3/2017	NA	NA	NA	NA	NA	**330 D**	NA
	4/24/2018	NA	NA	NA	NA	NA	**340 D**	NA
	10/1/2018	NA	NA	NA	NA	NA	**207**	NA
	4/15/2019	NA	NA	NA	NA	NA	**269 D**	NA
	10/15/2019	NA	NA	NA	NA	NA	**79.7 D**	NA
	4/9/2020	NA	NA	NA	NA	NA	**156 D**	NA
Cease sampling Oct 2020 Sampling Round Per Ecy 10/21/20 Approval								

Table 3-2
WIA Upper Sand Analytical Data (10/2007 – 4/2024)

Well	Date	VOCs (µg/L) (EPA Method 8021B / 8260)		SVOCs (µg/L) (EPA Method 8270C SIM)				
		Benzene	Toluene	Benzoic Acid	Biphenyl	Bis (2-ethylhexyl) phthalate	Diphenyl Oxide	Phenol
	Cleanup Level	**1.2**	**2,000**	**24,590**	**230**	**1.8**	**410**	**2,560**
KC-11	10/20/2009 *	NS	NS	NS	NS	NS	NS	NS
	4/23/2010 *	NS	NS	NS	NS	NS	NS	NS
	10/11/2011	< 1.0	**2.8**	**26**	**28**	**<9.9**	**160**	<9.9
	4/19/2012	**1.4**	< 1.0	<9.5	<0.95	**<2.4**	**4.6**	<1.9
	11/7/2012 *	NS	NS	NS	NS	NS	NS	NS
	4/10/2013	<1.0	<1.0	<9.5	<0.95	<0.95	**38**	<1.9
	10/16/2013	**1.0**	<1.0	<10 UJ	<1.0	<1.0	**18**	<2.0
	4/15/2014	< 1.0	< 1.0	<9.5	<0.95	<0.95	**4.3**	<1.9
	10/22/2014 *	NS	NS	NS	NS	NS	NS	NS
	4/22/2015	< 0.42	< 0.44	NA	NA	**1.3 JB**	**4.9**	NA
	10/20/2015 *	NS	NS	NS	NS	NS	NS	NS
	4/12/2016	NA	NA	NA	NA	NA	**2.6**	NA
	10/27/2016	NA	NA	NA	NA	NA	**3.2**	NA
	4/10/2017	NA	NA	NA	NA	NA	**31**	NA
	10/4/2017	NA	NA	NA	NA	NA	NS	NA
	Cease Monitoring & Gauging KC-11 Per Ecy Approval 11-28-17							
KC-13	10/20/2009 *	NS	NS	NS	NS	NS	NS	NS
	4/23/2010 *	NS	NS	NS	NS	NS	NS	NS
	10/11/2011 *	NS	NS	NS	NS	NS	NS	NS
	4/19/2012 *	NS	NS	NS	NS	NS	NS	NS
	11/7/2012 *	NS	NS	NS	NS	NS	NS	NS
	4/10/2013 *	NS	NS	NS	NS	NS	NS	NS
	10/16/2013 *	NS	NS	NS	NS	NS	NS	NS
	4/15/2014 *	NS	NS	NS	NS	NS	NS	NS
	10/22/2014 *	NS	NS	NS	NS	NS	NS	NS
	4/22/2015	< 0.42	< 0.44	NA	NA	**1.7 JB**	**1.7 J**	NA
	10/20/2015 *	NS	NS	NS	NS	NS	NS	NS
	4/12/2016 *	NS	NS	NS	NS	NS	NS	NS
	Cease Monitoring KC-13, Continue Gauging Per Ecy 11/29/16 Ltr.							
USRW-2	10/25/2007	**2.8**	< 1.0	< 9.9 UJ	< 0.99	< 0.99	**1,500**	**39**
	10/25/2007 Dup	**2.7**	< 1.0	< 9.9 UJ	< 0.99	< 0.99	**1,400**	**40**
	4/17/2008	< 1.0	< 1.0	< 9.7 UJ	< 0.97	< 0.97	< 0.97	< 2
	4/17/2008 Dup	< 1.0	< 1.0	< 9.7 UJ	< 0.97	< 0.97	< 0.97	< 2
	10/28/2008	**1.2**	< 1.0	< 9.5 J	< 0.95	< 0.95	**1,500**	**22**
	10/28/2008 Dup	**1.1**	< 1.0	< 9.5 J	< 0.95	< 0.95	**1,600**	**23**
	4/22/2009	< 1.0	< 1.0	< 9.6 J	< 0.96	< 0.96	**1,000**	**10**
	4/22/2009 Dup	< 1.0	< 1.0	< 9.6 J	< 0.96	< 0.96	**1,100**	**8.4**
	10/20/2009	**1.2**	< 1.0	< 11 J	< 1.1	< 1.1	**800**	**41**
	10/20/2009 Dup	**1.2**	< 1.0	< 10 J	< 1.0	< 1.0	**970**	**43**
	4/22/2010	< 1.0	< 1.0	< 10 J	< 1.0	< 1.0	**850**	**20**
	4/22/2010 Dup	< 1.0	< 1.0	< 9.0 J	< 0.99	< 0.99	**780**	**20**
	10/19/2010	< 1.0	< 1.0	< 9.8	**5**	< 0.98	**880**	**43**
	10/11/2011	< 1.0	< 1.0	<9.5	<0.95	<0.95	**310**	**5.5**
	10/11/2011 Dup	< 1.0	< 1.0	<9.5	<0.95	<0.95	**490**	**6.7**
	4/19/2012	< 1.0	< 1.0	<9.5	<0.95	**<2.4**	**400**	**9.6**
	4/19/2012 Dup	< 1.0	< 1.0	<9.5	<0.95	**<2.4**	**400**	**9.3**
	11/7/2012	< 1.0	< 1.0	<9.5 UJ	<0.95	<0.95	**500**	**11**
	11/7/2012 Dup	< 1.0	< 1.0	<9.5 UJ	<0.95	<0.95	**410**	**9.4**
	4/11/2013	< 1.0	< 1.0	<9.5	<0.95	<0.95	**430**	**7.5**
	10/17/2013	< 1.0	< 1.0	<9.5 UJ	<0.95	<0.95	**380**	**6.3**
	10/17/2013 Dup	< 1.0	< 1.0	<9.5 UJ	<0.95	<0.95	**380**	**8.1**
	4/15/2014	< 1.0	< 1.0	<9.5	<0.95	<0.95	**330**	**6.1**
	4/15/2014 Dup	< 1.0	< 1.0	<9.5	<0.95	<0.95	**340**	**6.4**
	10/23/2014	< 0.060	< 0.11	NA	NA	< 0.27 H	**370 H**	NA
	10/23/2014 Dup	< 0.060	< 0.11	NA	NA	< 0.26 H	**360 H**	NA
	4/22/2015	< 0.42	< 0.44	NA	NA	**1.2 JB**	**270**	NA
	10/20/2015	NA	NA	NA	NA	NA	**430 D**	NA
	4/13/2016	NA	NA	NA	NA	NA	**340 D**	NA
	10/27/2016	NA	NA	NA	NA	NA	**290 D**	NA
	4/11/2017	NA	NA	NA	NA	NA	< 1.0	NA
	10/3/2017	NA	NA	NA	NA	NA	**390 D**	NA
	4/25/2018	NA	NA	NA	NA	NA	**140**	NA
	10/1/2018	NA	NA	NA	NA	NA	**204**	NA
	4/15/2019	NA	NA	NA	NA	NA	< 1.0	NA
	10/15/2019	NA	NA	NA	NA	NA	**178 D**	NA
	4/9/2020	NA	NA	NA	NA	NA	**1.43**	NA
	10/20/2020	NA	NA	NA	NA	NA	**280**	NA
	4/12/2021	NA	NA	NA	NA	NA	<0.478	NA
	10/6/2021	NA	NA	NA	NA	NA	<0.480	NA
	4/19/2022	NA	NA	NA	NA	NA	< 1.0 U	NA
	4/18/2023	NA	NA	NA	NA	NA	<1.0 U	NA
	4/3/2024	NA	NA	NA	NA	NA	< 1.0 U	NA

Table 3-2
WIA Upper Sand Analytical Data (10/2007 – 4/2024)

Well	Date	VOCs (µg/L) (EPA Method 8021B / 8260)		SVOCs (µg/L) (EPA Method 8270C SIM)				
		Benzene	Toluene	Benzoic Acid	Biphenyl	Bis (2-ethylhexyl) phthalate	Diphenyl Oxide	Phenol
	Cleanup Level	**1.2**	**2,000**	**24,590**	**230**	**1.8**	**410**	**2,560**
North Sump	7/25/2007	< 1 U	< 1 U	< 9.5 U	< 0.95 U	< 0.95 U	**550 D**	**38**
	10/23/2007	< 1.0	< 1.0	< 9.0 UJ	< 0.95	< 0.95	**600**	**13**
	1/17/2008	< 1 U	< 1 U	< 11 U	< 1.1 U	< 1.1 U	**330 D**	**8.4**
	4/15/2008	< 1.0	< 1.0	< 9.5 UJ	< 0.95	< 0.95	**490**	**5.2**
	7/28/2008	< 1.0	< 1.0	< 9.5	< 0.95	< 0.95	**950**	**19**
	10/24/2008	**140**	**1,500**	**27 J**	**120**	< 0.95	**1,100**	**16**
	11/3/2008	< 1.0	< 1.0	< 10 J	< 1	< 1	**140**	**38**
	1/30/2009	< 1.0	< 1.0	< 9.8	< 0.98	< 0.98	**710**	**24**
	4/22/2009	< 1.0	< 1.0	< 11 J	< 1.1	**3.7**	**570**	**15**
	10/21/2009 *	NS	NS	NS	NS	NS	NS	NS
	4/21/2010	< 1.0	< 1.0	< 9.0 J	< 0.97	< 0.97	**290**	**15**
	10/19/2010	< 1.0	< 1.0	< 9.6	< 0.96	< 0.96	**390**	**9.3**
	10/11/2011	<1.0	< 1.0	<9.7	<0.97	<0.97	**470**	**8.5**
	4/19/2012	<1.0	< 1.0	<9.5	<0.95	**<2.4**	**320**	**6.2**
	11/7/2012	<1.0	< 1.0	<9.5 UJ	<0.95	<0.95	**380**	**11**
	4/10/2013	<1.0	<1.0	<9.5	<0.95	<0.95	**310**	**5.2**
	10/16/2013	<1.0	<1.0	<9.5 UJ	<0.95	<0.95	**460**	**7.7**
	4/14/2014	< 1.0	< 1.0	<9.7	<0.97	<0.97	**340**	**8.7**
	10/21/2014	< 0.060	< 0.11	NA	NA	< 0.30	**210**	NA
	4/20/2015	< 0.42	< 0.44	NA	NA	**1.1 JB**	**370**	NA
	10/19/2015	NA	NA	NA	NA	NA	**180**	NA
	4/12/2016	NA	NA	NA	NA	NA	**140**	NA
	10/24/2016	NA	NA	NA	NA	NA	**99**	NA
	4/10/2017	NA	NA	NA	NA	NA	**130**	NA
	10/4/2017	NA	NA	NA	NA	NA	**190**	NA
	4/23/2018	NA	NA	NA	NA	NA	**190**	NA
	10/2/2018	NA	NA	NA	NA	NA	**268**	NA
	10/18/2022	<0.50 U	< 0.50 U	NA	<0.66 U	**2.0 B**	**110 D**	NA
		Ceased Sump Pumping & Sampling, Maintain Functionality - Ecy Approval 11-14-18						
South Sump	7/25/2007	**2.2**	**1.9**	< 9.6 U	<0.96 U	<0.96 U	**73 D**	**28**
	10/23/2007	< 1.0	**2.5**	< 9.0 UJ	<0.97	<0.97	**1.5 J**	< 2.0
	1/17/2008	< 1 U	< 1 U	< 9.5 U	<0.95 U	<0.95 U	< 0.95	< 1.9 U
	4/15/2008	< 1.0	**1.7**	< 9.6 UJ	<0.96	<0.96	**140**	**12**
	7/28/2008	**10**	**3**	< 9.6	<0.96	<0.96	**370**	**5.5**
	1/30/2009	< 1.0	**700**	< 9.9	<0.99	<0.99	**380**	**7.9**
	4/22/2009	< 1.0	**4.8**	< 9.6 J	<0.96	<0.96	**620**	**6.4**
	10/21/2009 *	NS	NS	NS	NS	NS	NS	NS
	4/21/2010	< 1.0	< 1.0	< 9.0 J	< 0.97	<0.97	**130 J**	**13 J**
	10/19/2010	< 1.0	< 1.0	< 9.6	<0.96	<0.96	**38**	**9.7**
	10/11/2011	<1.0	<1.0	<9.5	<0.95	<0.95	**550**	**11**
	4/19/2012	<1.0	**3.4**	<9.7	<0.97	<0.97	**110**	**2.8**
	11/7/2012	<1.0	< 1.0	<9.5 UJ	<0.95	<0.95	**130**	**2.2**
	4/10/2013	<1.0	<1.0	**11**	<0.95	<0.95	**76**	**6.7 J**
	10/16/2013	<1.0	<1.0	<9.5 UJ	<0.95	<0.95	**230**	**5.2**
	4/14/2014	<1.0	<1.0	<9.5	<0.95	<0.95	**130**	**3.3**
	10/21/2014	< 0.060	< 0.11	NA	NA	< 0.26	**200**	NA
	4/20/2015	< 0.42	< 0.44	NA	NA	**1.1 JB**	**160**	NA
	10/19/2015	NA	NA	NA	NA	NA	**320**	NA
	4/12/2016	NA	NA	NA	NA	NA	**1.6**	NA
	10/24/2016	NA	NA	NA	NA	NA	< 0.95	NA
	4/10/2017	NA	NA	NA	NA	NA	< 0.96	NA
	10/4/2017	NA	NA	NA	NA	NA	**65**	NA
	4/23/2018	NA	NA	NA	NA	NA	**71**	NA
	10/2/2018	NA	NA	NA	NA	NA	**63**	NA
	10/18/2022	< 0.50 U	< 0.50 U	NA	<0.66 U	**2.0 B**	**6.2**	NA
	10/18/2022 Dup	< 0.50 U	< 0.50 U	NA	<0.66 U	**2.2 B**	**5.1**	NA
		Ceased Sump Pumping & Sampling, Maintain Functionality - Ecy Approval 11-14-18						

Notes:
< - Constituent Non-detect
Bold indicates detection.
Dup - Field Duplicate Sample.
NA - Not analyzed, Ecy Apprvl.
J - Estimated concentration.
H - Sample prep or analyzed beyond specified holding time
Bold and shaded Detection above cleanup level.
* NS - Not sampled due to lack of water.
EPA = U.S. Environmental Protection Agency; µg/L = micrograms per liter; SVOC = semivolatile organic compound; WIA = West Impacted Area

Table 4-1
WIA Intermediate Sand Aquifer Groundwater Monitoring Program 2023 - 2024

Well Location	Sampling Frequency	Field Parameters	Analytical Parameters	Gauging Frequency
KC-6, PZ-117, PZ-118, Columbia River	—	—	—	Quarterly (Per EKC Temporary Request)
ISRW-1, ISRW-2B, ISRW-3, ISRW-4, ISRW-5, ISRW-6, ISRW-7, ISRW-8, ISRW-9, ISRW-10	Quarterly (Per EKC Temporary Request)	—	Benzene, Toluene (8260)	
KC-14, MW-239, MW-243, MW-250	Semi-Annual	Temperature, pH, ORP, conductivity, turbidity, DO	Benzene, Toluene (8260)	

Notes:
DO = dissolved oxygen; ORP = oxidation reduction potential; WIA = West Impacted Area

Table 4-2
WIA Intrmdiate Sand Aquifer Anlyticl Data
(10/2007 - 4/2024)

Well	Date		VOCs (µg/L) (EPA Method 8021B/8260)					
			Benzene			Toluene		
	Cleanup Level		1.2			2,000		
ISRW-1	7/25/2007			290	D		35,000	D
	7/25/2007	Dup		310	D		34,000	D
	10/23/2007			380			61,000	
	10/23/2007	Dup		370			59,000	
	1/17/2008			390	D		65,000	D
	1/17/2008	Dup		390	D		69,000	D
	4/15/2008			350			55,000	
	4/15/2008	Dup		360			54,000	
	7/28/2008			550			56,000	
	7/28/2008	Dup		570			63,000	
	10/23/2008			250			27,000	
	10/23/2008	Dup		240			29,000	
	1/30/2009			360			35,000	
	1/30/2009	Dup		340			35,000	
	4/20/2009			100			26,000	J
	4/20/2009	Dup		110			45,000	J
	10/21/2009			400			58,000	
	10/21/2009	Dup		410			58,000	
	4/21/2010			430			47,000	
	4/21/2010	Dup		440			49,000	
	10/19/2010			190			23,000	
	10/11/2011			250			49,000	
	10/11/2011	Dup		260			49,000	
	4/19/2012			200			36,000	
	4/19/2012	Dup		200			35,000	
	11/6/2012			153			40,600	
	11/6/2012	Dup		170			45,700	
	4/9/2013			230			66,000	
	4/9/2013	Dup		230			66,000	
	10/16/2013			160			49,000	
	10/16/2013	Dup		150			47,000	
	4/14/2014			240			55,000	
	4/14/2014	Dup		240			55,000	
	10/21/2014		<	600			68,000	
	4/20/2015			170			46,000	
	10/19/2015	-1		110	D		33,000	D
	4/11/2016	-1		200	D		61,000	D
	10/24/2016			120	D		48,000	D
	4/10/2017			240	D		63,000	D
	10/4/2017			160	D		48,000	D
	4/23/2018	all on		200	D		72,000	D
	4/26/2018	5-10off		270	D		110,000	D
	5/16/2018	HiRVR		280	D		110,000	D
	8/6/2018	Smr1/4		107			35,800	D
	10/2/2018			99	D		43,100	D
	1/16/2019			87			51,800	D
	4/12/2019			166			92,500	
	7/30/2019			45.0			12,300	D
	10/15/2019			30.3			11,100	D
	1/7/2020			91.2			45,800	D
	4/7/2020 VOA#1(4/15)			37.3			4,140	D
	4/7/2020 VOA#3(4/24)			NA			21,100	H
	7/28/2020			89.8			19,700	D
	10/19/2020			39.0			16,100	D
	10/19/2020	Dup ISRW		36.0			11,400	D
	1/15/2021			68.6			51,400	D
	1/15/2021	Dup ISRW		86.6			50,600	D
	4/8/2021			23.8	D		13,600	D
	7/16/2021(ALS 8260)			34			26,000	
	7/16/2021(Spclty 8021)			34.2	D		21,900	D
	10/1/2021(Spclty 8260)		<	300	DQ		1,720	D
	10/1/2021 Dup Spclty			6.8	D		1,870	D
	1/18/2022	(ALS)	<	50	U,D		30,000	D
	1/18/2022 Dup ALS (11)		<	50	U,D		32,000	D
	4/14/2022		<	25	U,D		11,000	D
	7/6/2022		<	50	U,D		23,000	D
	10/18/2022		<	5	U,D		1,900	D
	1/11/2023		<	25	U,D		8,500	D
	4/18/2023		<	50	U,D		28,000	D
	7/6/2023		<	25	U,D		18,000	D
	10/12/2023		<	5	U,D		1,500	D
	1/11/2024		<	25	U,D		14,000	D
	4/3/2024		<	13	U,D		14,000	D

Table 4-2
WIA Intrmdiate Sand Aquifer Anlyticl Data
(10/2007 - 4/2024)

Well	Date		VOCs (µg/L) (EPA Method 8021B/8260)			
			Benzene		Toluene	
	Cleanup Level		1.2		2,000	
ISRW-2B	7/25/2007		14	D	8,500	D
	10/23/2007		7.6		3,000	
	1/17/2008		45	D	22,000	D
	4/15/2008		60		20,000	
	7/28/2008		150		36,000	
	10/23/2008		130		31,000	
	1/30/2009		77		33,000	
	4/20/2009		230		150,000	
	10/21/2009		330		260,000	
	4/21/2010		470		720,000	
	10/11/2011		95		83,000	
	4/19/2012		300		23,000	
	11/6/2012		71		53,900	
	4/9/2013		130		61,000	
	10/16/2013		97		68,000	
	4/14/2014		94		72,000	
	10/21/2014		< 600		75,000	
	4/20/2015		94	J	72,000	
	10/19/2015	-1	47	D	18,000	D
	4/11/2016	-1	160	D	110,000	D
	10/24/2016		< 20		11,000	D
	4/10/2017		110	D	92,000	D
	10/4/2017		130	D	74,000	D
	4/23/2018	all on	54	D	9,800	D
	4/26/2018	5-10off	130	D	89,000	D
	8/6/2018	Smr1/4	58		23,600	D n
	10/2/2018		59	D	43,200	D
	1/16/2019		96		77,200	D
	4/12/2019		75		52,900	
	7/30/2019		42.6		16,600	D
	10/15/2019		62.8		18,500	D
	1/7/2020		56.1		32,500	D
	4/7/2020 VOA#1(4/15)		100		5,760	D
	4/7/2020 VOA#3(4/24)		NA		50,700	H
	7/28/2020		53.3		18,400	D
	10/19/2020		33.1		8,090	D
	1/15/2021		45.9		54,200	D
	4/8/2021		57.6		20,200	D
	7/16/2021		68.4	D	32,500	D
	10/1/2021	Spclty	96.0	D	17,000	D
	1/18/2022	ALS	69	D	37,000	D
	4/14/2022	ALS	27	D	8,600	D
	7/6/2022		65	D	27,000	D
	10/18/2022		27	D	5,700	D
	1/11/2023		< 25	U,D	9,900	D
	4/18/2023		62	D	43,000	D
	7/6/2023		20	D	9,800	D
	10/12/2023		9	D	3,600	D
	1/11/2024		62	D	40,000	D
	4/3/2024		23	D	9,000	D
ISRW-3	7/25/2007		150	D	110,000	D
	10/23/2007		110		82,000	
	1/17/2008		210	D	130,000	D
	4/15/2008		150		100,000	
	7/28/2008		150		110,000	
	10/23/2008		< 500		140,000	
	1/30/2009		98		97,000	
	4/20/2009		13		14,000	
	10/21/2009		9.4		25,000	J
	4/21/2010		17,000		980,000	
	10/19/2010		13		34,000	
	10/11/2011		20		47,000	
	4/19/2012		70		65,000	
	11/6/2012		25		45,000	
	4/9/2013		50		58,000	
	10/16/2013		16		22,000	
	4/14/2014		23		33,000	
	10/21/2014		< 600		47,000	
	4/20/2015		56	J	51,000	
	10/19/2015	-1	55	D	71,000	D
	4/11/2016	-1	120	D	150,000	D
	10/24/2016		290	D	200,000	D
	4/10/2017		< 50	U	74,000	D
	10/4/2017		140	D	100,000	D

Table 4-2
WIA Intrmdiate Sand Aquifer Anlyticl Data
(10/2007 - 4/2024)

Well	Date		VOCs (µg/L) (EPA Method 8021B/8260)					
			Benzene			Toluene		
	Cleanup Level		1.2			2,000		
ISRW-3 Cont'd	4/23/2018	all on	<	50	U	19,000	D	
	4/26/2018	5-10off	<	100	U	67,000	D	
	8/6/2018	Smr1/4		54		23,700	D	n
	10/2/2018			54	D	30,800	D	
	1/16/2019			129		93,000	D	
	4/12/2019			337		172,000		
	7/30/2019			97.4		63,400	D	
	10/15/2019			80.4		51,900	D	
	1/7/2020			204	D	142,000	D	
	4/7/2020 VOA#1(4/15)			117		17,200	D	
	4/7/2020 VOA#3(4/24)			NA		81,400	H	
	7/28/2020			157		44,300	D	
	10/19/2020			92.4		56,400	D	
	1/15/2021			206	D	204,000	D	
	4/8/2021			92.5	D	61,400	D	
	4/8/2021	Dup ISRW		106	D	72,500	D	
	7/16/2021			243	D	133,000	D	
	10/1/2021			58.0	D	17,800	D	
	1/18/2022	(ALS)		150	D	100,000	D	
	4/14/2022	ALS		120	D	73,000	D	
	7/6/2022			<50	U,D	45,000	D	
	10/18/2022			42	D	13,000	D	
	1/11/2023			74	D	22,000	D	
	4/18/2023		<	130	D	90,000	D	
	7/6/2023			110	D	77,000	D	
	10/12/2023			59	D	25,000	D	
	1/11/2024		<	100	U,D	48,000	D	
	4/3/2024			53	D	34,000	D	
ISRW-4	7/25/2007			35	D	20,000	D	
	10/23/2007			350		65,000		
	1/17/2008			130	D	34,000	D	
	4/15/2008			430		77,000		
	7/28/2008			48		24,000		
	10/23/2008			130		55,000		
	1/30/2009			120		59,000		
	4/20/2009			28		10,000		
	10/21/2009			3.1		4,700		
	4/21/2010			3.7		7,300		
	10/19/2010			7.8		3,200		
	10/11/2011			20		14,000		
	4/19/2012		<	1.0		650		
	11/6/2012		<	0.5		29		
	4/9/2013			0.57		200		
	10/16/2013		<	1.0		59		
	4/14/2014		<	1.0		35		
	10/21/2014		<	600		32,000		
	4/20/2015			15		6,400		
	10/19/2015	-1		8.8	D	29,000	D	
	4/11/2016	-1		2.1		1,000	D	
	10/24/2016			14		3,100	D	
	4/10/2017		<	0.50	U	< 1.0	U	
	10/4/2017		<	50	U	9,000	D	
	4/23/2018	all on	<	25	U	18,000	D	
	4/26/2018	5-10off	<	50	U	15,000	D	
	8/6/2018	Smr1/4		6		526	D	n
	10/2/2018			34	D	6,280	D	
	1/16/2019			167	D	34,600	D	
	4/12/2019			140		27,800		
	7/30/2019			62.2	D	1,440	D	
	10/15/2019			41.2		261		
	1/7/2020			94.5	D	10,000	D	
	4/7/2020 VOA#1(4/15)			30.6		2,200	D	
	4/7/2020 VOA#3(4/24)			NA		5,640	H	
	7/28/2020			6.03		1,250	D	
	10/19/2020			96.9		25,100	D	
	1/15/2021			0.918		40		
	4/8/2021			6.76	D	296	D	
	7/16/2021			25.8	D	6,080	D	
	10/1/2021			7.30		78.8		
	1/18/2022	(ALS)		10	D	3,800	D	
	4/14/2022	ALS		11	D	690	D	
	7/6/2022			0.56		8.9		
	10/18/2022			40	D	1,300	D	

Table 4-2
WIA Intrmdiate Sand Aquifer Anlyticl Data
(10/2007 - 4/2024)

Well	Date	VOCs (µg/L) (EPA Method 8021B/8260)				
		Benzene		Toluene		
	Cleanup Level	1.2		2,000		
ISRW-4 Cont'd	1/11/2023	27	D	11,000	D	
	4/18/2023	28	D	5,400	D	
	7/6/2023	13	D	1,800	D	
	10/12/2023	4		19		
	1/11/2024	19	D	3,100	D	
	4/3/2024	1.7		63		
ISRW-5	7/25/2007	110	D	37,000	D	
	10/23/2007	110		45,000		
	1/17/2008	170	D	62,000	D	
	4/15/2008	140		68,000		
	7/28/2008	360		110,000		
	10/23/2008	130		47,000		
	1/30/2009	100		33,000		
	4/22/2009	79		52,000		
	10/21/2009	40		20,000		
	4/21/2010	7.5		2,400		
	10/19/2010	26		7,900		
	10/11/2011	36		15,000		
	4/19/2012	30		12,000		
	11/6/2012	402		48,500		
	4/9/2013	94		46,000		
	10/16/2013	160		92,000		
	4/14/2014	37		16,000		
	10/21/2014	< 600		19,000		
	4/20/2015	76	J	25,000		
	10/19/2015 -1	84	D	17,000	D	
	4/11/2016 -1	< 100		31,000	D	
	10/24/2016	120	D	130,000	D	
	4/10/2017	50	D	46,000	D	
	10/4/2017	80	D	53,000	D	
	4/23/2018	190	D	110,000	D	
	8/6/2018 Smr1/4	88		59,700	D	n
	10/2/2018	72	D	106,000	D	
	1/16/2019	79		60,300	D	
	4/12/2019	106		90,200		
	7/30/2019	72.5		56,000	D	
	10/15/2019	20.9		15,900	D	
	1/7/2020	58.6		71,900	D	
	4/7/2020 VOA#1(4/15)	42.2		11,000	D	
	4/7/2020 VOA#3(4/24)	NA		93,800	H	
	5/12/20 VOA#1	66.9		74,700	D	
	5/12/20 VOA #3	68.4		74,300	D	
	7/28/2020	110		45,400	D	
	10/19/2020	47.2		28,900	D	
	1/15/2021	256	D	158,000	D	
	4/8/2021	25.4	D	46,400	D	
	7/16/21 ALS 8260	31		38,000		
	7/16/21 Spclty 8021	27.6	D	36,300	D	
	10/1/2021 Spclty 8260	<30.0	D	21,300	D	
	1/18/2022 ALS	<100	U,D	78,000	D	
	4/14/2022 ALS	<100	U,D	34,000	D	
	7/6/2022	110	D	92,000	D	
	10/18/2022	10	D	900	D	
	1/11/2023	< 50	U,D	62,000	D	
	4/18/2023	< 100	U,D	44,000	D	
	7/6/2023	51	D	56,000	D	
	10/12/2023	14	D	14,000	D	
	1/11/2024	< 25	U,D	24,000	D	
	4/3/2024	< 50	U,D	34,000	D	
ISRW-6	7/25/2007	150	D	59,000	D	
	10/23/2007	120		47,000		
	1/17/2008	150	D	58,000	D	
	4/15/2008	190		69,000		
	7/28/2008	140		53,000		
	10/23/2008	< 200		62,000		
	1/30/2009	140		61,000		
	4/20/2009	15		16,000		
	10/21/2009	1.4		270		
	4/21/2010	56		22,000		
	10/19/2010	49		42,000		
	10/11/2011	4.3		1,000		
	4/19/2012	18		14,000		
	11/7/2012	2.0		1,420		

Table 4-2
WIA Intrmdiate Sand Aquifer Anlyticl Data
(10/2007 - 4/2024)

Well	Date		VOCs (µg/L) (EPA Method 8021B/8260)			
			Benzene		Toluene	
	Cleanup Level		1.2		2,000	
ISRW-6 Cont'd	4/9/2013		8.6		6,900	
	10/16/2013		1.1		1,200	
	4/14/2014		6.1		8,100	
	10/21/2014		1.3	J	890	
	4/20/2015		0.73	J	790	
	10/19/2015	-1	1.7		270	D
	4/11/2016	-1	3.7	D	2,300	D
	10/24/2016		140	D	57,000	D
	4/12/2017		< 0.50	U	< 1.0	U
	10/4/2017		< 50	U	10,000	D
	4/23/2018		1.8		1,400	D
	5/16/2018	HiRvr	1.1		1,400	D
	8/6/2018	Smr1/4	0.6		377	D
	10/2/2018		2.7		2,220	D
	1/16/2019		34	D	10,100	D
	4/12/2019		32.6		5,940	
	7/30/2019		45.4		2,470	D
	10/15/2019		33.2		1,860	D
	1/7/2020		7.90	D	341	D
	4/7/2020 VOA#1(4/15)		1.35		120	D
	4/7/2020 VOA#3(4/24)		NA		630	H
	7/28/2020		0.750		1,340	D
	10/19/2020		0.710		365	D
	1/15/2021		< 3.00	D	3,120	D
	4/8/2021		3.94	D	2,990	D
	7/16/2021		57.5	D	16,900	D
	10/1/2021		54.0	D	7,520	D
	1/18/2022		46	D	18,000	D
	4/14/2022		140	D	31,000	D
	7/6/2022		51	D	19,000	D
	10/18/2022		35	D	1,400	D
	1/11/2023		14	D	1,600	D
	4/18/2023		30	D	4,700	D
	7/6/2023		11	D	920	D
	10/12/2023		12		480	D
	1/11/2024		17	D	1,900	D
	4/3/2024		51	D	6,800	D
ISRW-7	7/25/2007		1,100		24,000	D
	10/23/2007		350		9,400	
	1/17/2008		540	D	19,000	D
	4/15/2008		200		11,000	
	7/28/2008		520		32,000	
	10/23/2008		280		14,000	
	1/30/2009		120		9,100	
	4/20/2009		83		5,900	
	10/21/2009		3,400		45,000	
	4/21/2010		2,700		30,000	
	10/19/2010		17,000		18,000	
	10/11/2011		4,000		27,000	
	4/19/2012		1,100		18,000	
	11/6/2012		1,220		18,700	
	4/9/2013		180		9,900	
	10/16/2013		380		6,600	
	4/14/2014		900		14,000	
	10/21/2014		530		1,800	
	4/20/2015		12		2,100	
	10/19/2015	-1	170	D	1,700	D
	4/11/2016	-1	54	D	4,300	D
	10/24/2016		92	D	1,600	D
	4/10/2017		190	D	10,000	D
	10/4/2017		180	D	2,800	D
	4/23/2018		72	D	330	D
	5/16/2018	HiRvr	270	D	1,700	D
	8/6/2018	Smr1/4	8		46	
	10/2/2018		1.1		< 1.0	
	1/16/2019		0.6		< 1.00	
	4/12/2019		< 0.300		< 1.00	
	7/30/2019		0.500		3.24	
	10/15/2019		< 0.300		19.7	
	1/7/2020		7.27		730	D
	4/7/2020 VOA#1(4/15)		4.51		124	D
	4/7/2020 VOA#3(4/24)		NA		372	H
	7/28/2020		0.32		123	D
	10/19/2020		< 0.300		28.7	

Table 4-2
WIA Intrmdiate Sand Aquifer Anlyticl Data
(10/2007 - 4/2024)

Well	Date		VOCs (µg/L) (EPA Method 8021B/8260)					
			Benzene			Toluene		
	Cleanup Level		1.2			2,000		
ISRW-7 Cont'd	1/15/2021		< 0.300			**0.515**		
	4/8/2021		< 0.300			< 0.500		
	7/16/2021		< 0.300			**1.31**		
	10/1/2021		< 0.300			< 1.00		
	1/18/2022	ALS	< 0.50			**0.66**		
	4/14/2022	ALS	< 0.50			< 0.50		
	7/6/2022		< 0.50			**0.90**		
	10/18/2022		< 0.50	U		< 0.50	U	
	1/11/2023		< 0.50	U		< 0.50	U	
	4/18/2023		< 0.50	U		< 0.50	U	
	7/6/2023		< 0.50	U		< 0.50	U	
	10/12/2023		< 0.50	U		< 0.50	U	
	1/11/2024		< 0.50	U		< 0.50	U	
	4/3/2024		< 0.50	U		< 0.50	U	
ISRW-8	4/20/2009		**90**			**66,000**		
	10/21/2009		**45**			**50,000**		
	4/21/2010		**71**			**57,000**		
	10/19/2010		**31**			**72,000**		
	10/11/2011		**52**			**54,000**		
	4/19/2012		**53**			**40,000**		
	11/6/2012		**69**			**51,200**		
	4/9/2013		**58**			**33,000**		
	10/16/2013		**64**			**39,000**		
	4/14/2014		**61**			**40,000**		
	10/21/2014		**< 600**			**36,000**		
	4/20/2015		**84**	**J**		**51,000**		
	10/19/2015	-1	**58**	**D**		**39,000**	**D**	
	4/11/2016	-1	**< 100**			**79,000**	**D**	
	10/24/2016		**140**	**D**		**74,000**	**D**	
	4/10/2017		**17**	**D**		**20,000**	**D**	
	10/4/2017		**140**	**D**		**84,000**	**D**	
	4/23/2018		< 100	U		**44,000**	**D**	
	4/26/2018	5-10off	< 100	U		**69,000**	**D**	
	8/6/2018	Smr1/4	**127**			**49,500**	**D**	
	10/2/2018		**170**			**61,800**	**D**	
	1/16/2019		**148**			**67,400**	**D**	
	4/12/2019		**164**			**107,000**		
	7/30/2019		**102**			**49,100**	**D**	
	10/15/2019		**130**			**34,800**		
	1/7/2020		**107**			**69,700**	**D**	
	4/7/2020 VOA#1(4/15)		**115**			**7,240**	**D**	
	4/7/2020 VOA#3(4/24)		**NA**			**62,700**	**H**	
	7/28/2020		**111**			**33,200**	**D**	
	10/19/2020		**115**			**31,700**	**D**	
	1/15/2021		**81.6**			**43,400**	**D**	
	4/8/2021		**64.0**	**D**		**45,800**	**D**	
	7/16/2021 ALS 8260		**70**			**52,000**		
	7/16/21 Spclty 8021		**71.8**	**D**		**44,000**	**D**	
	10/1/2021		**60.0**	**D**		**17,000**	**D**	
	1/18/2022	ALS	**77**	**D**		**45,000**	**D**	
	4/14/2022	ALS	**56**	**D**		**39,000**	**D**	
	7/6/2022		**68**	**D**		**42,000**	**D**	
	10/18/2022		**25**	**D**		**850**	**D**	
	1/11/2023		**90**	**D**		**68,000**	**D**	
	4/18/2023		**76**	**D**		**57,000**	**D**	
	7/6/2023		**43**	**D**		**24,000**	**D**	
	10/12/2023		**< 25**	**U,D**		**8,100**	**D**	
	1/11/2024		**71**	**D**		**37,000**	**D**	
	4/3/2024		**30**	**D**		**15,000**	**D**	
ISRW-9	4/20/2009		**120**			**62,000**		
	10/21/2009		**71**			**36,000**		
	4/21/2010		**81**			**42,000**		
	10/19/2010		**71**			**55,000**		
	10/11/2011		**4.1**			**920**		
	4/19/2012		**22**			**16,000**		
	11/6/2012		**40**			**20,100**		
	4/9/2013		**47**			**35,000**		
	10/16/2013		**83**			**73,000**		
	4/14/2014		**39**			**35,000**		
	10/21/2014		**< 600**			**30,000**		
	4/20/2015		**79**	**J**		**64,000**		
	10/19/2015	-1	**55**	**D**		**44,000**	**D**	
	4/11/2016	-1	**< 100**			**53,000**	**D**	
	10/24/2016		**77**	**D**		**95,000**	**D**	

Table 4-2
WIA Intrmdiate Sand Aquifer Anlyticl Data
(10/2007 - 4/2024)

Well	Date		VOCs (µg/L) (EPA Method 8021B/8260)			
			Benzene		Toluene	
	Cleanup Level		1.2		2,000	
ISRW-9 Cont'd ,	4/10/2017		**19**	**D**	**19,000**	**D**
	10/4/2017		< 50	U	**22,000**	**D**
	4/23/2018		< 100	U	**83,000**	**D**
	5/16/2018	HiRvr	< 200	U	**59,000**	**D**
	8/6/2018	Smr1/4	**27**		**11,500**	**D**
	10/2/2018		**36**		**12,600**	**D**
	1/16/2019		**28**		**25,300**	**D**
	4/12/2019		**81.3**		**77,900**	
	7/30/2019		**20.3**		**8,570**	**D**
	10/15/2019		**58.5**		**45,800**	**D**
	1/7/2020		**64.4**		**71,700**	**D**
	4/7/2020 VOA#1(4/15)		**45.7**		**3,440**	**D**
	4/7/2020 VOA#3(4/24)		**NA**		**33,300**	**H**
	7/28/2020		**31.2**		**18,600**	**D**
	10/19/2020		**26.3**		**14,200**	**D**
	1/15/2021		**42.0**		**48,800**	**D**
	4/8/2021		**60.8**	**D**	**40,900**	**D**
	7/16/2021		**9.98**	**D**	**7,430**	**D**
	10/1/2021	Spclty	< 15.0	D	**4,360**	**D**
	1/18/2022	ALS	< 25	U,D	**17,000**	**D**
	4/14/2022	ALS	**36**	**D**	**8,700**	**D**
	7/6/2022		**26**	**D**	**23,000**	**D**
	10/18/2022		**18**	**D**	**1000**	**D**
	1/11/2023		< 25	U,D	**25,000**	**D**
	4/18/2023		**33**	**D**	**25,000**	**D**
	7/6/2023		**29**	**D**	**12,000**	**D**
	10/12/2023		**22**	**D**	**5,000**	**D**
	1/11/2024		< 25	U,D	**16,000**	**D**
	4/3/2024		**63**	**D**	**36,000**	**D**
ISRW-10	4/20/2009		**180**		**38,000**	
	10/21/2009		**3.8**		**1,400**	
	4/21/2010		**2**		**380**	
	10/19/2010		< 1.0		**63**	
	10/11/2011		**16**		**1,100**	
	4/19/2012		**85**		**15,000**	
	11/6/2012		< 1.0		**2.5**	
	4/9/2013		**34**		**3,300**	
	10/16/2013		**96**		**8,300**	
	4/14/2014		< 1.0		**7.7**	
	10/21/2014		**3.9**		**140**	
	4/20/2015		< 0.42		**13**	
	10/19/2015	-1	**52**	**D**	**3,800**	**D**
	4/11/2016	-1	**49**	**D**	**4,700**	**D**
	10/24/2016		**190**	**D**	**29,000**	**D**
	4/10/2017		**29**		**4,300**	**D**
	10/4/2017		**110**	**D**	**43,000**	**D**
	4/23/2018		**220**	**D**	**30,000**	**D**
	8/6/2018		**36**		**2,900**	**D**
	10/2/2018		**151**		**18,800**	**D**
	1/16/2019		**204**	**D**	**78,300**	**D**
	4/12/2019		**385**		**113,000**	
	7/30/2019		**160**	**D**	**43,900**	**D**
	10/15/2019		**82.9**		**22,600**	**D**
	1/7/2020		**243**	**D**	**80,200**	**D**
	4/7/2020 VOA#1(4/15)		**72.5**		**4,300**	**D**
	4/7/2020 VOA#3(4/24)		**NA**		**29,300**	**H**
	7/28/2020		**319**		**34,900**	**D**
	10/19/2020		**135**	**D**	**328,000**	**D**
	1/15/2021		**145**		**50,200**	**D**
	4/8/2021		**53.8**	**D**	**20,600**	**D**
	7/16/2021 ALS 8260		**150**		**74,000**	
	7/16/2021 Spclty 8021		**148**	**D**	**61,600**	**D**
	10/1/2021		**127**	**D**	**35,900**	**D**
	1/18/2022	ALS	**110**	**D**	**47,000**	**D**
	4/14/2022	ALS	**63**	**D**	**45,000**	**D**
	7/6/2022		**81**	**D**	**33,000**	**D**
	10/18/2022		**35**	**D**	**860**	**D**
	1/11/2023		**59**	**D**	**35,000**	**D**
	4/18/2023		**45**	**D**	**32,000**	**D**
	7/6/2023		**55**	**D**	**30,000**	**D**
	10/12/2023		**26**	**D**	**17,000**	**D**
	1/11/2024		**22**	**D**	**12,000**	**D**
	4/3/2024		**36**	**D**	**24,000**	**D**

Table 4-2
WIA Intrmdiate Sand Aquifer Anlyticl Data
(10/2007 - 4/2024)

Well	Date	VOCs (µg/L) (EPA Method 8021B/8260)	
		Benzene	Toluene
	Cleanup Level	1.2	2,000
KC-14	10/24/2007	**2.9**	**940**
	4/16/2008	< 1.0	**180**
	10/27/2008	**3.1**	**1,100**
	4/22/2009	< 1.0	**99**
	10/20/2009	**1.3**	**1,300**
	4/23/2010	0.92	**690**
	10/19/2010	**14**	**270,000**
	10/10/2011	< 1.0	**420**
	4/18/2012	**1.4 J**	**140** J
	11/7/2012	< 1.0	< 1.0
	4/10/2013	< 0.5	**200**
	10/17/2013	**4.2**	**88**
	4/16/2014	< 1.0	**30**
	10/22/2014	< 0.060	< 0.11
	4/22/2015	< 0.42	< 0.44
	4/22/2015 Dup	< 0.42	< 0.44
	10/20/2015	< 1.0	**66** D
	4/12/2016	< 1.0	**20**
	10/24/2016	< 1.0	**1.9**
	4/12/2017	**2.5**	**160** D
	10/4/2017	< 0.50	< 1.0
	4/25/2018	< 1.0	**20**
	10/1/2018	NS	NS
	4/15/2019	**0.420**	**7.15**
	10/15/2019	< 0.300	**1.14**
	4/9/2020	< 0.300	**9.52**
	10/21/2020	< 0.300	< 1.00
	4/13/2021	< 0.300	< 1.00
	10/6/2021	< 0.300	< 1.00
	4/19/2022	**2.8**	**15**
	10/18/2022	< 0.50 U	< 0.50 U
	4/18/2023	< 0.50 U	< 0.50 U
	10/12/2023	< 0.50 U	< 0.50 U
	4/3/2024	< 0.50 U	< 0.50 U
MW-239	10/24/2007	**660**	**120,000**
	4/16/2008	**1200**	**190,000**
	10/27/2008	**580**	**100,000**
	4/22/2009	< 1.0	< 1.0
	10/20/2009	< 1.0	**1.4**
	4/23/2010	**9.3**	**3,500**
	10/19/2010	**7.7**	**260**
	10/11/2011	**310**	**55,000**
	4/18/2012	< 1.0	< 1.0
	11/7/2012	**413**	**35,300**
	4/10/2013	**71**	**390**
	10/17/2013	**180**	**15,000**
	4/16/2014	< 1.0	< 1.0
	10/23/2014	**5.2**	**0.62**
	4/23/2015	**80 J**	**8,400**
	10/20/2015	**280 D**	**8,200 D**
	10/20/2015 Dup	**290 D**	**8,500 D**
	4/12/2016	**90 D**	**810** D
	4/12/2016 Dup	**87 D**	**1,000** D
	10/24/2016	**340 D**	**43,000 D**
	10/24/2016 Dup	**360 D**	**43,000 D**
	4/11/2017	< 0.50 U	< 1.0 U
	4/11/2017 Dup MW	< 0.50 U	< 1.0 U
	10/3/2017	**580 D**	**140,000 D**
	4/25/2018	**130 D**	**3,100 D**
	4/25/2018 Dup MW9	**140 D**	**3,200 D**
	10/3/2018	**320 D**	**32,700 D**
	10/3/2018 Dup 97	**370 D**	**40,200 D**
	4/15/2019	**454 D**	**39,700 D**
	4/15/2019 Dup 97	**450 D**	**39,100 D**
	10/15/2019	**178**	**15,700 D**
	10/15/2019 Dup 97	**175**	**15,400 D**
	4/9/2020	**160**	**11,200 D**
	4/9/2020 Dup 97	**< 0.300**	**24.4**
	10/21/2020	**341 D**	**17,300 D**
	10/21/2020 Dup 97	**407 D**	**17,600 D**
	4/13/2021	**426 D**	**32,300 D**
	10/6/2021	**< 60.0 DQ**	**1,470 D**
	10/6/2021 Dup97	**54.0 D**	**1,900 D**

Table 4-2
WIA Intrmdiate Sand Aquifer Anlyticl Data
(10/2007 - 4/2024)

Well	Date		VOCs (µg/L) (EPA Method 8021B/8260)			
			Benzene		Toluene	
	Cleanup Level		1.2		2,000	
MW-239 Cont'd	4/19/2022		**91**	**D**	**2,200**	**D**
	4/19/2022	Dup97	**87**	**D**	**2,100**	**D**
	10/18/2022		**22**	**D**	**2,000**	**D**
	10/18/2022	Dup97	**23**	**D**	**1,900**	**D**
	4/18/2023		**5.7**		**82**	**D**
	4/18/2023	Dup97	**5.3**		**59**	
	10/12/2023		**9.3**		**9**	
	10/12/2023	Dup97	**5.7**		**5**	
	4/3/2024		**10**		**330**	**D**
	4/3/2024	Dup97	**8.0**		**230**	**D**
MW-243	10/24/2007		< 1.0		< 1.0	
	4/17/2008		< 1.0		< 1.0	
	10/27/2008		< 1.0		< 1.0	
	4/22/2009		< 1.0		< 1.0	
	10/20/2009		< 1.0		< 1.0	
	4/22/2010		< 1.0		< 1.0	
	10/19/2010		< 1.0		< 1.0	
	10/11/2011		< 1.0		< 1.0	
	4/18/2012		< 1.0		< 1.0	
	11/7/2012		< 1.0		< 1.0	
	4/10/2013		< 1.0		< 1.0	
	10/17/2013		< 1.0		< 1.0	
	4/15/2014		< 1.0		< 1.0	
	10/22/2014		< 0.06		< 0.11	
	4/21/2015		< 0.42		< 0.44	
	10/20/2015		< 1.0		< 1.0	
	4/13/2016		< 1.0		< 1.0	
	10/24/2016		< 1.0		< 1.0	
	4/12/2017		< 0.50		< 1.0	
	10/4/2017		< 0.50		< 1.0	
	4/24/2018		< 1.0		< 1.0	
	10/1/2018		< 0.30		< 1.0	
	4/15/2019		< 0.30		< 1.00	
	10/15/2019		< 0.300		< 1.00	
	4/9/2020		< 0.300		< 1.00	
	10/21/2020		< 0.300		< 1.00	
	4/13/2021		< 0.300		7.98	
	10/6/2021		< 0.300	U	< 1.00	U
	4/19/2022		< 0.50	U	< 0.50	U
	10/18/2022		< 0.50	U	< 0.50	U
	4/18/2023		< 0.50	U	< 0.50	U
	10/12/2023		< 0.50	U	< 0.50	U
	4/3/2024		< 0.50	U	< 0.50	U
MW-249	10/24/2007		< 1.0		< 1.0	
	4/16/2008		< 1.0		< 1.0	
	10/27/2008		< 1.0		< 1.0	
	4/22/2009		< 1.0		< 1.0	
	10/20/2009		< 1.0		< 1.0	
	4/23/2010		< 1.0		< 1.0	
	10/20/2010		< 1.0		< 1.0	
	10/10/2011		< 1.0		< 1.0	
	4/18/2012		< 1.0		< 1.0	
	11/7/2012		< 1.0		< 1.0	
	4/10/2013		< 1.0		< 1.0	
	10/17/2013		< 1.0		< 1.0	
	4/15/2014		< 1.0		< 1.0	
	10/22/2014		< 0.060		< 1.0	
	4/23/2015		< 0.42		< 1.0	
	10/20/2015		< 1.0		< 1.0	
	4/12/2016		< 1.0		< 1.0	
	MW-249 Monitoring Ceased Per 112916 Ecy Ltr.					

Table 4-2
WIA Intrmdiate Sand Aquifer Anlyticl Data
(10/2007 - 4/2024)

Well	Date		VOCs (µg/L) (EPA Method 8021B/8260)			
			Benzene		Toluene	
	Cleanup Level		1.2		2,000	
MW-250	10/25/2007		< 1.0		< 1.0	
	4/17/2008		< 1.0		< 1.0	
	4/17/2008	Dup	< 1.0		< 1.0	
	10/27/2008		< 1.0		**3**	
	10/27/2008	Dup	< 1.0		**3**	
	4/23/2009		< 1.0		< 1.0	
	4/23/2009	Dup	< 1.0		< 1.0	
	10/20/2009	Dup	< 1.0		< 1.0	
	10/20/2009		< 1.0		< 1.0	
	4/23/2010	Dup	< 1.0		< 1.0	
	4/23/2010		< 1.0		< 1.0	
	10/19/2010		< 1.0		< 1.0	
	10/11/2011		< 1.0		< 1.0	
	10/11/2011	Dup	< 1.0		< 1.0	
	4/18/2012		< 1.0		< 1.0	
	11/7/2012		< 1.0		< 1.0	
	4/10/2013		< 1.0		< 1.0	
	4/10/2013	Dup	< 1.0		< 1.0	
	10/17/2013		< 1.0		< 1.0	
	10/17/2013	Dup	< 1.0		< 1.0	
	4/15/2014		< 1.0		< 1.0	
	4/15/2014	Dup	< 1.0		< 1.0	
	10/22/2014		< 0.060		< 0.1	
	10/22/2014	Dup	< 0.060		< 0.1	
	4/23/2015		< 0.42		< 0.4	
	4/23/2015	Dup	< 0.42		< 0.4	
	10/20/2015		< 1.0		< 1.0	
	4/12/2016		**< 73**	**D**	< 1.0	
	10/24/2016		< 1.0		< 1.0	
	4/12/2017		< 0.50		< 1.0	
	10/4/2017		< 0.50		< 1.0	
	4/25/2018		< 1.0		< 1.0	
	10/3/2018		< 0.30		**13.8**	
	4/15/2019		< 0.30		**3.47**	
	10/16/2019		< 0.30		< 1.0	
	4/9/2020		< 0.300		**13.8**	
	10/21/2020		< 0.300		< 1.00	
	4/13/2021		< 0.300		< 1.00	
	10/6/2021		< 0.300		< 1.00	
	4/19/2022		< 0.50		< 0.50	
	10/18/2022		< 0.50	U	< 0.50	U
	4/18/2023		< 0.50	U	< 0.50	U
	10/12/2023		< 0.50	U	< 0.50	U
	4/3/2024		< 0.50	U	< 0.50	U

Notes:
(1) - ISRW pump wells sampled by peristaltic pump October 2015 & April 2
< - Result is non-detected above the laboratory reporting limit.
< - Detection limit above cleanup level.
Bold indicates detection.
Dup - Field Duplicate Sample.
D - Laboratory analtyical dilution
J - Estimated concentration.
Bold and sha Detection above cleanup level.
EPA = U.S. Environmental Protection Agency; µg/L micrograms per liter;
VOC = volatile organic compound; WIA = West Impacted Area

Table 4-3
WIA ISRW Groundwater Extraction Pump Volume Data (2023 - 2024)

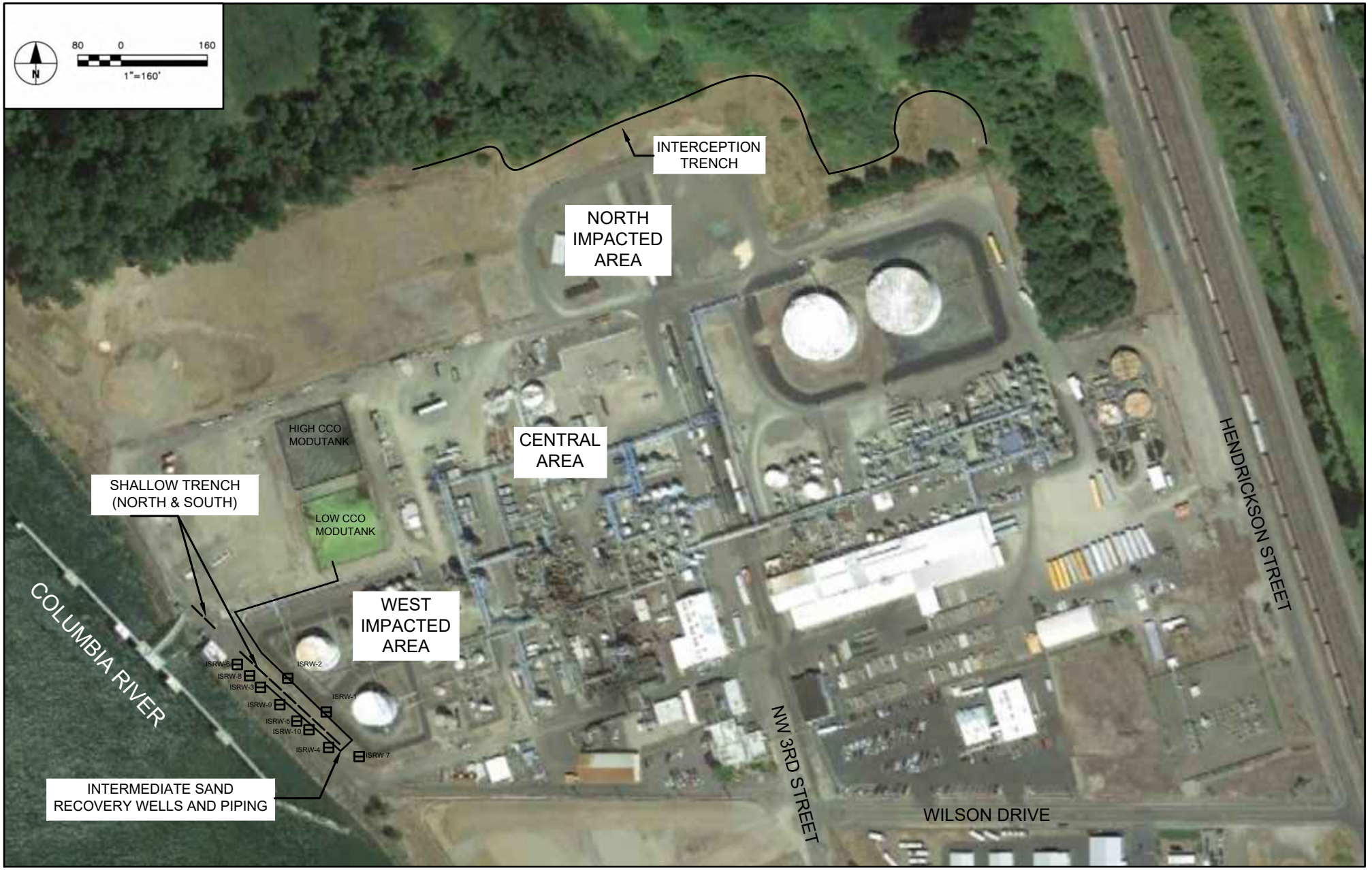
Date	Groundwater Extracted (gallons)										
	ISRW-1	ISRW-2	ISRW-3	ISRW-4	ISRW-5	ISRW-6	ISRW-7	ISRW-8	ISRW-9	ISRW-10	Total
April 2024	8,500	4,610	5,180	1,050	5,500	1,800	0	6,710	2,340	4,550	**40,240**
March 2024	13,100	7,200	8,720	1,820	9,730	3,300	0	9,280	4,260	8,170	**65,580**
February 2024	16,278	6,890	6,570	1,750	9,070	5,617	0	11,070	5,200	7,620	**70,065**
January 2024	15,386	6,260	5,500	1,800	6,070	5,101	0	10,400	5,000	6,060	**61,577**
December 2023	8,842	7,160	5,500	1,700	7,320	5,859	0	11,320	5,290	6,230	**59,221**
November 2023	10,594	7,040	5,990	1,480	5,220	4,023	0	8,210	2,920	5,770	**51,247**
October 2023	5,963	3,670	4,070	1,070	2,740	1,998	0	5,030	1,610	4,410	**30,561**
September 2023	4,937	3,710	4,160	1,480	3,680	2,102	0	6,400	2,180	5,970	**34,619**
August 2023	3,800	4,230	3,810	350	3,710	2,000	0	6,240	2,150	1,610	**27,900**
July 2023	5,000	4,570	4,010	930	3,135	2,400	0	6,680	2,170	3,820	**32,715**
June 2023	18,162	8,380	6,990	2,210	10,000	1,472	0	8,690	4,570	6,800	**67,274**
May 2023	47,338	17,240	16,680	5,350	26,130	14,228	0	28,000	10,730	13,280	**178,976**
Totals	**157,900**	**80,960**	**77,180**	**20,990**	**92,305**	**49,900**	**0**	**118,030**	**48,420**	**74,290**	**719,975**

Table 4-4
WIA ISRW Discharge Analytical/Mass Removal Data (2023 - 2024)

Well	May 2023 - October 2023					November 2023 - April 2024					May 2023 - April 2024	
	Groundwater Extracted (gallons)	Avg Benz (Apr, Jul, Oct) (ug/L)	Benz Remvd (lb)	Avg Toluene (Apr, Jul, Oct) (ug/L)	Toluene Remvd (lb)	Groundwater Extracted (gallons)	Avg Benz (Oct, Jan, Apr) (ug/L)	Benz Remvd (lb)	Avg Toluene (Oct, Jan, Apr) (ug/L)	Toluene Remvd (lb)	Benz Remvd (lb)	Toluene Remvd (lb)
ISRW-1	85,200	0	0.00	15,833	11.2	72,700	0	0.00	9,833	7.0	0.00	18
ISRW-2B	41,800	30	0.01	18,800	6.6	39,160	31	0.01	18,800	6.6	0.02	13
ISRW-3	39,720	78	0.03	64,000	21.2	37,460	54	0.02	35,667	11.8	0.04	33
ISRW-4	11,390	15	0.00	2,406	0.2	9,600	8	0.00	1,061	0.1	0.00	0
ISRW-5	49,395	38	0.02	38,000	15.6	42,910	21	0.01	24,000	9.9	0.02	26
ISRW-6	24,200	18	0.00	2,033	0.4	25,700	27	0.01	3,060	0.6	0.01	1
ISRW-7	0	0.0	0.00	0	0.0	0	0	0.00	0	0.0	0.00	0
ISRW-8	61,040	44	0.02	29,700	15.1	56,990	42	0.02	23,333	11.9	0.04	27
ISRW-9	23,410	28	0.01	14,000	2.7	25,010	32	0.01	19,000	3.7	0.01	6
ISRW-10	35,890	42	0.01	26,333	7.9	38,400	28	0.01	17,667	5.3	0.02	13
Total	**372,045**		**0.10**		**81**	**347,930**		**0.1**		**57**	**0.18**	**138**

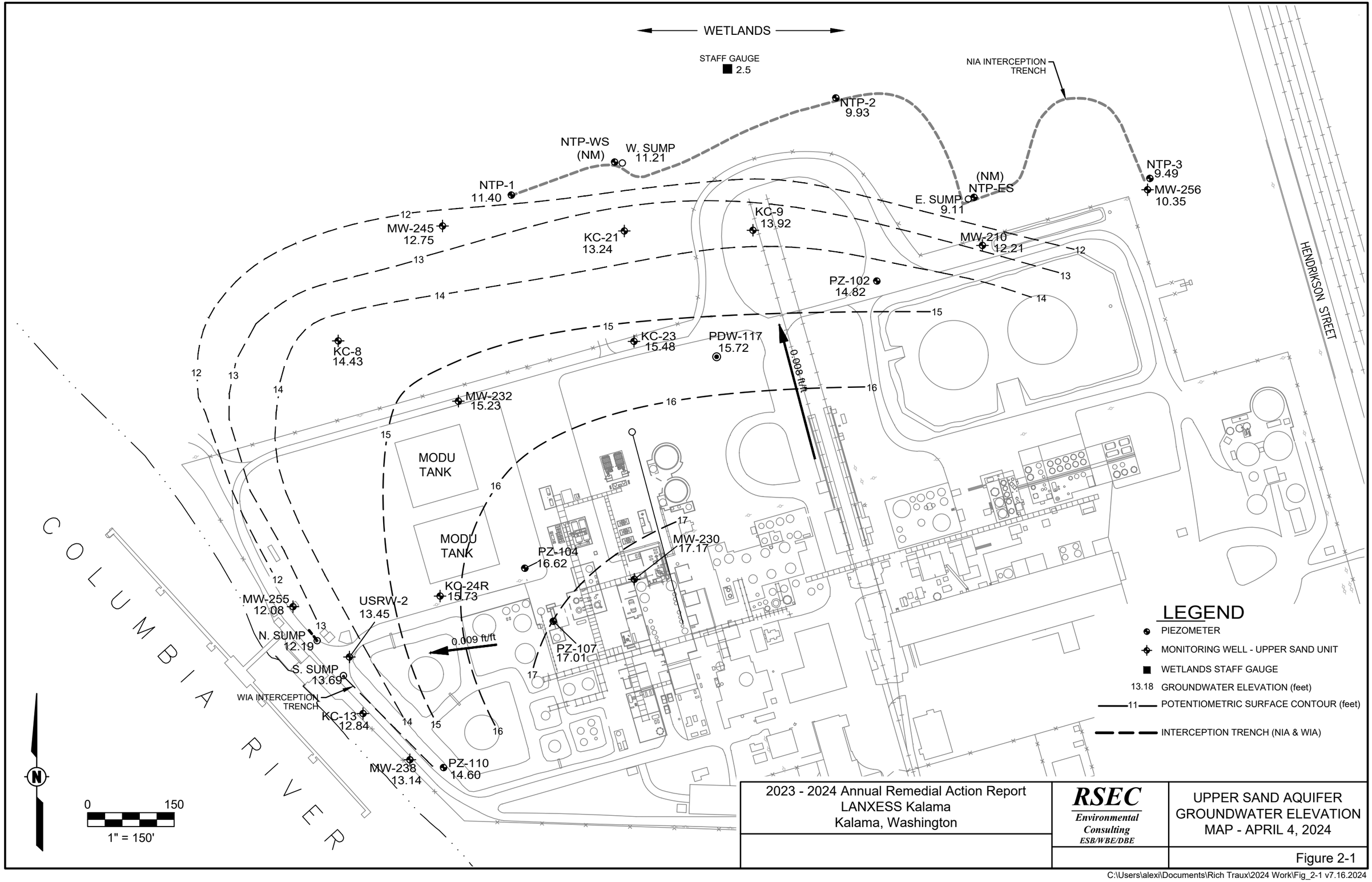
Notes:
Averages include duplicate samples.
Average concentration values are rounded.
ISRW = intermediate sand recovery well; lb = pounds; ug/L = micrograms per liter

Figures



Site Layout

Figure 1-1



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Kalama, Washington

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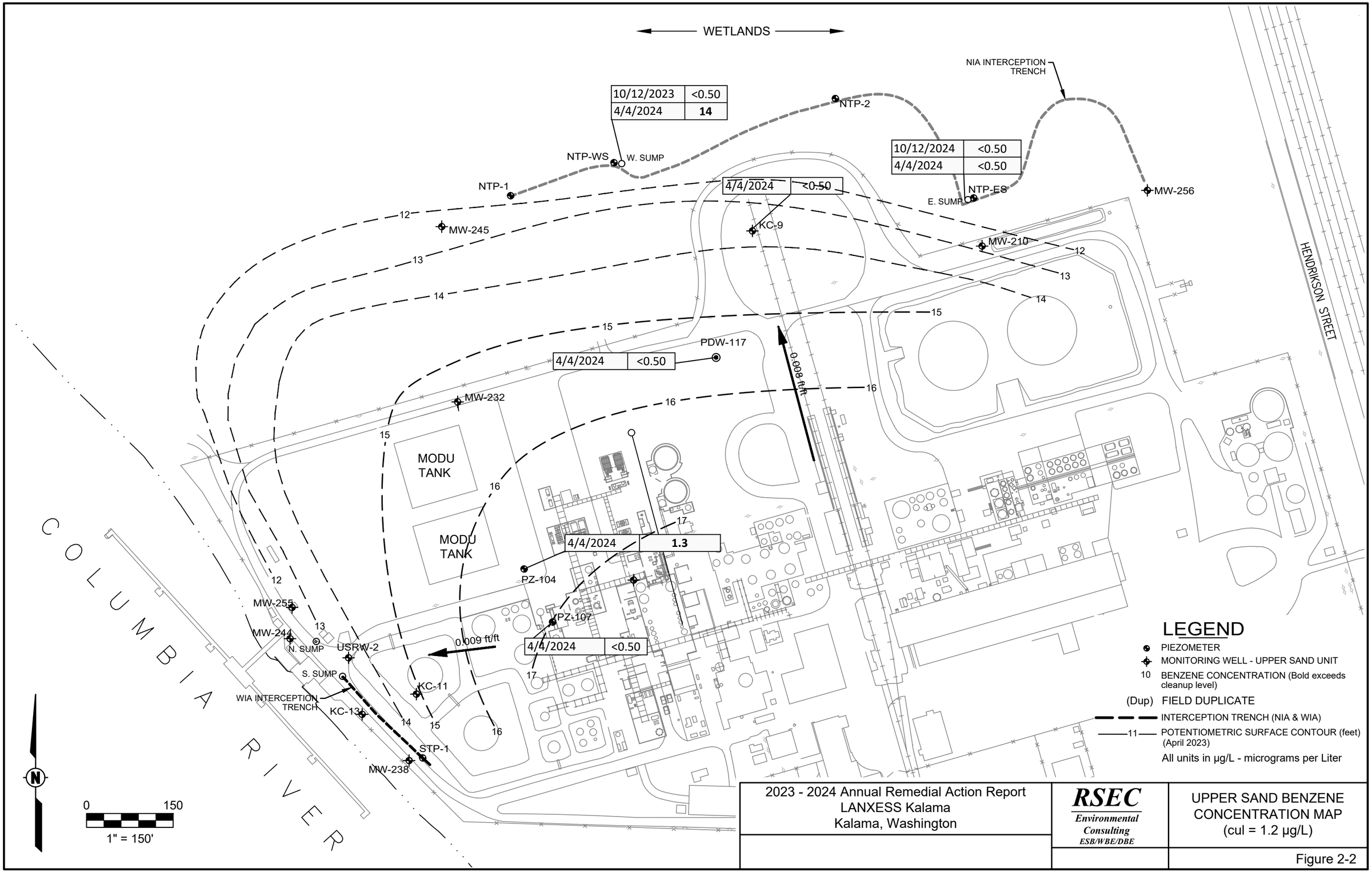
UPPER SAND AQUIFER GROUNDWATER ELEVATION MAP - APRIL 4, 2024

Figure 2-1

C:\Users\alexi\Documents\Rich Traux\2024 Work\Fig_2-1 v7.16.2024



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UPPER SAND BENZENE CONCENTRATION MAP
(cul = 1.2 µg/L)

Figure 2-2

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WETLANDS

NIA INTERCEPTION TRENCH

10/12/2023	**820**
4/4/2024	230

NTP-2

10/12/2023	160
4/4/2024	200

NTP-WS W. SUMP

NTP-1

4/4/2024	80

MW-245

4/4/2024	**900**

KC-9

NTP-ES E. SUMP

NTP-3

MW-256

4/4/2024	15

MW-210

HENDRIKSON STREET

12

13

14

15

16

17

PDW-117

4/4/2024	**1,700**

MW-232

0.008 ft/ft

MODU TANK

MODU TANK

4/4/2024	**4,000**

PZ-104

PZ-107

4/4/2024	72

0.009 ft/ft

MW-255

MW-244

N. SUMP

USRW-2

4/3/2024	<1.0

S. SUMP

KC-11

KC-13

WIA INTERCEPTION TRENCH

STP-1

MW-238

COLUMBIA RIVER

N

0 150

1" = 150'

LEGEND

- PIEZOMETER
- MONITORING WELL - UPPER SAND UNIT
- 170 DPO CONCENTRATION (Bold exceeds cleanup level)
- (Dup) FIELD DUPLICATE
- INTERCEPTION TRENCH (NIA & WIA)
- 11 POTENTIOMETRIC SURFACE CONTOUR (feet) (April 2023)
- All units in µg/L - micrograms per Liter

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UPPER SAND DIPHENYL OXIDE CONCENTRATION MAP (cul = 410 µg/L)

Figure 2-3

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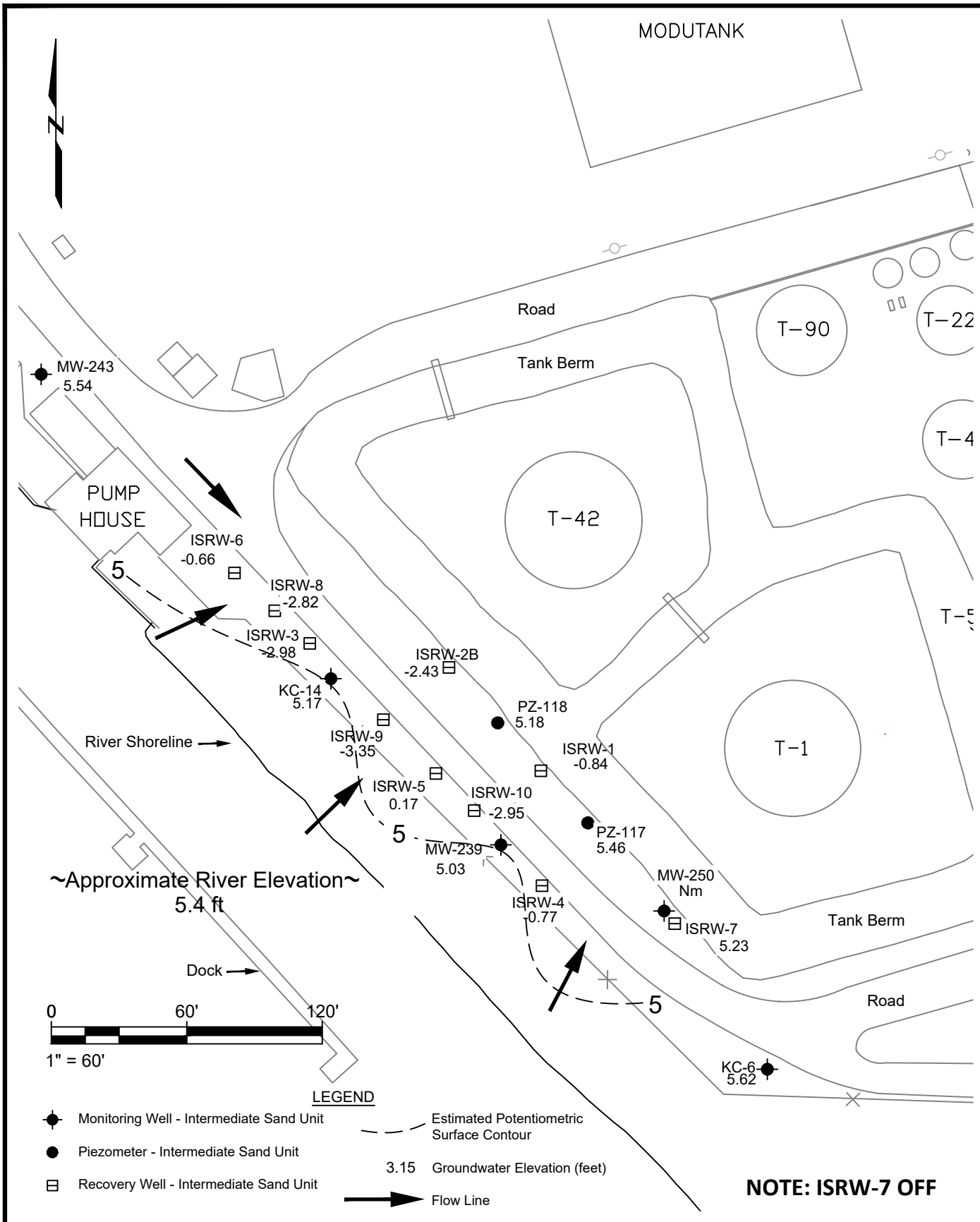

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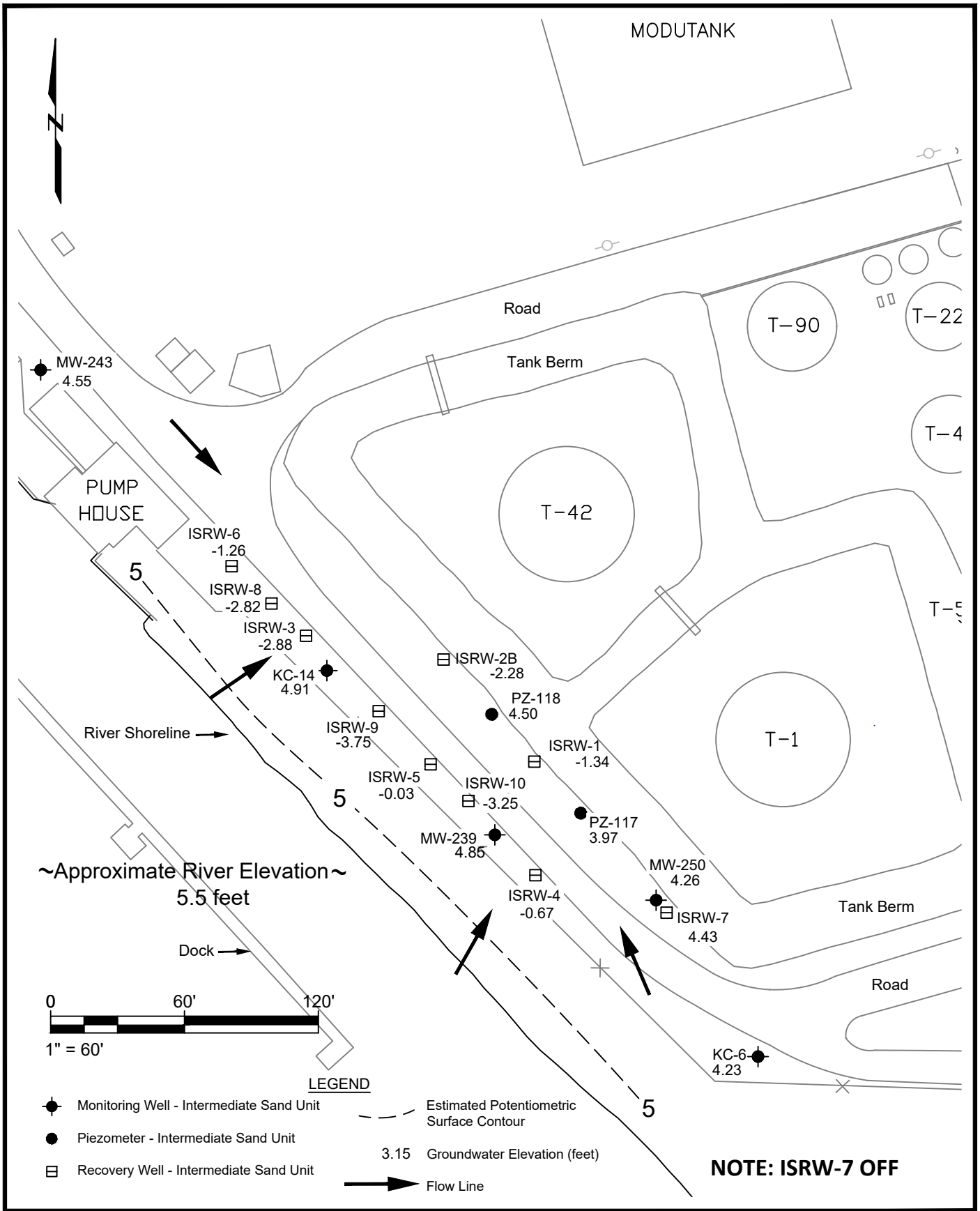
WIA Intermediate Sand Aquifer
Potentiometric Surface Map
July 6, 2023

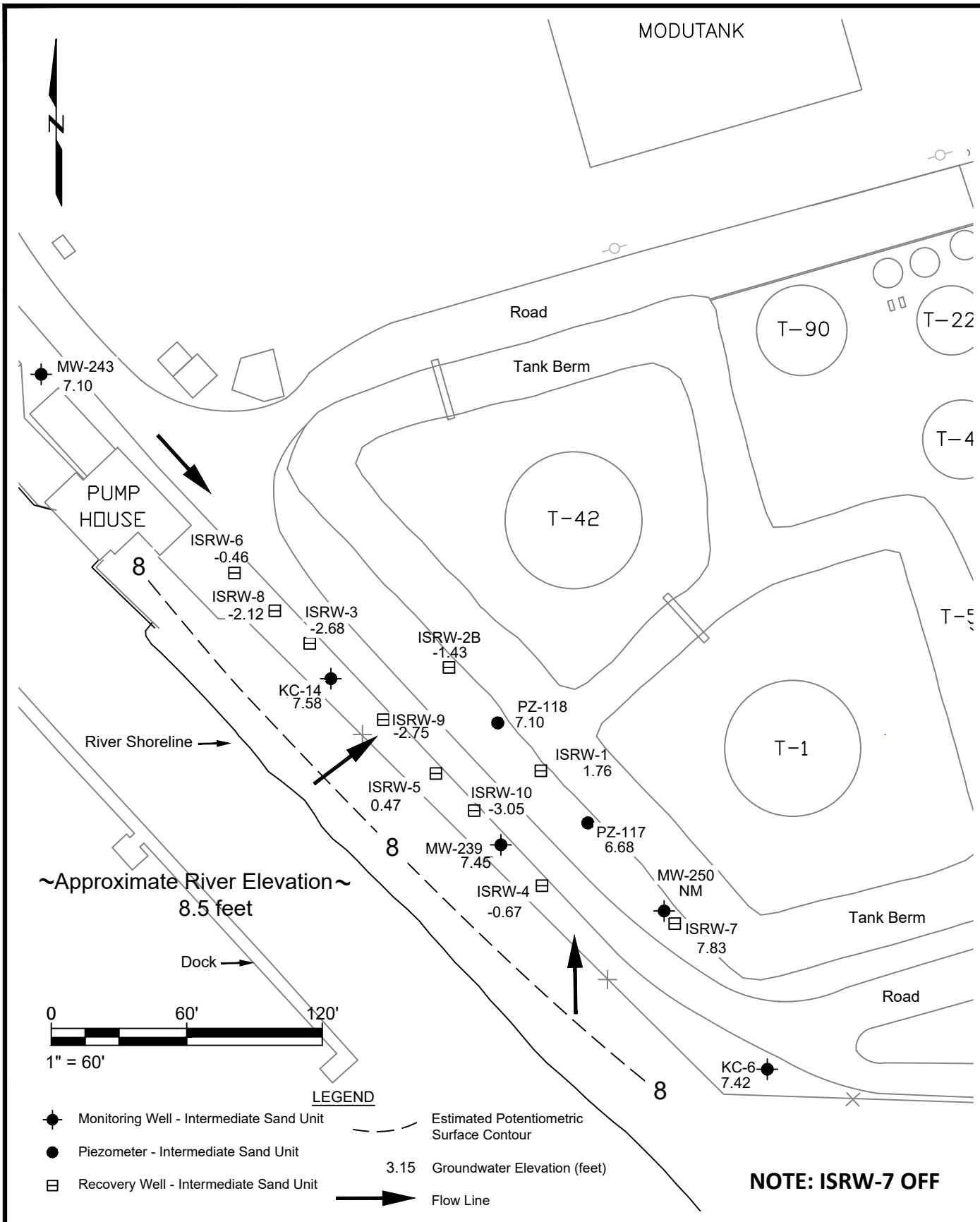
Figure 4-1

---- C:\Users\alexi\Documents\Rich Traux\2024 Work\Fig_4-1 v7.16.2024.dwg - 7/16/2024



2023 - 2024 Annual Remedial Action Report LANXESS Kalama Kalama, Washington	**RSEC** *Environmental Consulting* *ESB/WBE/DBE*	WIA Intermediate Sand Aquifer Potentiometric Surface Map October 12, 2023
		Figure 4-2

---- C:\Users\alexi\Documents\Rich Traux\2024 Work\Fig_4-2 v7.16.2024.dwg - 7/16/2024



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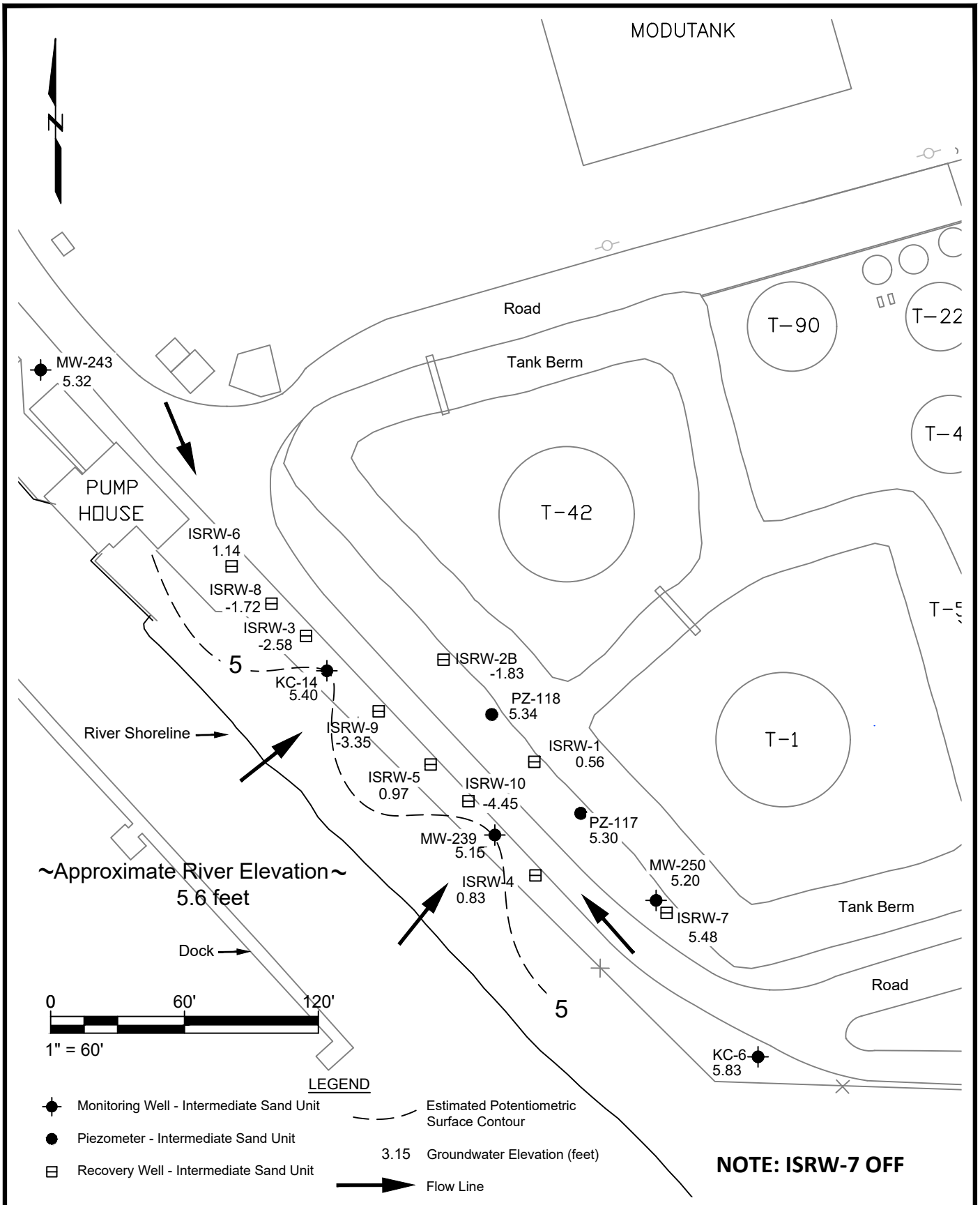
WIA Intermediate Sand Aquifer
January 11, 2024

Figure 4-3

---- C:\Users\alexi\Documents\Rich Traux\2024 Work\Fig_4-3 v7.16.2024.dwg - 7/16/2024



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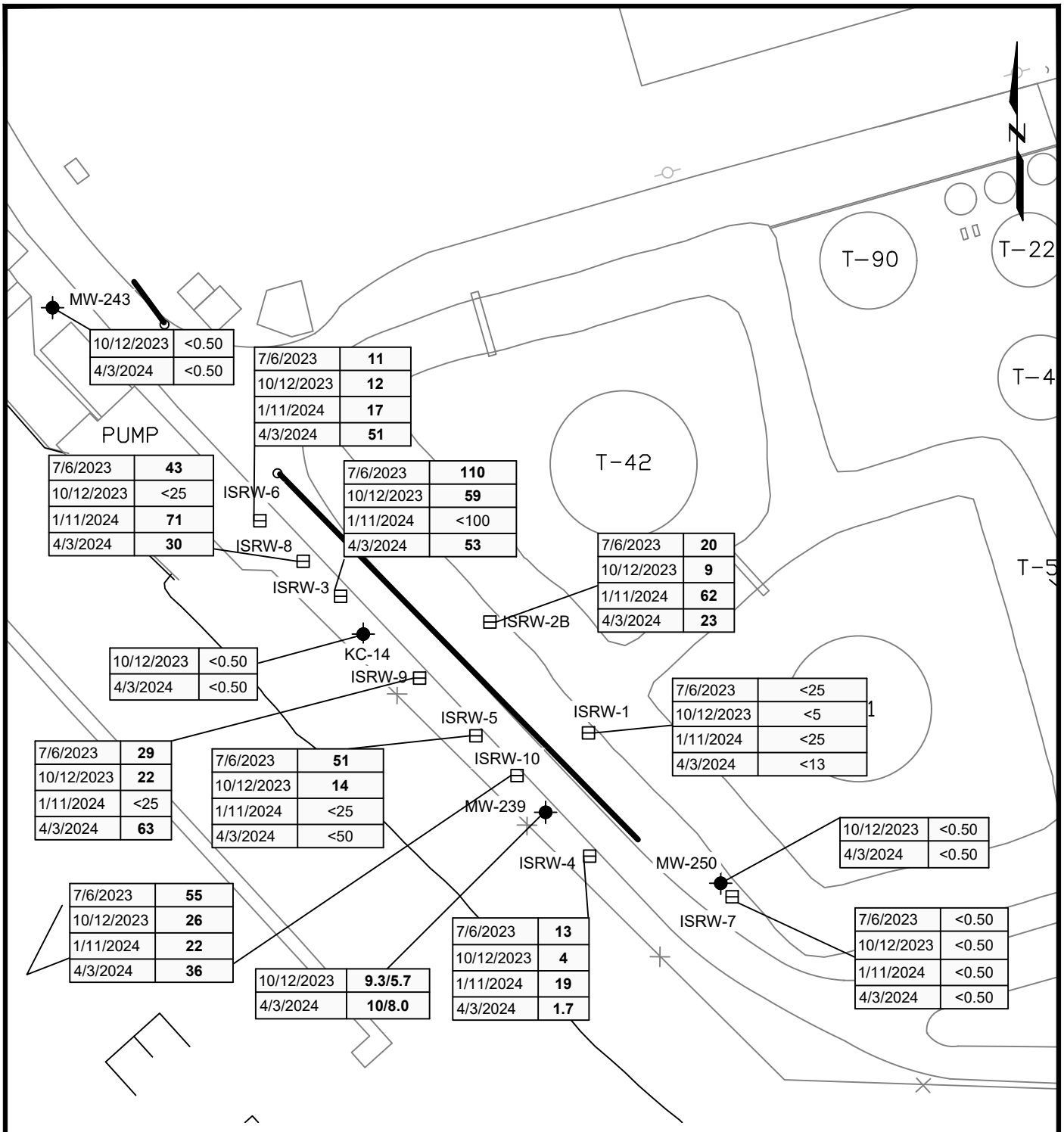
WIA Intermediate Sand Aquifer
April 3, 2024

Figure 4-4

---- C:\Users\alexi\Documents\Rich Traux\2024 Work\Fig_4-4 v7.16.2024.dwg - 7/16/2024



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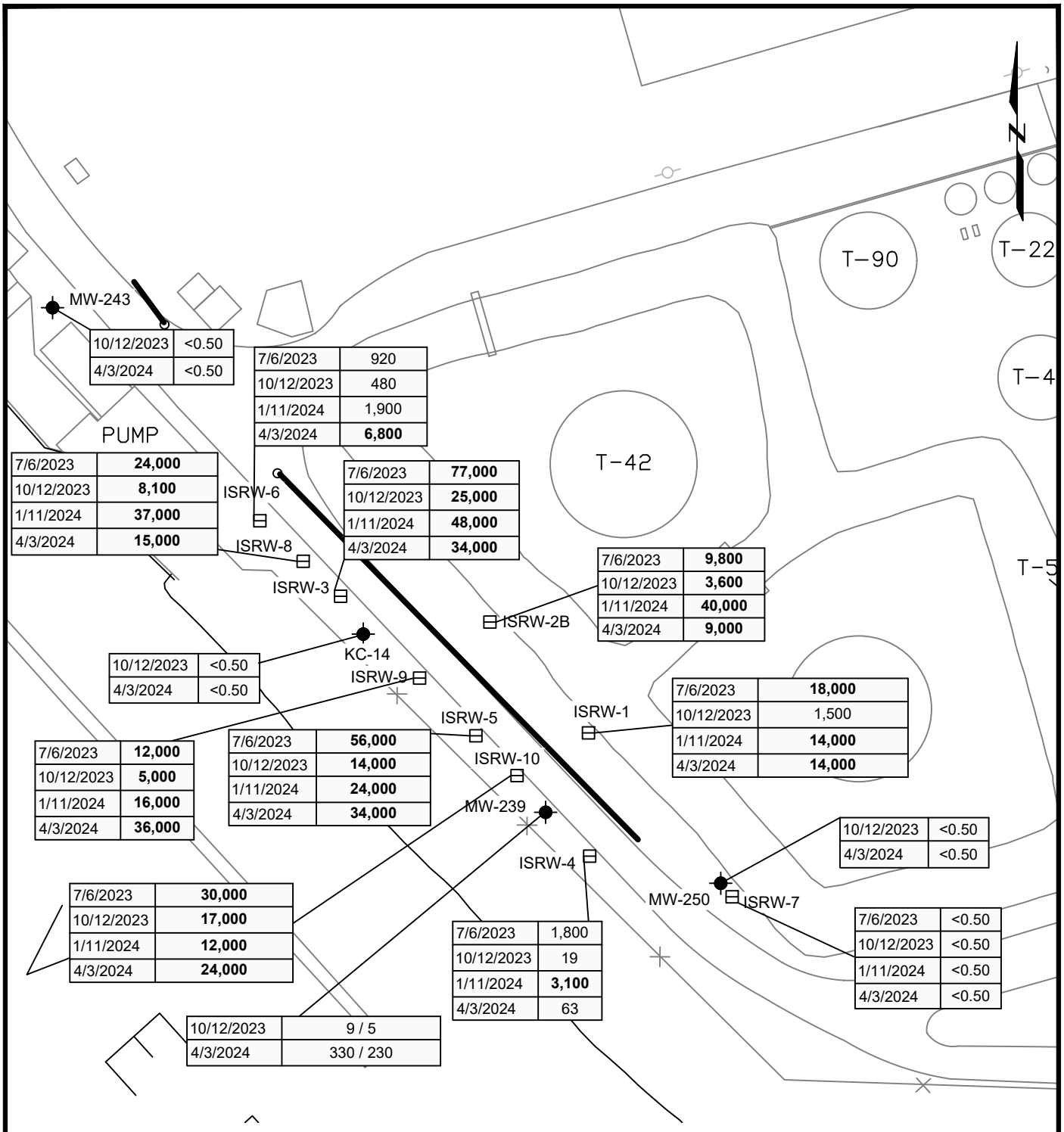
WIA Intermediate Sand Aquifer
Benzene Concentrations
(cul = 1.2 µg/L)

Figure 4-5

---- C:\Users\alexi\Documents\Rich Traux\2024 Work\Fig_4-5 v7.16.2024.dwg - 7/16/2024



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WIA Intermediate Sand Aquifer
Toluene Concentrations
(cul = 2,000 µg/L)

Figure 4-6

---- C:\Users\alexi\Documents\Rich Traux\2024 Work\Fig_4-6 v7.16.2024.dwg - 7/16/2024

Appendix A

Ground Water Elevation Data Tables

NIA Upper Sand Gauging Data

Well	MP Elevation	4/ 3 - 4 /2024			4/19/2023			4/19&21/2022		
		Time	Depth to Water	Ground-water Elevation	Time	Depth to Water	Ground-water Elevation	Time	Depth to Water	Ground-water Elevation
KC-8	24.57	4/4 1128	10.14	14.43	1300	10.2	14.37	1220 / 21	9.87	14.70
KC-9 (2)	21.07	4/4 1145	7.15	13.92	1200	8.29	12.78	1400 / 19	8.05	13.02
KC-21	24.61	4/4 1024	11.37	13.24	1305	12.35	12.26	1135 / 21	12.5	12.11
KC-23	23.87	4/3 1539	8.39	15.48	1110	9.21	14.66	1536 / 19	9	14.87
MW-210	26.44	4/3 1545	14.23	12.21	1250	14.99	11.45	1533 / 19	14.86	11.58
MW-232	24.59	4/3 1535	9.36	15.23	1100	10.01	14.58	1540 / 19	9.8	14.79
MW-245	25.81	4/4 1045	13.06	12.75	1430	13.32	12.49	1150 / 21	13.18	12.63
MW-256	19.09	4/4 0855	8.74	10.35	1255	9.18	9.91	1040 / 21	9.06	10.03
PZ-102	25.76	4/3 1543	10.94	14.82	1245	11.7	14.06	1530 / 19	11.5	14.26
NTP-1	23.99	4/4 1118	12.59	11.40	1445	17.5	6.49	1230 / 21	16.72	7.27
NTP-2	16.91	4/4 1029	6.98	9.93	1455	8.6	8.31	1142 / 21	8.3	8.61
NTP-3	15.61	4/4 0917	6.12	9.49	1310	7.69	7.92	1100 / 21	7.61	8.00
NTP-WS	14.79									
MW-201	14.76									
MW-205/lsw	12.77									
East Sump	13.47	4/4 1000	4.36	9.11	1340	6.3	7.17	1115 / 21	6.12	7.35
West Sump	13.62	4/4 1020	2.41	11.21	1410	7.4	6.22	1138 / 21	6.55	7.07
Staff Gauge	8.17	4/4 1032	2.5	2.5	1450	1.8	1.8	1145 / 21	2.7	2.70

Notes:

Wetlands staff gauge used to measure surface water elevation

NM - Not Measured - due to either wetland flooding or other obstruction.

NTP-ES&WS, MW-201 & -205 Removed from gauging per Ecy 10/21/20 apprvl.

New MP elevation starting April 20, 2015 data due to RR infrastructure changes

Gauging modified to Annual in April, Ecy Oct 2022

CIA Upper Sand Gauging Data

Well	MP Elevation	4/4/2024			4/19/2023			4/19&21/2022		
		Time	Depth to Water	Ground-water Elevation	Time	Depth to Water	Ground-water Elevation	Time	Depth to Water	Ground-water Elevation
KC-9 (2)	21.07	4/4 1145	7.15	13.92	1200	8.29	12.78	1400 / 19	8.05	13.02
MW-210	26.44	4/3 1545	14.23	12.21	1250	14.99	11.45	1533 / 19	14.86	11.58
MW-230	26.16	4/3 1555	8.99	17.17	1430	10.14	16.02	1300 / 21	10.04	16.12
MW-231 (2,3)	22.15							850 / 21	6.39	15.76
PDW-117	25.85	4/4 1228	10.13	15.72	1120	11.04	14.81	1445 / 19	10.82	15.03
PZ-104	24.83	4/4 1356	8.21	16.62	1425	9.17	15.66	1430 / 21	9.09	15.74
PZ-107	25.5	4/4 1312	8.49	17.01	1420	9.54	15.96	1340 / 21	9.5	16.00

Notes: 1 - Facility RR extension temporarily blocked well
2 - New MP elevation starting April 20, 2015 data due to RR infrastructure changes
3 - Cease gauging MW-231 Oct 2022 / CIA Gauging Annual in April starting Oct 2022

WIA Upper Sand Gauging Data

Well	MP Elevation	4/3/2024			4/18/2023			4/19&21/2022		
		Time	Depth to Water	Ground-water Elevation	Time	Depth to Water	Ground-water Elevation	Time	Depth to Water	Ground-water Elevation
KC-13	23.34	1359	10.5	12.84	1400	10.9	12.44	0 / 21	10.84	12.5
KC-24R	24.76	1408	9.03	15.73	1410	9.7	15.06	1450 / 21	9.63	15.13
MW-238	25.10	1401	11.96	13.14	1355	12.63	12.47	0 / 21	12.60	12.5
MW-255	21.96	1410	9.88	12.08	1350	10.41	11.55	1542 / 19	10.39	11.57
PZ-110	25.76	1403	11.16	14.6	1358	11.72	14.04	0 / 21	11.89	13.87
USRW-2	22.85	1423	9.4	13.45	1330	9.8	13.05	1310 / 19	9.75	13.1
STP-1	23.15									
N. SUMP	23.29	1356	11.1	12.19	1340	11.72	11.57	1545 / 19	11.5	11.79
S. SUMP	23.34	1358	9.65	13.69	1345	10.11	13.23	1543 / 19	10.9	12.44

NOTES:
KC-12, KC-15, KCP-6, PZ-106 REMOVED FROM GAUGING PER ECY 112916 LTR
MW-244 & STP-1 Removed from gauging per Ecy 10/21/20 Apprvl
Gauging modified to Annual in April per Ecy Oct 2022 Apprvl

WIA Intermediate Sand Gauging Data

Well	Updated MP Elevation 7-2019 (#4,5,7,8 stkup lowered 7-15-19)	4/3/2024			1/11/2024			10/12/2023			7/6/2023			4/ 11 /2023			1/11/2023			10/18/2022			7/6/2022		
		Time	DTW	GW Elev (7-15-19 MP)	Time	DTW	GW Elev (7-15-19 MP)	Time	DTW	GW Elev (7-15-19 MP)	Time	DTW	GW Elev (7-15-19 MP)	Time	DTW	GW Elev (7-15-19 MP)	Time	DTW	GW Elev (7-15-19 MP)	Time	DTW	GW Elev (7-15-19 MP)	Time	DTW	GW Elev (7-15-19 MP)
River	0 - MSL	1155	5.6	5.6	1258	8.50	8.5	1452	5.50	5.5	1150	5.40	5.4	1015		7.4	1000		6.7	1245		3.7	1115		7.2
KC-6	25.02	1218	19.19	5.83	1245	17.60	7.42	1416	20.79	4.23	1200	19.40	5.62	1020	17.38	7.64	1020	18.14	6.88	1304	21.67	3.35	1100	17.96	7.06
KC-14	23.29	1207	17.89	5.40	1253	15.91	7.38	1441	18.38	4.91	1156	18.12	5.17	1135	16.33	6.96	1010	16.73	6.56	1253	19.72	3.57	1120	16.48	6.81
MW-239	25.35	1042	20.20	5.15	1251	17.90	7.45	1426	20.50	4.85	1159	20.32	5.03	1025	18.10	7.25	1018	18.90	6.45	1300	21.98	3.37	1113	18.62	6.73
MW-243	25.9	1202	20.58	5.32	1256	18.80	7.10	1450	21.35	4.55	1152	20.36	5.54	1027	18.05	7.85	1003	19.16	6.74	1210	22.50	3.40	1125	18.85	7.05
MW-250	26.12	1010	20.92	5.20		nm		859	21.86	4.26		nm		1023	18.77	7.35			26.12	1308	22.83	3.29	1105	19.25	6.87
PZ-117	25.92	1212	20.62	5.30	1247	19.24	6.68	1419	21.95	3.97	1203	20.46	5.46	1040	18.61	7.31	1015	19.24	6.68	1301	22.76	3.16	1110	19.12	6.80
PZ-118	25.18	1209	19.84	5.34	1248	18.08	7.10	1430	20.68	4.50	1205	20.00	5.18	1041	18.05	7.13	1013	18.65	6.53	1256	21.81	3.37	1117	18.40	6.78
KC-17	23.02	1204	17.92	5.10		nm				23.02	1154	17.56	5.46	1105	16.02	7.00	1007	16.39	6.63	1240	19.78	3.24			
ISRW-1	25.26	1223	24.70	0.56	1317	23.50	1.76	1421	26.60	-1.34	1204	26.10	-0.84	1043	25.30	-0.04	1027	26.8	-1.54	1313	26.4	-1.14	1240	26.65	-1.39
ISRW-2b	24.47	1234	26.30	-1.83	1310	25.90	-1.43	1437	26.75	-2.28	1207	26.90	-2.43	1029	26.90	-2.43	1035	27.0	-2.53	1303	26.9	-2.43	1142	27.06	-2.59
ISRW-3	23.82	1236	26.40	-2.58	1305	26.50	-2.68	1439	26.70	-2.88	1212	26.80	-2.98	1035	26.20	-2.38	1037	26.6	-2.78	1319	26.5	-2.68	1134	25.67	-1.85
ISRW-4	24.33	1220	23.50	0.83	1320	25.00	-0.67	1428	25.00	-0.67	1220	25.10	-0.77	1037	25.00	-0.67	1025	24.8	-0.47	1310	22.1	2.23	1248	25.70	-1.37
ISRW-5	24.07	1228	23.10	0.97	1312	23.60	0.47	1431	24.10	-0.03	1216	23.90	0.17	1045	23.70	0.37	1031	24.3	-0.23	1315	24.2	-0.13	1255	23.61	0.46
ISRW-6	23.54	1240	22.40	1.14	1302	24.00	-0.46	1444	24.80	-1.26	1209	24.20	-0.66	1055	24.30	-0.76	1045	24.5	-0.96	1322	23.9	-0.36	1130	23.11	0.43
ISRW-7	24.83	1218	19.35	5.48	1322	17.00	7.83	1418	20.40	4.43	1202	19.60	5.23	1022	17.38	7.45	1022	18.13	6.70	1306	21.6	3.23	1245	18.11	6.72
ISRW-8	23.88	1237	25.60	-1.72	1304	26.00	-2.12	1442	26.70	-2.82	1210	26.70	-2.82	1031	24.90	-1.02	1040	26.1	-2.22	1321	27.1	-3.22	1300	27.89	-4.01
ISRW-9	23.55	1231	26.90	-3.35	1308	26.30	-2.75	1433	27.30	-3.75	1214	26.90	-3.35	1033	26.40	-2.85	1033	26.7	-3.15	1317	26.9	-3.35	1138	27.06	-3.51
ISRW-10	24.35	1225	28.80	-4.45	1315	27.40	-3.05	1424	27.60	-3.25	1218	27.30	-2.95	1047	27.30	-2.95	1029	27.2	-2.85	1312	27.8	-3.45	1250	27.65	-3.30

Appendix B

Laboratory Reports: Oct. 2023 thru April 2024 (transmitted via e-file)

July ISRW Sampling

Laboratory Data Report

July 17, 2023 Service Request No:K2307613

Rich Truax
RSEC Inc
958 Hood View Ct.
Hood River, OR 97031

Laboratory Results for: Emerald Kalama

Dear Rich,

Enclosed are the results of the sample(s) submitted to our laboratory July 06, 2023
For your reference, these analyses have been assigned our service request number **K2307613.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3364. You may also contact me via email at howard.holmes@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Howard Holmes
Project Manager

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626
PHONE +1 360 577 7222 | FAX +1 360 636 1068
ALS Group USA, Corp.
dba ALS Environmental

1317 South 13th Ave, Kelso, WA 98626 | 1-360-577-7222 | www.alsglobal.com

Client: RSEC Inc
Project: Emerald Kalama
Sample Matrix: Water

Service Request: K2307613
Date Received: 07/06/2023

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Eleven water samples were received for analysis at ALS Environmental on 07/06/2023. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Volatiles by GC/MS:

Method 8260C, 07/12/2023:Most samples required dilution due to the presence of elevated levels of target analyte. The reporting limits are adjusted to reflect the dilution.

Approved by _____ Date 07/17/2023

SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: ISRW-2b	Lab ID: K2307613-002					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	20			13	ug/L	8260C
Toluene	9800			250	ug/L	8260C

CLIENT ID: ISRW-3	Lab ID: K2307613-003					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	110			100	ug/L	8260C
Toluene	77000			2500	ug/L	8260C

CLIENT ID: ISRW-4	Lab ID: K2307613-004					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	13			5.0	ug/L	8260C
Toluene	1800			50	ug/L	8260C

CLIENT ID: ISRW-5	Lab ID: K2307613-005					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	51			50	ug/L	8260C
Toluene	56000			2500	ug/L	8260C

CLIENT ID: ISRW-6	Lab ID: K2307613-006					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	11			5.0	ug/L	8260C
Toluene	920			50	ug/L	8260C

CLIENT ID: ISRW-8	Lab ID: K2307613-008					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	43			25	ug/L	8260C
Toluene	24000			1000	ug/L	8260C

CLIENT ID: ISRW-9	Lab ID: K2307613-009					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	29			13	ug/L	8260C
Toluene	12000			250	ug/L	8260C

CLIENT ID: ISRW-10	Lab ID: K2307613-010					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	55			50	ug/L	8260C
Toluene	30000			2500	ug/L	8260C

CLIENT ID: ISRW-1	Lab ID: K2307613-001					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Toluene	18000			500	ug/L	8260C

Sample Receipt Information

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: RSEC Inc **Service Request:**K2307613

Project: Emerald Kalama/EKC-0723

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K2307613-001	ISRW-1	7/6/2023	0900
K2307613-002	ISRW-2b	7/6/2023	0915
K2307613-003	ISRW-3	7/6/2023	0930
K2307613-004	ISRW-4	7/6/2023	0945
K2307613-005	ISRW-5	7/6/2023	1000
K2307613-006	ISRW-6	7/6/2023	1015
K2307613-007	ISRW-7	7/6/2023	1030
K2307613-008	ISRW-8	7/6/2023	1045
K2307613-009	ISRW-9	7/6/2023	1100
K2307613-010	ISRW-10	7/6/2023	1115
K2307613-011	Trip Blank	7/6/2023	

CHAIN OF CUSTODY

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

SR# K2307613

PAGE 1 OF 2 COC#

PROJECT NAME: Emerald Kalama
PROJECT NUMBER: EKC-0723
PROJECT MANAGER: Rich Trueax
COMPANY NAME: RSEC
ADDRESS: 958 Hood View Ct.
CITY/STATE/ZIP: Hood River, OR 97031
E-MAIL ADDRESS: Richa@rsecinc.com
PHONE # 541-490-4223 FAX #
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐ SIM PAH☐	Volatile Organics 624☐ 8260X 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	Metals, Total or Dissolved (See List below)	Cyanide☐ Hex-Chrom☐	(circle) pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS, Turb.	(circle) NH3-N, COD, TKN, TOC, DOC, NO2+NO3, T-Phos	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity☐ CO_3☐ HCO_3☐	Dioxins/Furans 1613☐ 8290☐	Dissolved Gases CO_2☐ RSK 175☐ Methane☐ Ethane☐ Ethene☐	REMARKS
ISRW-1	7/6/23	0900		GW	3		X															
ISRW-2b		0915																				
ISRW-3		0930																				
ISRW-4		0945																				
ISRW-5		1000																				
ISRW-6		1015																				
ISRW-7		1030																				
ISRW-8		1045																				
ISRW-9		1100																				
ISRW-10	↓	1115		↓	↓		↓															

REPORT REQUIREMENTS

- X I. Routine Report: Method Blank, Surrogate, as required
- ___ II. Report Dup., MS, MSD as required
- ___ III. CLP Like Summary (no raw data)
- ___ IV. Data Validation Report
- ___ V. EDD

INVOICE INFORMATION

P.O. # EKC-0723
Bill To:
Richa@rsecinc.com

TURNAROUND REQUIREMENTS

- ___ 24 hr. ___ 48 hr.
- ___ 5 day
- X Standard (15 working days)
- ___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

* All Samples 8260 benzene+toluene only.

Container Supply Number

131716

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: [signature]	Signature	Signature
Date/Time: 7/6/23	Date/Time: 7-6-23 1256 pm	Date/Time	Date/Time
Printed Name: Rich	Printed Name: Greg Rich	Printed Name	Printed Name
Firm: RSEC	Firm: ALS	Firm	Firm

CHAIN OF CUSTODY

SR# K2307613

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE 2 OF 2 COC#

PROJECT NAME: Emerald Kalama
PROJECT NUMBER: EKC-0723
PROJECT MANAGER: Rich Trujillo
COMPANY NAME: RSEC
ADDRESS: 958 Hood View Ct.
CITY/STATE/ZIP: Hood River, OR 97031
E-MAIL ADDRESS: rich@rsecinc.com
PHONE #: 541-490-4223 FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐ SIM PAH☐	Volatile Organics 624☐ 8260☒ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	Metals, Total or Dissolved (See List below)	Cyanide☐ Hex-Chrom☐	(circle) pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS, Turb.	(circle) NH_3-N, COD, TKN, TOC, DOC, NO_2+NO_3, T-Phos	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity ☐ CO_3 ☐ HCO_3 ☐	Dioxins/Furans 1613☐ 8290☐	Dissolved Gases CO_2☐ RSK 175☐Methane☐Ethane☐Ethene☐	REMARKS
Trip Blank	7/6/23				2		X														

REPORT REQUIREMENTS

- ☒ I. Routine Report: Method Blank, Surrogate, as required
- ___ II. Report Dup., MS, MSD as required
- ___ III. CLP Like Summary (no raw data)
- ___ IV. Data Validation Report
- ___ V. EDD

INVOICE INFORMATION

P.O. # EKC-0723
Bill To: rich@rsecinc.com

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 day
☒ Standard (15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: ___ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

8260 B+T only

Container Supply Number

131716

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
Signature	Date/Time	Signature	Date/Time	Signature	Date/Time	Signature	Date/Time
Printed Name	Firm	Printed Name	Firm	Printed Name	Firm	Printed Name	Firm
	7/6/23	Greg Lech	7-6-23 1256 pm				
Rich Trujillo	RSEC	Greg Lech	ALS				

PM HH

Cooler Receipt and Preservation Form

Client Emerald Kalama Service Request K23 076013

Received: 7/6/23 Opened: 7/6/23 By: mm Unloaded: 7/6/23 By: mm

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
1.6		1.6					

4. Was a Temperature Blank present in cooler? NA (Y) N If yes, notate the temperature in the appropriate column above:
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA (Y) N
   If no, were they received on ice and same day as collected? If not, notate the cooler # above and notify the PM. (NA) Y N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

6. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Were samples received in good condition (unbroken) NA (Y) N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA (Y) N
10. Did all sample labels and tags agree with custody papers? NA (Y) N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
13. Were VOA vials received without headspace? *Indicate in the table below.* NA (Y) N
14. Was C12/Res negative? (NA) Y N
15. Were samples received within the method specified time limit? If not, notate the error below and notify the PM (NA) Y N
16. Were 100ml sterile microbiology bottles filled exactly to the 100ml mark? (NA) Y N Underfilled Overfilled

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: _____

Client: RSEC Inc **Service Request:** K2307613
Project: Emerald Kalama/EKC-0723

Sample Name: ISRW-1 **Date Collected:** 07/6/23
Lab Code: K2307613-001 **Date Received:** 07/6/23
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-1 **Date Collected:** 07/6/23
Lab Code: K2307613-001.R01 **Date Received:** 07/6/23
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-2b **Date Collected:** 07/6/23
Lab Code: K2307613-002 **Date Received:** 07/6/23
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-2b **Date Collected:** 07/6/23
Lab Code: K2307613-002.R01 **Date Received:** 07/6/23
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-3 **Date Collected:** 07/6/23
Lab Code: K2307613-003 **Date Received:** 07/6/23
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Client: RSEC Inc **Service Request:** K2307613
Project: Emerald Kalama/EKC-0723

Sample Name: ISRW-3 **Date Collected:** 07/6/23
Lab Code: K2307613-003.R01 **Date Received:** 07/6/23
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-4 **Date Collected:** 07/6/23
Lab Code: K2307613-004 **Date Received:** 07/6/23
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-4 **Date Collected:** 07/6/23
Lab Code: K2307613-004.R01 **Date Received:** 07/6/23
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-5 **Date Collected:** 07/6/23
Lab Code: K2307613-005 **Date Received:** 07/6/23
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-5 **Date Collected:** 07/6/23
Lab Code: K2307613-005.R01 **Date Received:** 07/6/23
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Client: RSEC Inc **Service Request:** K2307613
Project: Emerald Kalama/EKC-0723

Sample Name: ISRW-6 **Date Collected:** 07/6/23
Lab Code: K2307613-006 **Date Received:** 07/6/23
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-6 **Date Collected:** 07/6/23
Lab Code: K2307613-006.R01 **Date Received:** 07/6/23
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-7 **Date Collected:** 07/6/23
Lab Code: K2307613-007 **Date Received:** 07/6/23
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-8 **Date Collected:** 07/6/23
Lab Code: K2307613-008 **Date Received:** 07/6/23
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-8 **Date Collected:** 07/6/23
Lab Code: K2307613-008.R01 **Date Received:** 07/6/23
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Client: RSEC Inc **Service Request:** K2307613
Project: Emerald Kalama/EKC-0723

Sample Name: ISRW-9 **Date Collected:** 07/6/23
Lab Code: K2307613-009 **Date Received:** 07/6/23
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-9 **Date Collected:** 07/6/23
Lab Code: K2307613-009.R01 **Date Received:** 07/6/23
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-10 **Date Collected:** 07/6/23
Lab Code: K2307613-010 **Date Received:** 07/6/23
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-10 **Date Collected:** 07/6/23
Lab Code: K2307613-010.R01 **Date Received:** 07/6/23
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: Trip Blank **Date Collected:** 07/6/23
Lab Code: K2307613-011 **Date Received:** 07/6/23
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Volatile Organic Compounds by GC/MS

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2307613
Project:	Emerald Kalama/EKC-0723	**Date Collected:**	07/06/23 09:00
Sample Matrix:	Water	**Date Received:**	07/06/23 12:56
Sample Name:	ISRW-1	**Units:**	ug/L
Lab Code:	K2307613-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	25	50	07/07/23 20:27	
Toluene	**18000**	500	1000	07/07/23 18:47	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	75	68 - 117	07/07/23 20:27	
Dibromofluoromethane	94	73 - 122	07/07/23 20:27	
Toluene-d8	93	65 - 144	07/07/23 20:27	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2307613
Project:	Emerald Kalama/EKC-0723	**Date Collected:**	07/06/23 09:15
Sample Matrix:	Water	**Date Received:**	07/06/23 12:56
Sample Name:	ISRW-2b	**Units:**	ug/L
Lab Code:	K2307613-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**20**	13	25	07/07/23 20:47	
Toluene	**9800**	250	500	07/07/23 19:07	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	73	68 - 117	07/07/23 20:47	
Dibromofluoromethane	95	73 - 122	07/07/23 20:47	
Toluene-d8	94	65 - 144	07/07/23 20:47	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2307613
Project:	Emerald Kalama/EKC-0723	**Date Collected:**	07/06/23 09:30
Sample Matrix:	Water	**Date Received:**	07/06/23 12:56
Sample Name:	ISRW-3	**Units:**	ug/L
Lab Code:	K2307613-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**110**	100	200	07/07/23 21:07	
Toluene	**77000**	2500	5000	07/07/23 19:27	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	74	68 - 117	07/07/23 21:07	
Dibromofluoromethane	94	73 - 122	07/07/23 21:07	
Toluene-d8	96	65 - 144	07/07/23 21:07	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2307613
Project:	Emerald Kalama/EKC-0723	**Date Collected:**	07/06/23 09:45
Sample Matrix:	Water	**Date Received:**	07/06/23 12:56
Sample Name:	ISRW-4	**Units:**	ug/L
Lab Code:	K2307613-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**13**	5.0	10	07/07/23 21:27	
Toluene	**1800**	50	100	07/07/23 19:47	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	75	68 - 117	07/07/23 21:27	
Dibromofluoromethane	93	73 - 122	07/07/23 21:27	
Toluene-d8	93	65 - 144	07/07/23 21:27	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2307613
Project:	Emerald Kalama/EKC-0723	**Date Collected:**	07/06/23 10:00
Sample Matrix:	Water	**Date Received:**	07/06/23 12:56
Sample Name:	ISRW-5	**Units:**	ug/L
Lab Code:	K2307613-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**51**	50	100	07/07/23 21:47	
Toluene	**56000**	2500	5000	07/07/23 20:07	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	75	68 - 117	07/07/23 21:47	
Dibromofluoromethane	97	73 - 122	07/07/23 21:47	
Toluene-d8	92	65 - 144	07/07/23 21:47	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2307613
Project:	Emerald Kalama/EKC-0723	**Date Collected:**	07/06/23 10:15
Sample Matrix:	Water	**Date Received:**	07/06/23 12:56
Sample Name:	ISRW-6	**Units:**	ug/L
Lab Code:	K2307613-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**11**	5.0	10	07/12/23 15:35	
Toluene	**920**	50	100	07/12/23 14:15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	70	68 - 117	07/12/23 15:35	
Dibromofluoromethane	93	73 - 122	07/12/23 15:35	
Toluene-d8	92	65 - 144	07/12/23 15:35	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2307613
Project:	Emerald Kalama/EKC-0723	**Date Collected:**	07/06/23 10:30
Sample Matrix:	Water	**Date Received:**	07/06/23 12:56
Sample Name:	ISRW-7	**Units:**	ug/L
Lab Code:	K2307613-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	07/12/23 13:56	
Toluene	ND U	0.50	1	07/12/23 13:56	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	70	68 - 117	07/12/23 13:56	
Dibromofluoromethane	93	73 - 122	07/12/23 13:56	
Toluene-d8	92	65 - 144	07/12/23 13:56	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2307613
Project:	Emerald Kalama/EKC-0723	**Date Collected:**	07/06/23 10:45
Sample Matrix:	Water	**Date Received:**	07/06/23 12:56
Sample Name:	ISRW-8	**Units:**	ug/L
Lab Code:	K2307613-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**43**	25	50	07/12/23 15:55	
Toluene	**24000**	1000	2000	07/12/23 14:35	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	73	68 - 117	07/12/23 15:55	
Dibromofluoromethane	93	73 - 122	07/12/23 15:55	
Toluene-d8	93	65 - 144	07/12/23 15:55	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2307613
Project:	Emerald Kalama/EKC-0723	**Date Collected:**	07/06/23 11:00
Sample Matrix:	Water	**Date Received:**	07/06/23 12:56
Sample Name:	ISRW-9	**Units:**	ug/L
Lab Code:	K2307613-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**29**	13	25	07/12/23 16:15	
Toluene	**12000**	250	500	07/12/23 14:55	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	77	68 - 117	07/12/23 16:15	
Dibromofluoromethane	95	73 - 122	07/12/23 16:15	
Toluene-d8	93	65 - 144	07/12/23 16:15	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2307613
Project:	Emerald Kalama/EKC-0723	**Date Collected:**	07/06/23 11:15
Sample Matrix:	Water	**Date Received:**	07/06/23 12:56
Sample Name:	ISRW-10	**Units:**	ug/L
Lab Code:	K2307613-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**55**	50	100	07/12/23 16:35	
Toluene	**30000**	2500	5000	07/12/23 15:15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	74	68 - 117	07/12/23 16:35	
Dibromofluoromethane	94	73 - 122	07/12/23 16:35	
Toluene-d8	93	65 - 144	07/12/23 16:35	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2307613
Project:	Emerald Kalama/EKC-0723	**Date Collected:**	07/06/23
Sample Matrix:	Water	**Date Received:**	07/06/23 12:56
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	K2307613-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	07/12/23 13:36	
Toluene	ND U	0.50	1	07/12/23 13:36	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	75	68 - 117	07/12/23 13:36	
Dibromofluoromethane	95	73 - 122	07/12/23 13:36	
Toluene-d8	94	65 - 144	07/12/23 13:36	

Client: RSEC Inc **Service Request:** K2307613
Project: Emerald Kalama/EKC-0723
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: None

Sample Name	Lab Code	4-Bromofluorobenzene 68 - 117	Dibromofluoromethane 73 - 122	Toluene-d8 65 - 144
ISRW-1	K2307613-001	75	94	93
ISRW-2b	K2307613-002	73	95	94
ISRW-3	K2307613-003	74	94	96
ISRW-4	K2307613-004	75	93	93
ISRW-5	K2307613-005	75	97	92
ISRW-6	K2307613-006	70	93	92
ISRW-7	K2307613-007	70	93	92
ISRW-8	K2307613-008	73	93	93
ISRW-9	K2307613-009	77	95	93
ISRW-10	K2307613-010	74	94	93
Trip Blank	K2307613-011	75	95	94
Lab Control Sample	KQ2312316-03	78	89	93
Duplicate Lab Control Sample	KQ2312316-04	79	92	93
Method Blank	KQ2312316-05	75	95	94
Lab Control Sample	KQ2312439-03	77	87	96
Duplicate Lab Control Sample	KQ2312439-04	75	91	94
Method Blank	KQ2312439-05	72	95	90

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2307613
Project:	Emerald Kalama/EKC-0723	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KQ2312316-05	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	07/07/23 13:49	
Toluene	ND U	0.50	1	07/07/23 13:49	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	75	68 - 117	07/07/23 13:49	
Dibromofluoromethane	95	73 - 122	07/07/23 13:49	
Toluene-d8	94	65 - 144	07/07/23 13:49	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2307613
Project:	Emerald Kalama/EKC-0723	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KQ2312439-05	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	07/12/23 12:36	
Toluene	ND U	0.50	1	07/12/23 12:36	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	72	68 - 117	07/12/23 12:36	
Dibromofluoromethane	95	73 - 122	07/12/23 12:36	
Toluene-d8	90	65 - 144	07/12/23 12:36	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	RSEC Inc	**Service Request:**	K2307613
Project:	Emerald Kalama/EKC-0723	**Date Analyzed:**	07/07/23
Sample Matrix:	Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	**Units:**	ug/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	809943

	Lab Control Sample KQ2312316-03			Duplicate Lab Control Sample KQ2312316-04					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Benzene	9.46	10.0	95	9.40	10.0	94	69-124	<1	30
Toluene	8.87	10.0	89	8.85	10.0	89	69-124	<1	30

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	RSEC Inc	**Service Request:**	K2307613
Project:	Emerald Kalama/EKC-0723	**Date Analyzed:**	07/12/23
Sample Matrix:	Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	**Units:**	ug/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	810373

	Lab Control Sample KQ2312439-03			Duplicate Lab Control Sample KQ2312439-04					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Benzene	9.13	10.0	91	9.16	10.0	92	69-124	<1	30
Toluene	8.46	10.0	85	8.49	10.0	85	69-124	<1	30

October Semi-Annual Sampling

Laboratory Data Report

November 14, 2023 Service Request No:K2311682

Rich Truax
RSEC Inc
958 Hood View Ct.
Hood River, OR 97031

Laboratory Results for: Emerald Kalama

Dear Rich,

Enclosed are the results of the sample(s) submitted to our laboratory October 12, 2023
For your reference, these analyses have been assigned our service request number **K2311682.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3364. You may also contact me via email at howard.holmes@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Howard Holmes
Project Manager

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626
PHONE +1 360 577 7222 | FAX +1 360 636 1068
ALS Group USA, Corp.
dba ALS Environmental

1317 South 13th Ave, Kelso, WA 98626 | 1-360-577-7222 | www.alsglobal.com

Client: RSEC Inc
Project: Emerald Kalama
Sample Matrix: Ground Water, Water

Service Request: K2311682
Date Received: 10/12/2023

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Eighteen water, ground water samples were received for analysis at ALS Environmental on 10/12/2023. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivolatiles by GC/MS:

No significant anomalies were noted with this analysis.

Volatiles by GC/MS:

Method 8260C:Multiple samples required dilution due to the presence of elevated levels of target analyte. The reporting limits are adjusted to reflect the dilution.

Approved by  Date 11/14/2023

SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: ISRW-2B	Lab ID: K2311682-002					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	8.5			1.0	ug/L	8260C
Toluene	3600			50	ug/L	8260C

CLIENT ID: ISRW-3	Lab ID: K2311682-003					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	59			25	ug/L	8260C
Toluene	25000			250	ug/L	8260C

CLIENT ID: ISRW-4	Lab ID: K2311682-004					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	4.1			0.50	ug/L	8260C
Toluene	19			0.50	ug/L	8260C

CLIENT ID: ISRW-5	Lab ID: K2311682-005					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	14			10	ug/L	8260C
Toluene	14000			100	ug/L	8260C

CLIENT ID: ISRW-6	Lab ID: K2311682-006					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	12			0.50	ug/L	8260C
Toluene	480			5.0	ug/L	8260C

CLIENT ID: ISRW-9	Lab ID: K2311682-009					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	22			10	ug/L	8260C
Toluene	5000			100	ug/L	8260C

CLIENT ID: ISRW-10	Lab ID: K2311682-010					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	26			10	ug/L	8260C
Toluene	17000			130	ug/L	8260C

CLIENT ID: MW-239	Lab ID: K2311682-014					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	9.3			0.50	ug/L	8260C
Toluene	8.7			0.50	ug/L	8260C

CLIENT ID: MW-97	Lab ID: K2311682-015					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	5.7			0.50	ug/L	8260C
Toluene	4.8			0.50	ug/L	8260C

SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: NIA-W.SUMP			Lab ID: K2311682-012			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Biphenyl	2.9			0.94	ug/L	8270D
Diphenyl Ether	820			10	ug/L	8270D

CLIENT ID: NIA-E.SUMP			Lab ID: K2311682-011			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Diphenyl Ether	160			1.0	ug/L	8270D

CLIENT ID: ISRW-1			Lab ID: K2311682-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Toluene	1500			50	ug/L	8260C

CLIENT ID: ISRW-8			Lab ID: K2311682-008			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Toluene	8100			500	ug/L	8260C

Client: RSEC Inc **Service Request:**K2311682

Project: Emerald Kalama/EKC-1023

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K2311682-001	ISRW-1	10/12/2023	0830
K2311682-002	ISRW-2B	10/12/2023	0845
K2311682-003	ISRW-3	10/12/2023	0900
K2311682-004	ISRW-4	10/12/2023	0915
K2311682-005	ISRW-5	10/12/2023	0930
K2311682-006	ISRW-6	10/12/2023	0945
K2311682-007	ISRW-7	10/12/2023	1000
K2311682-008	ISRW-8	10/12/2023	1015
K2311682-009	ISRW-9	10/12/2023	1030
K2311682-010	ISRW-10	10/12/2023	1045
K2311682-011	NIA-E.SUMP	10/12/2023	1130
K2311682-012	NIA-W.SUMP	10/12/2023	1100
K2311682-013	KC-14	10/12/2023	1200
K2311682-014	MW-239	10/12/2023	1230
K2311682-015	MW-97	10/12/2023	1300
K2311682-016	MW-243	10/12/2023	1330
K2311682-017	MW-250	10/12/2023	1400
K2311682-018	Trip Blanks	10/12/2023	

CHAIN OF CUSTODY

SR# K2311682

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE 1 OF 2 COC#

PROJECT NAME: Emerald Kalama
PROJECT NUMBER: EKC-1023
PROJECT MANAGER: Rich Truex
COMPANY NAME: RSEC
ADDRESS: 958 Hood View Ct.
CITY/STATE/ZIP: Hood River, OR 97031
E-MAIL ADDRESS: richa@rsecinc.com
PHONE #: 541.490.4223 FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ SIM PAH☐	Volatile Organics 624☐ 8260☐ 8270LL☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	Metals, Total or Dissolved (See List below)	Cyanide☐ Hex-Chrom☐	(circle) pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS, Turb.	(circle) NH_3-N, COD, TKN, TOC, DOC, NO_2+NO_3, T-Phos	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity ☐ CO_3 ☐ HCO_3 ☐	Dioxins/Furans 1613☐ 8290☐	Dissolved Gases CO_2☐ Ethane☐ Ethene☐ RSK 175☐ Methane☐				REMARKS
ISRW-1	10/12/23	0830		GW	3			X																	
ISRW-2b		0845																							
ISRW-3		0900																							
ISRW-4		0915																							
ISRW-5		0930																							
ISRW-6		0945																							
ISRW-7		1000																							
ISRW-8		1015																							
ISRW-9		1030																							
ISRW-10	↓	1045		↓	↓			↓																	

REPORT REQUIREMENTS

- X I. Routine Report: Method Blank, Surrogate, as required
- ___ II. Report Dup., MS, MSD as required
- ___ III. CLP Like Summary (no raw data)
- ___ IV. Data Validation Report
- ___ V. EDD

INVOICE INFORMATION

P.O. # EKC-1023
Bill To: richa@rsecinc.com

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 day
X Standard (15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

8260 - Benzene + Toluene only

Container Supply Number

133765

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
Signature	Date/Time 10/12/23	Signature	Date/Time 10/12/23 1520	Signature	Date/Time	Signature	Date/Time
Printed Name R. Truex	Firm RSEC	Printed Name Naomy Redden	Firm AS	Printed Name	Firm	Printed Name	Firm

CHAIN OF CUSTODY

SR# K2311682

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE 2 OF 2 COC#

PROJECT NAME: Emerald Kalama
PROJECT NUMBER: EKC-1023
PROJECT MANAGER: Rich Truax
COMPANY NAME: RSEC
ADDRESS: 958 Hood View Ct
CITY/STATE/ZIP: Hood River, OR 97031
E-MAIL ADDRESS: richa@rsecinc.com
PHONE #: 541-490-4223 FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☒ 8270LL☐ SIM PAH☐	Volatile Organics 624☐ 8260☒ Hydrocarbons Gas☐ Diesel☐ (*see below) Oil☐ Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	Metals, Total or Dissolved (See List below)	Cyanide☐ Hex-Chrom☐	(circle) pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS, Turb.	(circle) NH_3-N, COD, TKN, TOC, DOC, NO_2+NO_3, T-Phos	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity☐ CO_3☐ HCO_3☐	Dioxins/Furans 1613☐ 8290☐	Dissolved Gases CO_2☐ RSK 175☐ Methane☐ Ethane☐ Ethene☐	REMARKS
N/A-E.SUMP	10/12/23	1130		GW	5	X	X												
N/A-W.SUMP		1100		GW	5	X	X												
KC-14		1200			3		X												
MW-239		1230					X												
MW-97		1300					X												
MW-243		1330					X												
MW-250		1400					X												

REPORT REQUIREMENTS

X I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. CLP Like Summary (no raw data)
___ IV. Data Validation Report
___ V. EDD

INVOICE INFORMATION

P.O. # EKC-1023
Bill To: richa@rsecinc.com

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 day
X Standard (15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

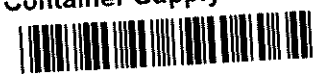
Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: ___ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

8260 - Benzene + Toluene
8270 - biphenyl + diphenyl ether (DPO)

Container Supply Number



133765

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
Signature: RT	Date/Time: 10/12/23	Signature	Date/Time: 10/12/23 1520	Signature	Date/Time	Signature	Date/Time
Printed Name: R. Truax	Firm: RSEC	Printed Name: Naomi Rubenstein	Firm	Printed Name	Firm	Printed Name	Firm

PM AM

Cooler Receipt and Preservation Form

Client RSEC Service Request K23 11682

Received: 10-12-23 Opened: 10-12-23 By: DS Unloaded: 10-12-23 By: DS

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? _____
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified if out of temp	Tracking Number NA	Filed
9.1		IR06					
9.2		IR06					

4. Was a Temperature Blank present in cooler? NA (Y) N If yes, notate the temperature in the appropriate column above:
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA (Y) N
   If no, were they received on ice and same day as collected? If not, notate the cooler # above and notify the PM. (NA) Y N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

6. Packing material: *Inserts* *Baggies* (*Bubble Wrap*) *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Were samples received in good condition (unbroken) NA (Y) N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA (Y) N
10. Did all sample labels and tags agree with custody papers? NA (Y) N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
13. Were VOA vials received without headspace? *Indicate in the table below.* NA (Y) N
14. Was C12/Res negative? ~~NA~~ (Y) N
15. Were samples received within the method specified time limit? If not, notate the error below and notify the PM (NA) Y N
16. Were 100ml sterile microbiology bottles filled exactly to the 100ml mark? (NA) Y N Underfilled Overfilled

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: _____

Client: RSEC Inc **Service Request:** K2311682
Project: Emerald Kalama/EKC-1023

Sample Name: ISRW-1 **Date Collected:** 10/12/23
Lab Code: K2311682-001 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-1 **Date Collected:** 10/12/23
Lab Code: K2311682-001.R01 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-2B **Date Collected:** 10/12/23
Lab Code: K2311682-002 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-2B **Date Collected:** 10/12/23
Lab Code: K2311682-002.R01 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-3 **Date Collected:** 10/12/23
Lab Code: K2311682-003 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Client: RSEC Inc **Service Request:** K2311682
Project: Emerald Kalama/EKC-1023

Sample Name: ISRW-3 **Date Collected:** 10/12/23
Lab Code: K2311682-003.R01 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-4 **Date Collected:** 10/12/23
Lab Code: K2311682-004 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-5 **Date Collected:** 10/12/23
Lab Code: K2311682-005 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-5 **Date Collected:** 10/12/23
Lab Code: K2311682-005.R01 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-6 **Date Collected:** 10/12/23
Lab Code: K2311682-006 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Client: RSEC Inc **Service Request:** K2311682
Project: Emerald Kalama/EKC-1023

Sample Name: ISRW-6 **Date Collected:** 10/12/23
Lab Code: K2311682-006.R01 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-7 **Date Collected:** 10/12/23
Lab Code: K2311682-007 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-8 **Date Collected:** 10/12/23
Lab Code: K2311682-008 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-8 **Date Collected:** 10/12/23
Lab Code: K2311682-008.R01 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-9 **Date Collected:** 10/12/23
Lab Code: K2311682-009 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Client: RSEC Inc **Service Request:** K2311682
Project: Emerald Kalama/EKC-1023

Sample Name: ISRW-9 **Date Collected:** 10/12/23
Lab Code: K2311682-009.R01 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-10 **Date Collected:** 10/12/23
Lab Code: K2311682-010 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-10 **Date Collected:** 10/12/23
Lab Code: K2311682-010.R01 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: NIA-E.SUMP **Date Collected:** 10/12/23
Lab Code: K2311682-011 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER
8270D	VWILSON	CDEGNER

Client: RSEC Inc **Service Request:** K2311682
Project: Emerald Kalama/EKC-1023

Sample Name: NIA-W.SUMP **Date Collected:** 10/12/23
Lab Code: K2311682-012 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER
8270D	VWILSON	CDEGNER

Sample Name: NIA-W.SUMP **Date Collected:** 10/12/23
Lab Code: K2311682-012.R01 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8270D	VWILSON	CDEGNER

Sample Name: KC-14 **Date Collected:** 10/12/23
Lab Code: K2311682-013 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: MW-239 **Date Collected:** 10/12/23
Lab Code: K2311682-014 **Date Received:** 10/12/23
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023		

Sample Name:	MW-97	**Date Collected:**	10/12/23
Lab Code:	K2311682-015	**Date Received:**	10/12/23
Sample Matrix:	Ground Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name:	MW-243	**Date Collected:**	10/12/23
Lab Code:	K2311682-016	**Date Received:**	10/12/23
Sample Matrix:	Ground Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name:	MW-250	**Date Collected:**	10/12/23
Lab Code:	K2311682-017	**Date Received:**	10/12/23
Sample Matrix:	Ground Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name:	Trip Blanks	**Date Collected:**	10/12/23
Lab Code:	K2311682-018	**Date Received:**	10/12/23
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	10/12/23 08:30
Sample Matrix:	Ground Water	**Date Received:**	10/12/23 15:20
Sample Name:	ISRW-1	**Units:**	ug/L
Lab Code:	K2311682-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	5.0	10	10/16/23 19:30	
Toluene	**1500**	50	100	10/16/23 16:21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	78	68 - 117	10/16/23 19:30	
Dibromofluoromethane	114	73 - 122	10/16/23 19:30	
Toluene-d8	101	65 - 144	10/16/23 19:30	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	10/12/23 08:45
Sample Matrix:	Ground Water	**Date Received:**	10/12/23 15:20
Sample Name:	ISRW-2B	**Units:**	ug/L
Lab Code:	K2311682-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**8.5**	1.0	2	10/16/23 19:51	
Toluene	**3600**	50	100	10/17/23 16:57	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	82	68 - 117	10/16/23 19:51	
Dibromofluoromethane	116	73 - 122	10/16/23 19:51	
Toluene-d8	99	65 - 144	10/16/23 19:51	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	10/12/23 09:00
Sample Matrix:	Ground Water	**Date Received:**	10/12/23 15:20
Sample Name:	ISRW-3	**Units:**	ug/L
Lab Code:	K2311682-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**59**	25	50	10/16/23 20:12	
Toluene	**25000**	250	500	10/16/23 17:03	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	76	68 - 117	10/16/23 20:12	
Dibromofluoromethane	112	73 - 122	10/16/23 20:12	
Toluene-d8	98	65 - 144	10/16/23 20:12	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	10/12/23 09:15
Sample Matrix:	Ground Water	**Date Received:**	10/12/23 15:20
Sample Name:	ISRW-4	**Units:**	ug/L
Lab Code:	K2311682-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**4.1**	0.50	1	10/16/23 13:33	
Toluene	**19**	0.50	1	10/16/23 13:33	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	79	68 - 117	10/16/23 13:33	
Dibromofluoromethane	115	73 - 122	10/16/23 13:33	
Toluene-d8	103	65 - 144	10/16/23 13:33	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	10/12/23 09:30
Sample Matrix:	Ground Water	**Date Received:**	10/12/23 15:20
Sample Name:	ISRW-5	**Units:**	ug/L
Lab Code:	K2311682-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**14**	10	20	10/16/23 20:33	
Toluene	**14000**	100	200	10/16/23 17:24	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	81	68 - 117	10/16/23 20:33	
Dibromofluoromethane	113	73 - 122	10/16/23 20:33	
Toluene-d8	96	65 - 144	10/16/23 20:33	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	10/12/23 09:45
Sample Matrix:	Ground Water	**Date Received:**	10/12/23 15:20
Sample Name:	ISRW-6	**Units:**	ug/L
Lab Code:	K2311682-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**12**	0.50	1	10/16/23 19:09	
Toluene	**480**	5.0	10	10/16/23 17:45	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	79	68 - 117	10/16/23 19:09	
Dibromofluoromethane	114	73 - 122	10/16/23 19:09	
Toluene-d8	96	65 - 144	10/16/23 19:09	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	10/12/23 10:00
Sample Matrix:	Ground Water	**Date Received:**	10/12/23 15:20
Sample Name:	ISRW-7	**Units:**	ug/L
Lab Code:	K2311682-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	10/16/23 13:54	
Toluene	ND U	0.50	1	10/16/23 13:54	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	77	68 - 117	10/16/23 13:54	
Dibromofluoromethane	111	73 - 122	10/16/23 13:54	
Toluene-d8	105	65 - 144	10/16/23 13:54	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	10/12/23 10:15
Sample Matrix:	Ground Water	**Date Received:**	10/12/23 15:20
Sample Name:	ISRW-8	**Units:**	ug/L
Lab Code:	K2311682-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	25	50	10/16/23 20:54	
Toluene	**8100**	500	1000	10/16/23 18:06	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	81	68 - 117	10/16/23 20:54	
Dibromofluoromethane	115	73 - 122	10/16/23 20:54	
Toluene-d8	98	65 - 144	10/16/23 20:54	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	10/12/23 10:30
Sample Matrix:	Ground Water	**Date Received:**	10/12/23 15:20
Sample Name:	ISRW-9	**Units:**	ug/L
Lab Code:	K2311682-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**22**	10	20	10/16/23 21:15	
Toluene	**5000**	100	200	10/16/23 18:27	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	79	68 - 117	10/16/23 21:15	
Dibromofluoromethane	116	73 - 122	10/16/23 21:15	
Toluene-d8	101	65 - 144	10/16/23 21:15	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	10/12/23 10:45
Sample Matrix:	Ground Water	**Date Received:**	10/12/23 15:20
Sample Name:	ISRW-10	**Units:**	ug/L
Lab Code:	K2311682-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**26**	10	20	10/16/23 21:36	
Toluene	**17000**	130	250	10/16/23 18:48	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	78	68 - 117	10/16/23 21:36	
Dibromofluoromethane	117	73 - 122	10/16/23 21:36	
Toluene-d8	99	65 - 144	10/16/23 21:36	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	10/12/23 11:30
Sample Matrix:	Ground Water	**Date Received:**	10/12/23 15:20
Sample Name:	NIA-E.SUMP	**Units:**	ug/L
Lab Code:	K2311682-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	10/16/23 14:15	
Toluene	ND U	0.50	1	10/16/23 14:15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	84	68 - 117	10/16/23 14:15	
Dibromofluoromethane	114	73 - 122	10/16/23 14:15	
Toluene-d8	99	65 - 144	10/16/23 14:15	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	10/12/23 11:00
Sample Matrix:	Ground Water	**Date Received:**	10/12/23 15:20
Sample Name:	NIA-W.SUMP	**Units:**	ug/L
Lab Code:	K2311682-012	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	10/16/23 14:36	
Toluene	ND U	0.50	1	10/16/23 14:36	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	86	68 - 117	10/16/23 14:36	
Dibromofluoromethane	109	73 - 122	10/16/23 14:36	
Toluene-d8	96	65 - 144	10/16/23 14:36	

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	10/12/23 12:00
Sample Matrix:	Ground Water	**Date Received:**	10/12/23 15:20
Sample Name:	KC-14	**Units:**	ug/L
Lab Code:	K2311682-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	10/16/23 14:57	
Toluene	ND U	0.50	1	10/16/23 14:57	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	80	68 - 117	10/16/23 14:57	
Dibromofluoromethane	117	73 - 122	10/16/23 14:57	
Toluene-d8	101	65 - 144	10/16/23 14:57	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	10/12/23 12:30
Sample Matrix:	Ground Water	**Date Received:**	10/12/23 15:20
Sample Name:	MW-239	**Units:**	ug/L
Lab Code:	K2311682-014	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**9.3**	0.50	1	10/16/23 15:18	
Toluene	**8.7**	0.50	1	10/16/23 15:18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	89	68 - 117	10/16/23 15:18	
Dibromofluoromethane	107	73 - 122	10/16/23 15:18	
Toluene-d8	97	65 - 144	10/16/23 15:18	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	10/12/23 13:00
Sample Matrix:	Ground Water	**Date Received:**	10/12/23 15:20
Sample Name:	MW-97	**Units:**	ug/L
Lab Code:	K2311682-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**5.7**	0.50	1	10/16/23 15:39	
Toluene	**4.8**	0.50	1	10/16/23 15:39	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	82	68 - 117	10/16/23 15:39	
Dibromofluoromethane	108	73 - 122	10/16/23 15:39	
Toluene-d8	107	65 - 144	10/16/23 15:39	

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	10/12/23 13:30
Sample Matrix:	Ground Water	**Date Received:**	10/12/23 15:20
Sample Name:	MW-243	**Units:**	ug/L
Lab Code:	K2311682-016	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	10/16/23 16:00	
Toluene	ND U	0.50	1	10/16/23 16:00	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	86	68 - 117	10/16/23 16:00	
Dibromofluoromethane	114	73 - 122	10/16/23 16:00	
Toluene-d8	97	65 - 144	10/16/23 16:00	

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	10/12/23 14:00
Sample Matrix:	Ground Water	**Date Received:**	10/12/23 15:20
Sample Name:	MW-250	**Units:**	ug/L
Lab Code:	K2311682-017	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	10/17/23 17:24	
Toluene	ND U	0.50	1	10/17/23 17:24	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	74	68 - 117	10/17/23 17:24	
Dibromofluoromethane	122	73 - 122	10/17/23 17:24	
Toluene-d8	91	65 - 144	10/17/23 17:24	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	10/12/23
Sample Matrix:	Water	**Date Received:**	10/12/23 15:20
Sample Name:	Trip Blanks	**Units:**	ug/L
Lab Code:	K2311682-018	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	10/16/23 13:12	
Toluene	ND U	0.50	1	10/16/23 13:12	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	84	68 - 117	10/16/23 13:12	
Dibromofluoromethane	109	73 - 122	10/16/23 13:12	
Toluene-d8	99	65 - 144	10/16/23 13:12	

Semivolatile Organic Compounds by GC/MS

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	10/12/23 11:30
Sample Matrix:	Ground Water	**Date Received:**	10/12/23 15:20
Sample Name:	NIA-E.SUMP	**Units:**	ug/L
Lab Code:	K2311682-011	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS SIM

Analysis Method: 8270D
Prep Method: EPA 3520C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Biphenyl	ND U	0.94	1	11/09/23 14:22	10/19/23	
Diphenyl Ether	**160**	1.0	1	11/09/23 14:22	10/19/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	92	48 - 114	11/09/23 14:22	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	10/12/23 11:00
Sample Matrix:	Ground Water	**Date Received:**	10/12/23 15:20
Sample Name:	NIA-W.SUMP	**Units:**	ug/L
Lab Code:	K2311682-012	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS SIM

Analysis Method: 8270D
Prep Method: EPA 3520C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Biphenyl	**2.9**	0.94	1	11/09/23 14:47	10/19/23	
Diphenyl Ether	**820**	10	10	11/09/23 15:18	10/19/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	90	48 - 114	11/09/23 14:47	

QC Summary Forms

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: RSEC Inc **Service Request:** K2311682
Project: Emerald Kalama/EKC-1023
Sample Matrix: Ground Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: None

Sample Name	Lab Code	4-Bromofluorobenzene 68 - 117	Dibromofluoromethane 73 - 122	Toluene-d8 65 - 144
ISRW-1	K2311682-001	78	114	101
ISRW-2B	K2311682-002	82	116	99
ISRW-3	K2311682-003	76	112	98
ISRW-4	K2311682-004	79	115	103
ISRW-5	K2311682-005	81	113	96
ISRW-6	K2311682-006	79	114	96
ISRW-7	K2311682-007	77	111	105
ISRW-8	K2311682-008	81	115	98
ISRW-9	K2311682-009	79	116	101
ISRW-10	K2311682-010	78	117	99
NIA-E.SUMP	K2311682-011	84	114	99
NIA-W.SUMP	K2311682-012	86	109	96
KC-14	K2311682-013	80	117	101
MW-239	K2311682-014	89	107	97
MW-97	K2311682-015	82	108	107
MW-243	K2311682-016	86	114	97
MW-250	K2311682-017	74	122	91
Lab Control Sample	KQ2318438-03	91	102	102
Duplicate Lab Control Sample	KQ2318438-04	97	105	101
Method Blank	KQ2318438-05	82	112	98
Lab Control Sample	KQ2318545-03	97	101	101
Duplicate Lab Control Sample	KQ2318545-04	98	99	102
Method Blank	KQ2318545-05	77	116	94

Client: RSEC Inc **Service Request:** K2311682
Project: Emerald Kalama/EKC-1023
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: None

Sample Name	Lab Code	4-Bromofluorobenzene 68 - 117	Dibromofluoromethane 73 - 122	Toluene-d8 65 - 144
Trip Blanks	K2311682-018	84	109	99

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KQ2318438-05	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	10/16/23 12:50	
Toluene	ND U	0.50	1	10/16/23 12:50	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	82	68 - 117	10/16/23 12:50	
Dibromofluoromethane	112	73 - 122	10/16/23 12:50	
Toluene-d8	98	65 - 144	10/16/23 12:50	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KQ2318545-05	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	10/17/23 15:11	
Toluene	ND U	0.50	1	10/17/23 15:11	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	77	68 - 117	10/17/23 15:11	
Dibromofluoromethane	116	73 - 122	10/17/23 15:11	
Toluene-d8	94	65 - 144	10/17/23 15:11	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Analyzed:**	10/16/23
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	**Units:**	ug/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	820626

	Lab Control Sample KQ2318438-03			Duplicate Lab Control Sample KQ2318438-04					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Benzene	9.14	10.0	91	9.53	10.0	95	69-124	4	30
Toluene	9.59	10.0	96	10.1	10.0	101	69-124	5	30

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Analyzed:**	10/17/23
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	**Units:**	ug/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	820814

	Lab Control Sample KQ2318545-03			Duplicate Lab Control Sample KQ2318545-04					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Benzene	9.00	10.0	90	9.07	10.0	91	69-124	<1	30
Toluene	8.92	10.0	89	9.20	10.0	92	69-124	3	30

Client: RSEC Inc **Service Request:** K2311682
Project: Emerald Kalama/EKC-1023
Sample Matrix: Ground Water

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS SIM

Analysis Method: 8270D
Extraction Method: EPA 3520C

Sample Name	Lab Code	2-Fluorobiphenyl 48 - 114
NIA-E.SUMP	K2311682-011	92
NIA-W.SUMP	K2311682-012	90
Method Blank	KQ2318524-01	99
Lab Control Sample	KQ2318524-02	98
Duplicate Lab Control Sample	KQ2318524-03	92

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KQ2318524-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS SIM

Analysis Method: 8270D
Prep Method: EPA 3520C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Biphenyl	ND U	0.94	1	11/09/23 13:10	10/19/23	
Diphenyl Ether	ND U	1.0	1	11/09/23 13:10	10/19/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	99	48 - 114	11/09/23 13:10	

Client:	RSEC Inc	**Service Request:**	K2311682
Project:	Emerald Kalama/EKC-1023	**Date Analyzed:**	11/09/23
Sample Matrix:	Ground Water	**Date Extracted:**	10/19/23

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS SIM

Analysis Method:	8270D	**Units:**	ug/L
Prep Method:	EPA 3520C	**Basis:**	NA
		Analysis Lot:	823516

	Lab Control Sample KQ2318524-02			Duplicate Lab Control Sample KQ2318524-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Biphenyl	4.78	5.00	96	4.54	5.00	91	70-130	5	30
Diphenyl Ether	4.75	5.00	95	4.50	5.00	90	70-130	6	30

January ISRW Sampling

Laboratory Data Report

January 30, 2024 Service Request No:K2400441

Rich Truax
RSEC Inc
958 Hood View Ct.
Hood River, OR 97031

Laboratory Results for: Emerald Kalama

Dear Rich,

Enclosed are the results of the sample(s) submitted to our laboratory January 11, 2024
For your reference, these analyses have been assigned our service request number **K2400441.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3364. You may also contact me via email at howard.holmes@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Howard Holmes
Project Manager

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626
PHONE +1 360 577 7222 | FAX +1 360 636 1068
ALS Group USA, Corp.
dba ALS Environmental

1317 South 13th Ave, Kelso, WA 98626 | 1-360-577-7222 | www.alsglobal.com

Client: RSEC Inc
Project: Emerald Kalama
Sample Matrix: Water, Ground Water

Service Request: K2400441
Date Received: 01/11/2024

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Eleven water, ground water samples were received for analysis at ALS Environmental on 01/11/2024. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Volatiles by GC/MS:

Method 8260C:Multiple samples required dilution due to the presence of elevated levels of target analyte. The reporting limits are adjusted to reflect the dilution.

Approved by  Date 01/30/2024

SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: ISRW-2b			Lab ID: K2400441-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	62			50	ug/L	8260C
Toluene	40000			1000	ug/L	8260C

CLIENT ID: ISRW-4			Lab ID: K2400441-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	19			5.0	ug/L	8260C
Toluene	3100			50	ug/L	8260C

CLIENT ID: ISRW-6			Lab ID: K2400441-006			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	17			5.0	ug/L	8260C
Toluene	1900			50	ug/L	8260C

CLIENT ID: ISRW-8			Lab ID: K2400441-008			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	71			50	ug/L	8260C
Toluene	37000			1000	ug/L	8260C

CLIENT ID: ISRW-10			Lab ID: K2400441-010			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	22			13	ug/L	8260C
Toluene	12000			250	ug/L	8260C

CLIENT ID: ISRW-1			Lab ID: K2400441-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Toluene	14000			500	ug/L	8260C

CLIENT ID: ISRW-3			Lab ID: K2400441-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Toluene	48000			1300	ug/L	8260C

CLIENT ID: ISRW-5			Lab ID: K2400441-005			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Toluene	24000			500	ug/L	8260C

CLIENT ID: ISRW-9			Lab ID: K2400441-009			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Toluene	16000			500	ug/L	8260C

Client: RSEC Inc **Service Request:**K2400441

Project: Emerald Kalama/EKC-0124

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K2400441-001	ISRW-1	1/11/2024	0900
K2400441-002	ISRW-2b	1/11/2024	0915
K2400441-003	ISRW-3	1/11/2024	0930
K2400441-004	ISRW-4	1/11/2024	0945
K2400441-005	ISRW-5	1/11/2024	1000
K2400441-006	ISRW-6	1/11/2024	1015
K2400441-007	ISRW-7	1/11/2024	1030
K2400441-008	ISRW-8	1/11/2024	1045
K2400441-009	ISRW-9	1/11/2024	1100
K2400441-010	ISRW-10	1/11/2024	1115
K2400441-011	Trip Blank	1/11/2024	

CHAIN OF CUSTODY

ALS Environmental

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

SR# K2400441

PAGE ____ OF ____ COC# ____

PROJECT NAME: Emerald Kalama
PROJECT NUMBER: EKC-0124
PROJECT MANAGER: Rick Truax
COMPANY NAME: RSEC
ADDRESS: 958 Hood View Ct.
CITY/STATE/ZIP: Hood River, OR 97031
E-MAIL ADDRESS: rich@rsecinc.com
PHONE #: 541-490-4223 FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS		Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐ SIM PAH☐	Volatile Organics 624☐ 8260☒ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	Metals, Total or Dissolved (See List below)	Cyanide☐	(circle) pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS, Turb. Hex-Chrom☐	(circle) NH3-N, COD, TKN, TOC, DOC, NO2+NO3, T-Phos	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity☐ CO3☐ HCO3☐	Dioxins/Furans 1613☐ 8290☐	Dissolved Gases RSK 175☐ Methane☐ Ethane☐ Ethene☐ CO2☐				REMARKS
ISRW-1	1/11/24	0900		GW	3			X																	Benzene +
ISRW-2b	↓	0915		↓	↓			↓																	Toluene
ISRW-3	↓	0930		↓	↓			↓																	only
ISRW-4	↓	0945		↓	↓			↓																	↓
ISRW-5	↓	1000		↓	↓			↓																	↓
ISRW-6	↓	1015		↓	↓			↓																	↓
ISRW-7	↓	1030		↓	↓			↓																	↓
ISRW-8	↓	1045		↓	↓			↓																	↓
ISRW-9	↓	1100		↓	↓			↓																	↓
ISRW-10	↓	1115		↓	↓			↓																	↓

REPORT REQUIREMENTS

X I. Routine Report: Method Blank, Surrogate, as required

___ II. Report Dup., MS, MSD as required

___ III. CLP Like Summary (no raw data)

___ IV. Data Validation Report

___ V. EDD

INVOICE INFORMATION

P.O. # EKC-0124

Bill To: rich@rsecinc.com

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.

___ 5 day

X Standard (15 working days)

___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

***INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: ____ (CIRCLE ONE)**

SPECIAL INSTRUCTIONS/COMMENTS:

Some samples elevated concentrations some not. Please try to achieve benzene detection < 1.0 ug/L where possible.
* No Trip Blank / Don't need this set *

Container Supply Number 135418

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
Signature: [signature]	Date/Time: 1/11/24	Signature: M Mulligan	Date/Time: 1/11/24 1430	Signature	Date/Time	Signature	Date/Time
Printed Name: R. Truax	Firm: RSEC	Printed Name: M Mulligan	Firm: ALS	Printed Name	Firm	Printed Name	Firm

PM HH

Cooler Receipt and Preservation Form

Client RSEC Service Request K24 00441

Received: 1/11/24 Opened: 1/11/24 By: MM Unloaded: 1/11/24 By: MM

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
3.4		IR01					

4. Was a Temperature Blank present in cooler? NA (Y) N If yes, notate the temperature in the appropriate column above:
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA (Y) N
   If no, were they received on ice and same day as collected? If not, notate the cooler # above and notify the PM. (NA) Y N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

6. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Were samples received in good condition (unbroken) NA (Y) N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA (Y) N
10. Did all sample labels and tags agree with custody papers? NA (Y) N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N MM
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
13. Were VOA vials received without headspace? *Indicate in the table below.* NA (Y) N
14. Was C12/Res negative? (NA) Y N
15. Were samples received within the method specified time limit? If not, notate the error below and notify the PM (NA) Y N
16. Were 100ml sterile microbiology bottles filled exactly to the 100ml mark? (NA) Y N Underfilled Overfilled

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: Received 2 trip blanks not on COC

Client: RSEC Inc **Service Request:** K2400441
Project: Emerald Kalama/EKC-0124

Sample Name: ISRW-1 **Date Collected:** 01/11/24
Lab Code: K2400441-001 **Date Received:** 01/11/24
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-1 **Date Collected:** 01/11/24
Lab Code: K2400441-001.R01 **Date Received:** 01/11/24
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-2b **Date Collected:** 01/11/24
Lab Code: K2400441-002 **Date Received:** 01/11/24
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-2b **Date Collected:** 01/11/24
Lab Code: K2400441-002.R01 **Date Received:** 01/11/24
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-3 **Date Collected:** 01/11/24
Lab Code: K2400441-003 **Date Received:** 01/11/24
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Client: RSEC Inc **Service Request:** K2400441
Project: Emerald Kalama/EKC-0124

Sample Name: ISRW-3 **Date Collected:** 01/11/24
Lab Code: K2400441-003.R01 **Date Received:** 01/11/24
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-4 **Date Collected:** 01/11/24
Lab Code: K2400441-004 **Date Received:** 01/11/24
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-4 **Date Collected:** 01/11/24
Lab Code: K2400441-004.R01 **Date Received:** 01/11/24
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-5 **Date Collected:** 01/11/24
Lab Code: K2400441-005 **Date Received:** 01/11/24
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-5 **Date Collected:** 01/11/24
Lab Code: K2400441-005.R01 **Date Received:** 01/11/24
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Client: RSEC Inc **Service Request:** K2400441
Project: Emerald Kalama/EKC-0124

Sample Name: ISRW-6 **Date Collected:** 01/11/24
Lab Code: K2400441-006 **Date Received:** 01/11/24
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-6 **Date Collected:** 01/11/24
Lab Code: K2400441-006.R01 **Date Received:** 01/11/24
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-7 **Date Collected:** 01/11/24
Lab Code: K2400441-007 **Date Received:** 01/11/24
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-8 **Date Collected:** 01/11/24
Lab Code: K2400441-008 **Date Received:** 01/11/24
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-8 **Date Collected:** 01/11/24
Lab Code: K2400441-008.R01 **Date Received:** 01/11/24
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Client: RSEC Inc **Service Request:** K2400441
Project: Emerald Kalama/EKC-0124

Sample Name: ISRW-9 **Date Collected:** 01/11/24
Lab Code: K2400441-009 **Date Received:** 01/11/24
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-9 **Date Collected:** 01/11/24
Lab Code: K2400441-009.R01 **Date Received:** 01/11/24
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-10 **Date Collected:** 01/11/24
Lab Code: K2400441-010 **Date Received:** 01/11/24
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-10 **Date Collected:** 01/11/24
Lab Code: K2400441-010.R01 **Date Received:** 01/11/24
Sample Matrix: Ground Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: Trip Blank **Date Collected:** 01/11/24
Lab Code: K2400441-011 **Date Received:** 01/11/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Volatile Organic Compounds by GC/MS

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Analytical Report

Client:	RSEC Inc	**Service Request:**	K2400441
Project:	Emerald Kalama/EKC-0124	**Date Collected:**	01/11/24 09:00
Sample Matrix:	Ground Water	**Date Received:**	01/11/24 14:30
Sample Name:	ISRW-1	**Units:**	ug/L
Lab Code:	K2400441-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	25	50	01/18/24 19:07	
Toluene	**14000**	500	1000	01/18/24 15:52	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	82	68 - 117	01/18/24 19:07	
Dibromofluoromethane	99	73 - 122	01/18/24 19:07	
Toluene-d8	97	65 - 144	01/18/24 19:07	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2400441
Project:	Emerald Kalama/EKC-0124	**Date Collected:**	01/11/24 09:15
Sample Matrix:	Ground Water	**Date Received:**	01/11/24 14:30
Sample Name:	ISRW-2b	**Units:**	ug/L
Lab Code:	K2400441-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**62**	50	100	01/18/24 19:31	
Toluene	**40000**	1000	2000	01/18/24 16:16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	82	68 - 117	01/18/24 19:31	
Dibromofluoromethane	99	73 - 122	01/18/24 19:31	
Toluene-d8	96	65 - 144	01/18/24 19:31	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2400441
Project:	Emerald Kalama/EKC-0124	**Date Collected:**	01/11/24 09:30
Sample Matrix:	Ground Water	**Date Received:**	01/11/24 14:30
Sample Name:	ISRW-3	**Units:**	ug/L
Lab Code:	K2400441-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	100	200	01/18/24 19:56	
Toluene	**48000**	1300	2500	01/18/24 16:41	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	82	68 - 117	01/18/24 19:56	
Dibromofluoromethane	101	73 - 122	01/18/24 19:56	
Toluene-d8	96	65 - 144	01/18/24 19:56	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2400441
Project:	Emerald Kalama/EKC-0124	**Date Collected:**	01/11/24 09:45
Sample Matrix:	Ground Water	**Date Received:**	01/11/24 14:30
Sample Name:	ISRW-4	**Units:**	ug/L
Lab Code:	K2400441-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**19**	5.0	10	01/18/24 20:20	
Toluene	**3100**	50	100	01/18/24 17:05	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	83	68 - 117	01/18/24 20:20	
Dibromofluoromethane	100	73 - 122	01/18/24 20:20	
Toluene-d8	97	65 - 144	01/18/24 20:20	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2400441
Project:	Emerald Kalama/EKC-0124	**Date Collected:**	01/11/24 10:00
Sample Matrix:	Ground Water	**Date Received:**	01/11/24 14:30
Sample Name:	ISRW-5	**Units:**	ug/L
Lab Code:	K2400441-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	25	50	01/18/24 20:45	
Toluene	**24000**	500	1000	01/18/24 17:30	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	81	68 - 117	01/18/24 20:45	
Dibromofluoromethane	100	73 - 122	01/18/24 20:45	
Toluene-d8	96	65 - 144	01/18/24 20:45	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2400441
Project:	Emerald Kalama/EKC-0124	**Date Collected:**	01/11/24 10:15
Sample Matrix:	Ground Water	**Date Received:**	01/11/24 14:30
Sample Name:	ISRW-6	**Units:**	ug/L
Lab Code:	K2400441-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**17**	5.0	10	01/18/24 21:09	
Toluene	**1900**	50	100	01/18/24 17:54	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	81	68 - 117	01/18/24 21:09	
Dibromofluoromethane	101	73 - 122	01/18/24 21:09	
Toluene-d8	95	65 - 144	01/18/24 21:09	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2400441
Project:	Emerald Kalama/EKC-0124	**Date Collected:**	01/11/24 10:30
Sample Matrix:	Ground Water	**Date Received:**	01/11/24 14:30
Sample Name:	ISRW-7	**Units:**	ug/L
Lab Code:	K2400441-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	01/22/24 17:37	
Toluene	ND U	0.50	1	01/22/24 17:37	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	82	68 - 117	01/22/24 17:37	
Dibromofluoromethane	104	73 - 122	01/22/24 17:37	
Toluene-d8	98	65 - 144	01/22/24 17:37	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2400441
Project:	Emerald Kalama/EKC-0124	**Date Collected:**	01/11/24 10:45
Sample Matrix:	Ground Water	**Date Received:**	01/11/24 14:30
Sample Name:	ISRW-8	**Units:**	ug/L
Lab Code:	K2400441-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**71**	50	100	01/18/24 21:33	
Toluene	**37000**	1000	2000	01/18/24 18:19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	81	68 - 117	01/18/24 21:33	
Dibromofluoromethane	99	73 - 122	01/18/24 21:33	
Toluene-d8	97	65 - 144	01/18/24 21:33	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2400441
Project:	Emerald Kalama/EKC-0124	**Date Collected:**	01/11/24 11:00
Sample Matrix:	Ground Water	**Date Received:**	01/11/24 14:30
Sample Name:	ISRW-9	**Units:**	ug/L
Lab Code:	K2400441-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	25	50	01/18/24 21:58	
Toluene	**16000**	500	1000	01/18/24 18:43	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	81	68 - 117	01/18/24 21:58	
Dibromofluoromethane	99	73 - 122	01/18/24 21:58	
Toluene-d8	96	65 - 144	01/18/24 21:58	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2400441
Project:	Emerald Kalama/EKC-0124	**Date Collected:**	01/11/24 11:15
Sample Matrix:	Ground Water	**Date Received:**	01/11/24 14:30
Sample Name:	ISRW-10	**Units:**	ug/L
Lab Code:	K2400441-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**22**	13	25	01/22/24 19:01	
Toluene	**12000**	250	500	01/22/24 18:39	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	83	68 - 117	01/22/24 19:01	
Dibromofluoromethane	99	73 - 122	01/22/24 19:01	
Toluene-d8	93	65 - 144	01/22/24 19:01	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2400441
Project:	Emerald Kalama/EKC-0124	**Date Collected:**	01/11/24
Sample Matrix:	Water	**Date Received:**	01/11/24 14:30
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	K2400441-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	01/22/24 17:16	
Toluene	ND U	0.50	1	01/22/24 17:16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	84	68 - 117	01/22/24 17:16	
Dibromofluoromethane	105	73 - 122	01/22/24 17:16	
Toluene-d8	96	65 - 144	01/22/24 17:16	

QC Summary Forms

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Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: RSEC Inc **Service Request:** K2400441
Project: Emerald Kalama/EKC-0124
Sample Matrix: Ground Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: None

Sample Name	Lab Code	4-Bromofluorobenzene 68 - 117	Dibromofluoromethane 73 - 122	Toluene-d8 65 - 144
ISRW-1	K2400441-001	82	99	97
ISRW-2b	K2400441-002	82	99	96
ISRW-3	K2400441-003	82	101	96
ISRW-4	K2400441-004	83	100	97
ISRW-5	K2400441-005	81	100	96
ISRW-6	K2400441-006	81	101	95
ISRW-7	K2400441-007	82	104	98
ISRW-8	K2400441-008	81	99	97
ISRW-9	K2400441-009	81	99	96
ISRW-10	K2400441-010	83	99	93
Lab Control Sample	KQ2400761-03	99	108	102
Duplicate Lab Control Sample	KQ2400761-04	99	107	102
Method Blank	KQ2400761-05	87	104	98
Lab Control Sample	KQ2401109-03	89	90	95
Duplicate Lab Control Sample	KQ2401109-04	93	92	95
Method Blank	KQ2401109-05	81	96	92

Client: RSEC Inc **Service Request:** K2400441
Project: Emerald Kalama/EKC-0124
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: None

Sample Name	Lab Code	4-Bromofluorobenzene 68 - 117	Dibromofluoromethane 73 - 122	Toluene-d8 65 - 144
Trip Blank	K2400441-011	84	105	96

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2400441
Project:	Emerald Kalama/EKC-0124	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KQ2400761-05	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	01/18/24 13:02	
Toluene	ND U	0.50	1	01/18/24 13:02	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	87	68 - 117	01/18/24 13:02	
Dibromofluoromethane	104	73 - 122	01/18/24 13:02	
Toluene-d8	98	65 - 144	01/18/24 13:02	

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Analytical Report

Client:	RSEC Inc	**Service Request:**	K2400441
Project:	Emerald Kalama/EKC-0124	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KQ2401109-05	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	01/22/24 13:46	
Toluene	ND U	0.50	1	01/22/24 13:46	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	81	68 - 117	01/22/24 13:46	
Dibromofluoromethane	96	73 - 122	01/22/24 13:46	
Toluene-d8	92	65 - 144	01/22/24 13:46	

Client:	RSEC Inc	**Service Request:**	K2400441
Project:	Emerald Kalama/EKC-0124	**Date Analyzed:**	01/18/24
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	**Units:**	ug/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	830006

	Lab Control Sample KQ2400761-03			Duplicate Lab Control Sample KQ2400761-04					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Benzene	9.80	10.0	98	9.68	10.0	97	69-124	1	30
Toluene	9.57	10.0	96	9.42	10.0	94	69-124	2	30

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QA/QC Report

Client:	RSEC Inc	**Service Request:**	K2400441
Project:	Emerald Kalama/EKC-0124	**Date Analyzed:**	01/22/24
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	**Units:**	ug/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	830208

	Lab Control Sample KQ2401109-03			Duplicate Lab Control Sample KQ2401109-04					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Benzene	9.59	10.0	96	9.25	10.0	93	69-124	4	30
Toluene	9.97	10.0	100	9.68	10.0	97	69-124	3	30

April Semi-Annual Sampling

Laboratory Data Report

April 24, 2024 Service Request No:K2403622

Rich Truax
RSEC Inc
958 Hood View Ct.
Hood River, OR 97031

Laboratory Results for: EKC

Dear Rich,

Enclosed are the results of the sample(s) submitted to our laboratory April 04, 2024
For your reference, these analyses have been assigned our service request number **K2403622.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3364. You may also contact me via email at howard.holmes@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Howard Holmes
Project Manager

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Client: RSEC Inc
Project: EKC
Sample Matrix: Water

Service Request: K2403622
Date Received: 04/04/2024

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Twenty six water samples were received for analysis at ALS Environmental on 04/04/2024. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivolatiles by GC/MS:

Method 8270D, 04/19/2024: The upper control criterion was exceeded for Bis(2-ethylhexyl) Phthalate in Laboratory Control Sample (LCS) KQ2405161-02. The analyte in question was detected in one or more of the associated field samples. The error associated with elevated recovery indicated a high bias. The sample data was flagged to indicate the issue. The samples were not re-extracted because the holding time had already elapsed. No further corrective action was taken.

The curve fit required to meet calibration criteria for Bis(2-ethylhexyl) Phthalate in calibration KC2400200 created an unintended high bias for detections below the low point of the calibration. All peaks for the analyte in question that were detected with an area count below that detected in the low point of the calibration were deleted. Because this analysis is reported to the Method Reporting Limit (MRL) determined by the low point of the calibration applied, the data quality was not affected.

Method 8270D, 04/19/2024: The upper control criterion was exceeded for Fluorobiphenyl in sample PZ-104. Several target analytes were detected in the sample. The error associated with an elevated recovery equated to a high bias. The sample data was flagged to indicate the issue. The samples were not re-extracted because the holding time had already elapsed. No further corrective action was taken.

The reporting limit was elevated for Bis(2-ethylhexyl) Phthalate due to the calibration level required to support the routine reporting limit not being included in the associated calibration. The reporting limit was elevated to the level supported by the calibration.

Method 8270D, 04/19/2024: Several samples required dilution due to the presence of elevated levels of Biphenyl and/or Diphenyl Ether. The reporting limits are adjusted to reflect the dilution.

Volatiles by GC/MS:

Method 8260C, 04/09/2024: The detection limit was elevated for all analytes in several samples. The sample extract was diluted prior to instrumental analysis due to anticipated high levels of non-target background components or high levels target analytes. The reporting limits were adjusted to reflect the dilution.

Method 8260C, 04/09/2024: Several samples required dilution due to the presence of elevated levels of Toluene. The reporting limits are adjusted to reflect the dilution.

Approved by  Date 04/24/2024

SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: ISRW-2b	Lab ID: K2403622-002					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	23			10	ug/L	8260C
Toluene	9000			130	ug/L	8260C

CLIENT ID: ISRW-3	Lab ID: K2403622-003					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	53			25	ug/L	8260C
Toluene	34000			500	ug/L	8260C

CLIENT ID: ISRW-4	Lab ID: K2403622-004					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	1.7			0.50	ug/L	8260C
Toluene	63			0.50	ug/L	8260C

CLIENT ID: ISRW-6	Lab ID: K2403622-006					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	51			10	ug/L	8260C
Toluene	6800			100	ug/L	8260C

CLIENT ID: ISRW-8	Lab ID: K2403622-008					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	30			13	ug/L	8260C
Toluene	15000			250	ug/L	8260C

CLIENT ID: ISRW-9	Lab ID: K2403622-009					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	63			50	ug/L	8260C
Toluene	36000			1000	ug/L	8260C

CLIENT ID: ISRW-10	Lab ID: K2403622-010					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	36			25	ug/L	8260C
Toluene	24000			500	ug/L	8260C

CLIENT ID: MW-97	Lab ID: K2403622-013					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	8.0			0.50	ug/L	8260C
Toluene	230			5.0	ug/L	8260C

CLIENT ID: MW-239	Lab ID: K2403622-014					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	10			0.50	ug/L	8260C
Toluene	330			5.0	ug/L	8260C

SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: PZ-104			Lab ID: K2403622-017			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	1.3			0.50	ug/L	8260C
Biphenyl	110			47	ug/L	8270D
Diphenyl Ether	4000			50	ug/L	8270D

CLIENT ID: MW-401			Lab ID: K2403622-018			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	1.4			0.50	ug/L	8260C
Biphenyl	100			0.94	ug/L	8270D
Diphenyl Ether	3700			50	ug/L	8270D

CLIENT ID: W - SUMP			Lab ID: K2403622-022			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benzene	14			0.50	ug/L	8260C
Biphenyl	2.7			0.96	ug/L	8270D
Diphenyl Ether	230			20	ug/L	8270D
Toluene	2.6			0.50	ug/L	8260C

CLIENT ID: PZ-107			Lab ID: K2403622-019			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Biphenyl	29			0.94	ug/L	8270D
Diphenyl Ether	72			1.0	ug/L	8270D

CLIENT ID: PDW-117			Lab ID: K2403622-020			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Diphenyl Ether	1700			20	ug/L	8270D

CLIENT ID: KC-9			Lab ID: K2403622-021			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Diphenyl Ether	900			20	ug/L	8270D

CLIENT ID: E - SUMP			Lab ID: K2403622-023			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Diphenyl Ether	200			20	ug/L	8270D

CLIENT ID: MW-245			Lab ID: K2403622-024			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Diphenyl Ether	80			1.0	ug/L	8270D

CLIENT ID: MW-256			Lab ID: K2403622-025			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Diphenyl Ether	15			1.0	ug/L	8270D

CLIENT ID: ISRW-1			Lab ID: K2403622-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Toluene	14000			250	ug/L	8260C

SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: ISRW-1			Lab ID: K2403622-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**

CLIENT ID: ISRW-5			Lab ID: K2403622-005			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Toluene	34000			1000	ug/L	8260C

Client: RSEC Inc **Service Request:**K2403622
Project: EKC/0424

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K2403622-001	ISRW-1	4/3/2024	0900
K2403622-002	ISRW-2b	4/3/2024	0915
K2403622-003	ISRW-3	4/3/2024	0930
K2403622-004	ISRW-4	4/3/2024	0945
K2403622-005	ISRW-5	4/3/2024	1000
K2403622-006	ISRW-6	4/3/2024	1015
K2403622-007	ISRW-7	4/3/2024	1030
K2403622-008	ISRW-8	4/3/2024	1045
K2403622-009	ISRW-9	4/3/2024	1100
K2403622-010	ISRW-10	4/3/2024	1115
K2403622-011	MW-250	4/3/2024	1200
K2403622-012	MW-243	4/3/2024	1415
K2403622-013	MW-97	4/3/2024	1300
K2403622-014	MW-239	4/3/2024	1230
K2403622-015	KC-14	4/3/2024	1330
K2403622-016	USRW-2	4/3/2024	1450
K2403622-017	PZ-104	4/4/2024	0900
K2403622-018	MW-401	4/4/2024	0930
K2403622-019	PZ-107	4/4/2024	1000
K2403622-020	PDW-117	4/4/2024	1030
K2403622-021	KC-9	4/4/2024	1100
K2403622-022	W - SUMP	4/4/2024	1230
K2403622-023	E - SUMP	4/4/2024	1300
K2403622-024	MW-245	4/4/2024	1200
K2403622-025	MW-256	4/4/2024	1130
K2403622-026	Trip Blank	4/4/2024	

CHAIN OF CUSTODY

SR# K24036022

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE 1 OF 3 COC#

PROJECT NAME	EkC
PROJECT NUMBER	0424
PROJECT MANAGER	Rich Truax
COMPANY NAME	RSEC
ADDRESS	958 Hood View Ct.
CITY/STATE/ZIP	Hood River, OR. 97031
E-MAIL ADDRESS	richa@rsecinc.com
PHONE #	541-490-4223 FAX #
SAMPLER'S SIGNATURE	

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐ SIM PAH☐	Volatile Organics 624☐ 8260☒ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	Metals, Total or Dissolved (See List below)	Cyanide☐ Hex-Chrom☐	(circle) pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS, Turb.	(circle) NH_3-N, COD, TKN, TOC, DOC, NO_2+NO_3, T-Phos	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity ☐ CO_3☐ HCO_3☐	Dioxins/Furans 1613☐ 8290☐	Dissolved Gases RSK 175☐ Methane☐ Ethane☐ Ethene☐ CO_2☐	REMARKS
ISRW-1	4/3/24	0900		GW	3		X														
ISRW-2b		915																			
ISRW-3		930																			
ISRW-4		945																			
ISRW-5		1000																			
ISRW-6		1015																			
ISRW-7		1030																			
ISRW-8		1045																			
ISRW-9		1100																			
ISRW-10		1115																			

REPORT REQUIREMENTS

- X I. Routine Report: Method Blank, Surrogate, as required
- ___ II. Report Dup., MS, MSD as required
- ___ III. CLP Like Summary (no raw data)
- ___ IV. Data Validation Report
- ___ V. EDD

INVOICE INFORMATION

P.O.# EkC-0424

Bill To: richa@rsecinc.com

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.

___ 5 day

X Standard (15 working days)

___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

All 8260 benzene+toluene / Screen for high conc.

Container Supply Number

137159

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: M Mulligan	Signature:	Signature:
Date/Time: 4/4	Date/Time: 4/4/24 1600	Date/Time:	Date/Time:
Printed Name: R Truax	Printed Name: M. Mulligan	Printed Name:	Printed Name:
Firm:	Firm: ALS	Firm:	Firm:

CHAIN OF CUSTODY

SR# K2403622

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PROJECT NAME: EKC
PROJECT NUMBER: 0424
PROJECT MANAGER: Rich Trujo
COMPANY NAME: RSEC
ADDRESS: 958 Hood View Ct.
CITY/STATE/ZIP: Hood River, OR 97031
E-MAIL ADDRESS: richa@rsecinc.com
PHONE #: 541.490.4223 FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☒ 8270LL☐ SIM PAH☐	Volatile Organics 624☐ 8260☒ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	Metals, Total or Dissolved (See List below)	Cyanide☐ Hex-Chrom☐	(circle) pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS, Turb.	(circle) NH_3-N, COD, TKN, TOC, DOC, NO_2+NO_3, T-Phos	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity☐ CO_3☐ HCO_3☐	Dioxins/Furans 1613☐ 8290☐	Dissolved Gases CO_2☐ RSK 175☐ Methane☐ Ethane☐ Ethene☐	REMARKS
MW-250	4/3/24	1200		GW			X														BTEX
MW-243		1415																			
MW-97		1300																			
MW-239		1230																			
KC-14		1330																			
USRW-2		1450				X															DPO only
PZ-104	4/4/24	0900					X														
MW-401		0930																			
PZ-107		1000																			
PDW-117		1030																			DPO only

REPORT REQUIREMENTS

- X I. Routine Report: Method Blank, Surrogate, as required
- ___ II. Report Dup., MS, MSD as required
- ___ III. CLP Like Summary (no raw data)
- ___ IV. Data Validation Report
- ___ V. EDD

INVOICE INFORMATION

PO# EKC-0424
Bill To: richa@rsecinc.com

TURNAROUND REQUIREMENTS

- ___ 24 hr. ___ 48 hr.
- ___ 5 day
- X Standard (15 working days)
- ___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: ___ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

PZ-104, MW-401, PZ-107: biphenyl, bis(2-ethylhexyl) phthalate, (DEHP) DPO, Benz. + Toluene

PDW-117 - DPO only

Container Supply Number

137159

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: M. Mulligan	Signature:	Signature:
Date/Time: 4/4	Date/Time: 4/4/24 1620	Date/Time:	Date/Time:
Printed Name: Rich Trujo	Printed Name: M. Mulligan	Printed Name:	Printed Name:
Firm:	Firm: ALS	Firm:	Firm:

CHAIN OF CUSTODY

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE 3 OF 3 SR# K24036022 COC#

PROJECT NAME: EKC
PROJECT NUMBER: 0424
PROJECT MANAGER: Rich Trejo
COMPANY NAME: RSEC
ADDRESS: 958 Hood View Ct.
CITY/STATE/ZIP: Hood River, OR. 97031
E-MAIL ADDRESS: richa@rsecinc.com
PHONE # 541.490.4223 FAX #
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐ SIM PAH☐	Volatile Organics 624☐ 8260☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	Metals, Total or Dissolved (See List below)	Cyanide☐ Hex-Chrom☐	(circle) pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS, Turb.	(circle) NH_3-N, COD, TKN, TOC, DOC, NO_2+NO_3, T-Phos	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity☐ CO_3☐ HCO_3☐	Dioxins/Furans 1613☐ 8290☐	Dissolved Gases RSK 175☐ Methane☐ Ethane☐ Ethene☐ CO_2☐	REMARKS
KC-9	4/4/24	1100		GW	5	X	X														B+T DPO
W. Sump		1230			5																B+T, biphenyl, DPO
E. Sump		1300			5																" "
MS/MSD					7																B+T/6, DPO, DEHP
MW-245		1200			2	X															DPO only
MW-256		1130			2	X															DPO only
Trip Blank				GW	1		X														B+T

REPORT REQUIREMENTS

- X I. Routine Report: Method Blank, Surrogate, as required
- ___ II. Report Dup., MS, MSD as required
- ___ III. CLP Like Summary (no raw data)
- ___ IV. Data Validation Report
- ___ V. EDD

INVOICE INFORMATION

P.O. # EKC-0424
Bill To: richa@rsecinc.com

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 day
X Standard (15 working days)
___ Provide FAX Results
Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: ___ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

KC-9: B+T, DPO
W-Sump, E-Sump: B+T, biphenyl, DPO
MS/MSD; B+T, biphenyl, DPO, DEHP

Container Supply Number 137159

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: M. Mulligan	Signature:	Signature:
Date/Time: 4/4	Date/Time: 4/4/24 1620	Date/Time:	Date/Time:
Printed Name: Rich Trejo	Printed Name: M. Mulligan	Printed Name:	Printed Name:
Firm:	Firm: ALS	Firm:	Firm:

PM HH

Cooler Receipt and Preservation Form

Client RSEC Service Request K24D3022

Received: 4/4/24 Opened: 4/4/24 By: VM Unloaded: 4/4/24 By: VM

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
2.2		TR01	1 of 3				
6.3	13.0	↓	2 of 3				
8.4	8.5	↓	3 of 3				

4. Was a Temperature Blank present in cooler? NA (Y) N If yes, notate the temperature in the appropriate column above:
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA (Y) (N)
   If no, were they received on ice and same day as collected? If not, notate the cooler # above and notify the PM. NA (Y) N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

6. Packing material: (*Inserts*) (*Baggies*) (*Bubble Wrap*) *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Were samples received in good condition (unbroken) NA (Y) N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA (Y) N
10. Did all sample labels and tags agree with custody papers? NA (Y) N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
13. Were VOA vials received without headspace? *Indicate in the table below.* NA (Y) N
14. Was C12/Res negative? NA (Y) N
15. Were samples received within the method specified time limit? If not, notate the error below and notify the PM (NA) Y N
16. Were 100ml sterile microbiology bottles filled exactly to the 100ml mark? (NA) Y N Underfilled Overfilled

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: _____

Client: RSEC Inc
Project: EKC/0424
Service Request: K2403622

Sample Name: ISRW-1
Lab Code: K2403622-001
Sample Matrix: Water
Date Collected: 04/3/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-1
Lab Code: K2403622-001.R01
Sample Matrix: Water
Date Collected: 04/3/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-2b
Lab Code: K2403622-002
Sample Matrix: Water
Date Collected: 04/3/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-2b
Lab Code: K2403622-002.R01
Sample Matrix: Water
Date Collected: 04/3/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-3
Lab Code: K2403622-003
Sample Matrix: Water
Date Collected: 04/3/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Client: RSEC Inc **Service Request:** K2403622
Project: EKC/0424

Sample Name: ISRW-3 **Date Collected:** 04/3/24
Lab Code: K2403622-003.R01 **Date Received:** 04/4/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-3 **Date Collected:** 04/3/24
Lab Code: K2403622-003.R02 **Date Received:** 04/4/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-4 **Date Collected:** 04/3/24
Lab Code: K2403622-004 **Date Received:** 04/4/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-4 **Date Collected:** 04/3/24
Lab Code: K2403622-004.R01 **Date Received:** 04/4/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-5 **Date Collected:** 04/3/24
Lab Code: K2403622-005 **Date Received:** 04/4/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Client: RSEC Inc
Project: EKC/0424
Service Request: K2403622

Sample Name: ISRW-5
Lab Code: K2403622-005.R01
Sample Matrix: Water
Date Collected: 04/3/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-6
Lab Code: K2403622-006
Sample Matrix: Water
Date Collected: 04/3/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-6
Lab Code: K2403622-006.R01
Sample Matrix: Water
Date Collected: 04/3/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-7
Lab Code: K2403622-007
Sample Matrix: Water
Date Collected: 04/3/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-8
Lab Code: K2403622-008
Sample Matrix: Water
Date Collected: 04/3/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Client: RSEC Inc **Service Request:** K2403622
Project: EKC/0424

Sample Name: ISRW-8 **Date Collected:** 04/3/24
Lab Code: K2403622-008.R01 **Date Received:** 04/4/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-9 **Date Collected:** 04/3/24
Lab Code: K2403622-009 **Date Received:** 04/4/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-9 **Date Collected:** 04/3/24
Lab Code: K2403622-009.R01 **Date Received:** 04/4/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-10 **Date Collected:** 04/3/24
Lab Code: K2403622-010 **Date Received:** 04/4/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: ISRW-10 **Date Collected:** 04/3/24
Lab Code: K2403622-010.R01 **Date Received:** 04/4/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Client: RSEC Inc
Project: EKC/0424
Service Request: K2403622

Sample Name: MW-250
Lab Code: K2403622-011
Sample Matrix: Water
Date Collected: 04/3/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: MW-243
Lab Code: K2403622-012
Sample Matrix: Water
Date Collected: 04/3/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: MW-97
Lab Code: K2403622-013
Sample Matrix: Water
Date Collected: 04/3/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: MW-97
Lab Code: K2403622-013.R01
Sample Matrix: Water
Date Collected: 04/3/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: MW-239
Lab Code: K2403622-014
Sample Matrix: Water
Date Collected: 04/3/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Client: RSEC Inc
Project: EKC/0424
Service Request: K2403622

Sample Name: MW-239
Lab Code: K2403622-014.R01
Sample Matrix: Water
Date Collected: 04/3/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: KC-14
Lab Code: K2403622-015
Sample Matrix: Water
Date Collected: 04/3/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Name: USRW-2
Lab Code: K2403622-016
Sample Matrix: Water
Date Collected: 04/3/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8270D	DPEARCE	EBRUNO

Sample Name: PZ-104
Lab Code: K2403622-017
Sample Matrix: Water
Date Collected: 04/4/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER
8270D	DPEARCE	EBRUNO

Client: RSEC Inc **Service Request:** K2403622
Project: EKC/0424

Sample Name: PZ-104 **Date Collected:** 04/4/24
Lab Code: K2403622-017.R01 **Date Received:** 04/4/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8270D	DPEARCE	EBRUNO

Sample Name: MW-401 **Date Collected:** 04/4/24
Lab Code: K2403622-018 **Date Received:** 04/4/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER
8270D	DPEARCE	EBRUNO

Sample Name: MW-401 **Date Collected:** 04/4/24
Lab Code: K2403622-018.R01 **Date Received:** 04/4/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8270D	DPEARCE	EBRUNO

Sample Name: PZ-107 **Date Collected:** 04/4/24
Lab Code: K2403622-019 **Date Received:** 04/4/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER
8270D	DPEARCE	EBRUNO

Client: RSEC Inc
Project: EKC/0424
Service Request: K2403622

Sample Name: PDW-117
Lab Code: K2403622-020
Sample Matrix: Water
Date Collected: 04/4/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER
8270D	DPEARCE	EBRUNO

Sample Name: PDW-117
Lab Code: K2403622-020.R01
Sample Matrix: Water
Date Collected: 04/4/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8270D	DPEARCE	EBRUNO

Sample Name: KC-9
Lab Code: K2403622-021
Sample Matrix: Water
Date Collected: 04/4/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER
8270D	DPEARCE	EBRUNO

Sample Name: KC-9
Lab Code: K2403622-021.R01
Sample Matrix: Water
Date Collected: 04/4/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8270D	DPEARCE	EBRUNO

Client: RSEC Inc
Project: EKC/0424
Service Request: K2403622

Sample Name: W - SUMP
Lab Code: K2403622-022
Sample Matrix: Water
Date Collected: 04/4/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER
8270D	DPEARCE	EBRUNO

Sample Name: W - SUMP
Lab Code: K2403622-022.R01
Sample Matrix: Water
Date Collected: 04/4/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8270D	DPEARCE	EBRUNO

Sample Name: E - SUMP
Lab Code: K2403622-023
Sample Matrix: Water
Date Collected: 04/4/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER
8270D	DPEARCE	EBRUNO

Sample Name: E - SUMP
Lab Code: K2403622-023.R01
Sample Matrix: Water
Date Collected: 04/4/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8270D	DPEARCE	EBRUNO

Client: RSEC Inc
Project: EKC/0424
Service Request: K2403622

Sample Name: MW-245
Lab Code: K2403622-024
Sample Matrix: Water
Date Collected: 04/4/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8270D	DPEARCE	EBRUNO

Sample Name: MW-256
Lab Code: K2403622-025
Sample Matrix: Water
Date Collected: 04/4/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8270D	DPEARCE	EBRUNO

Sample Name: Trip Blank
Lab Code: K2403622-026
Sample Matrix: Water
Date Collected: 04/4/24
Date Received: 04/4/24

Analysis Method	Extracted/Digested By	Analyzed By
8260C		GROETTGER

Sample Results

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/03/24 09:00
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	ISRW-1	**Units:**	ug/L
Lab Code:	K2403622-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	13	25	04/09/24 19:47	
Toluene	**14000**	250	500	04/09/24 13:47	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	68 - 117	04/09/24 19:47	
Dibromofluoromethane	109	73 - 122	04/09/24 19:47	
Toluene-d8	102	65 - 144	04/09/24 19:47	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/03/24 09:15
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	ISRW-2b	**Units:**	ug/L
Lab Code:	K2403622-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**23**	10	20	04/09/24 18:11	
Toluene	**9000**	130	250	04/09/24 14:11	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	68 - 117	04/09/24 18:11	
Dibromofluoromethane	107	73 - 122	04/09/24 18:11	
Toluene-d8	104	65 - 144	04/09/24 18:11	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/03/24 09:30
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	ISRW-3	**Units:**	ug/L
Lab Code:	K2403622-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**53**	25	50	04/11/24 21:19	
Toluene	**34000**	500	1000	04/09/24 14:35	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	104	68 - 117	04/11/24 21:19	
Dibromofluoromethane	108	73 - 122	04/11/24 21:19	
Toluene-d8	105	65 - 144	04/11/24 21:19	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/03/24 09:45
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	ISRW-4	**Units:**	ug/L
Lab Code:	K2403622-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**1.7**	0.50	1	04/09/24 17:23	
Toluene	**63**	0.50	1	04/09/24 17:23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	68 - 117	04/09/24 17:23	
Dibromofluoromethane	111	73 - 122	04/09/24 17:23	
Toluene-d8	108	65 - 144	04/09/24 17:23	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/03/24 10:00
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	ISRW-5	**Units:**	ug/L
Lab Code:	K2403622-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	50	100	04/09/24 18:59	
Toluene	**34000**	1000	2000	04/09/24 14:59	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	68 - 117	04/09/24 18:59	
Dibromofluoromethane	111	73 - 122	04/09/24 18:59	
Toluene-d8	103	65 - 144	04/09/24 18:59	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/03/24 10:15
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	ISRW-6	**Units:**	ug/L
Lab Code:	K2403622-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**51**	10	20	04/09/24 18:35	
Toluene	**6800**	100	200	04/09/24 15:23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	68 - 117	04/09/24 18:35	
Dibromofluoromethane	112	73 - 122	04/09/24 18:35	
Toluene-d8	104	65 - 144	04/09/24 18:35	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/03/24 10:30
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	ISRW-7	**Units:**	ug/L
Lab Code:	K2403622-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	04/09/24 11:56	
Toluene	ND U	0.50	1	04/09/24 11:56	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	68 - 117	04/09/24 11:56	
Dibromofluoromethane	112	73 - 122	04/09/24 11:56	
Toluene-d8	110	65 - 144	04/09/24 11:56	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/03/24 10:45
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	ISRW-8	**Units:**	ug/L
Lab Code:	K2403622-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**30**	13	25	04/09/24 20:11	
Toluene	**15000**	250	500	04/09/24 15:47	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	104	68 - 117	04/09/24 20:11	
Dibromofluoromethane	111	73 - 122	04/09/24 20:11	
Toluene-d8	104	65 - 144	04/09/24 20:11	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/03/24 11:00
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	ISRW-9	**Units:**	ug/L
Lab Code:	K2403622-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**63**	50	100	04/09/24 19:23	
Toluene	**36000**	1000	2000	04/09/24 16:11	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	103	68 - 117	04/09/24 19:23	
Dibromofluoromethane	110	73 - 122	04/09/24 19:23	
Toluene-d8	102	65 - 144	04/09/24 19:23	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/03/24 11:15
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	ISRW-10	**Units:**	ug/L
Lab Code:	K2403622-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**36**	25	50	04/09/24 20:35	
Toluene	**24000**	500	1000	04/09/24 16:35	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	68 - 117	04/09/24 20:35	
Dibromofluoromethane	112	73 - 122	04/09/24 20:35	
Toluene-d8	105	65 - 144	04/09/24 20:35	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/03/24 12:00
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	MW-250	**Units:**	ug/L
Lab Code:	K2403622-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	04/09/24 16:59	
Toluene	ND U	0.50	1	04/09/24 16:59	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	103	68 - 117	04/09/24 16:59	
Dibromofluoromethane	116	73 - 122	04/09/24 16:59	
Toluene-d8	105	65 - 144	04/09/24 16:59	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/03/24 14:15
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	MW-243	**Units:**	ug/L
Lab Code:	K2403622-012	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	04/09/24 12:59	
Toluene	ND U	0.50	1	04/09/24 12:59	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	68 - 117	04/09/24 12:59	
Dibromofluoromethane	110	73 - 122	04/09/24 12:59	
Toluene-d8	106	65 - 144	04/09/24 12:59	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/03/24 13:00
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	MW-97	**Units:**	ug/L
Lab Code:	K2403622-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**8.0**	0.50	1	04/09/24 17:47	
Toluene	**230**	5.0	10	04/09/24 13:23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	103	68 - 117	04/09/24 17:47	
Dibromofluoromethane	109	73 - 122	04/09/24 17:47	
Toluene-d8	105	65 - 144	04/09/24 17:47	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/03/24 12:30
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	MW-239	**Units:**	ug/L
Lab Code:	K2403622-014	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**10**	0.50	1	04/11/24 20:55	
Toluene	**330**	5.0	10	04/11/24 20:31	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	103	68 - 117	04/11/24 20:55	
Dibromofluoromethane	109	73 - 122	04/11/24 20:55	
Toluene-d8	106	65 - 144	04/11/24 20:55	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/03/24 13:30
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	KC-14	**Units:**	ug/L
Lab Code:	K2403622-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	04/11/24 16:01	
Toluene	ND U	0.50	1	04/11/24 16:01	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	68 - 117	04/11/24 16:01	
Dibromofluoromethane	95	73 - 122	04/11/24 16:01	
Toluene-d8	96	65 - 144	04/11/24 16:01	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/04/24 09:00
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	PZ-104	**Units:**	ug/L
Lab Code:	K2403622-017	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**1.3**	0.50	1	04/11/24 16:26	
Toluene	ND U	0.50	1	04/11/24 16:26	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	68 - 117	04/11/24 16:26	
Dibromofluoromethane	96	73 - 122	04/11/24 16:26	
Toluene-d8	95	65 - 144	04/11/24 16:26	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/04/24 09:30
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	MW-401	**Units:**	ug/L
Lab Code:	K2403622-018	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**1.4**	0.50	1	04/11/24 18:07	
Toluene	ND U	0.50	1	04/11/24 18:07	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	104	68 - 117	04/11/24 18:07	
Dibromofluoromethane	111	73 - 122	04/11/24 18:07	
Toluene-d8	105	65 - 144	04/11/24 18:07	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/04/24 10:00
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	PZ-107	**Units:**	ug/L
Lab Code:	K2403622-019	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	04/11/24 18:31	
Toluene	ND U	0.50	1	04/11/24 18:31	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	68 - 117	04/11/24 18:31	
Dibromofluoromethane	111	73 - 122	04/11/24 18:31	
Toluene-d8	103	65 - 144	04/11/24 18:31	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/04/24 10:30
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	PDW-117	**Units:**	ug/L
Lab Code:	K2403622-020	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	04/11/24 18:55	
Toluene	ND U	0.50	1	04/11/24 18:55	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	68 - 117	04/11/24 18:55	
Dibromofluoromethane	114	73 - 122	04/11/24 18:55	
Toluene-d8	105	65 - 144	04/11/24 18:55	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/04/24 11:00
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	KC-9	**Units:**	ug/L
Lab Code:	K2403622-021	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	04/11/24 19:19	
Toluene	ND U	0.50	1	04/11/24 19:19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	104	68 - 117	04/11/24 19:19	
Dibromofluoromethane	112	73 - 122	04/11/24 19:19	
Toluene-d8	104	65 - 144	04/11/24 19:19	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/04/24 12:30
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	W - SUMP	**Units:**	ug/L
Lab Code:	K2403622-022	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	**14**	0.50	1	04/11/24 19:43	
Toluene	**2.6**	0.50	1	04/11/24 19:43	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	68 - 117	04/11/24 19:43	
Dibromofluoromethane	107	73 - 122	04/11/24 19:43	
Toluene-d8	103	65 - 144	04/11/24 19:43	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/04/24 13:00
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	E - SUMP	**Units:**	ug/L
Lab Code:	K2403622-023	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	04/11/24 20:07	
Toluene	ND U	0.50	1	04/11/24 20:07	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	68 - 117	04/11/24 20:07	
Dibromofluoromethane	108	73 - 122	04/11/24 20:07	
Toluene-d8	103	65 - 144	04/11/24 20:07	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/04/24
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	K2403622-026	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	04/11/24 17:43	
Toluene	ND U	0.50	1	04/11/24 17:43	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	68 - 117	04/11/24 17:43	
Dibromofluoromethane	111	73 - 122	04/11/24 17:43	
Toluene-d8	105	65 - 144	04/11/24 17:43	

Semivolatile Organic Compounds by GC/MS

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Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/03/24 14:50
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	USRW-2	**Units:**	ug/L
Lab Code:	K2403622-016	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS SIM

Analysis Method: 8270D
Prep Method: EPA 3520C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Diphenyl Ether	ND U	1.0	1	04/19/24 18:52	4/8/24	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	80	48 - 114	04/19/24 18:52	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/04/24 09:00
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	PZ-104	**Units:**	ug/L
Lab Code:	K2403622-017	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS SIM

Analysis Method: 8270D
Prep Method: EPA 3520C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Biphenyl	**110**	47	50	04/19/24 19:16	4/8/24	
Bis(2-ethylhexyl) Phthalate	ND U	2.4	1	04/19/24 22:54	4/8/24	*
Diphenyl Ether	**4000**	50	50	04/19/24 19:16	4/8/24	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	117	48 - 114	04/19/24 22:54	*
p-Terphenyl-d14	58	22 - 146	04/19/24 22:54	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/04/24 09:30
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	MW-401	**Units:**	ug/L
Lab Code:	K2403622-018	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS SIM

Analysis Method: 8270D
Prep Method: EPA 3520C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Biphenyl	**100**	0.94	1	04/19/24 23:18	4/8/24	
Bis(2-ethylhexyl) Phthalate	ND U	2.4	1	04/19/24 23:18	4/8/24	*
Diphenyl Ether	**3700**	50	50	04/19/24 19:40	4/8/24	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	105	48 - 114	04/19/24 23:18	
p-Terphenyl-d14	52	22 - 146	04/19/24 23:18	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/04/24 10:00
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	PZ-107	**Units:**	ug/L
Lab Code:	K2403622-019	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS SIM

Analysis Method: 8270D
Prep Method: EPA 3520C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Biphenyl	**29**	0.94	1	04/19/24 20:04	4/8/24	
Bis(2-ethylhexyl) Phthalate	ND U	2.4	1	04/19/24 20:04	4/8/24	*
Diphenyl Ether	**72**	1.0	1	04/19/24 20:04	4/8/24	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	64	48 - 114	04/19/24 20:04	
p-Terphenyl-d14	74	22 - 146	04/19/24 20:04	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/04/24 10:30
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	PDW-117	**Units:**	ug/L
Lab Code:	K2403622-020	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS SIM

Analysis Method: 8270D
Prep Method: EPA 3520C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Diphenyl Ether	**1700**	20	20	04/19/24 20:29	4/8/24	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	82	48 - 114	04/19/24 20:29	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/04/24 11:00
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	KC-9	**Units:**	ug/L
Lab Code:	K2403622-021	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS SIM

Analysis Method: 8270D
Prep Method: EPA 3520C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Diphenyl Ether	**900**	20	20	04/19/24 20:53	4/8/24	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	87	48 - 114	04/19/24 20:53	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/04/24 12:30
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	W - SUMP	**Units:**	ug/L
Lab Code:	K2403622-022	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS SIM

Analysis Method: 8270D
Prep Method: EPA 3520C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Biphenyl	**2.7**	0.96	1	04/19/24 21:17	4/8/24	
Diphenyl Ether	**230**	20	20	04/23/24 09:38	4/8/24	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	77	48 - 114	04/19/24 21:17	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/04/24 13:00
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	E - SUMP	**Units:**	ug/L
Lab Code:	K2403622-023	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS SIM

Analysis Method: 8270D
Prep Method: EPA 3520C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Biphenyl	ND U	0.96	1	04/19/24 21:41	4/8/24	
Diphenyl Ether	**200**	20	20	04/23/24 10:02	4/8/24	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	76	48 - 114	04/19/24 21:41	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/04/24 12:00
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	MW-245	**Units:**	ug/L
Lab Code:	K2403622-024	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS SIM

Analysis Method: 8270D
Prep Method: EPA 3520C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Diphenyl Ether	**80**	1.0	1	04/19/24 22:05	4/8/24	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	81	48 - 114	04/19/24 22:05	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/04/24 11:30
Sample Matrix:	Water	**Date Received:**	04/04/24 16:20
Sample Name:	MW-256	**Units:**	ug/L
Lab Code:	K2403622-025	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS SIM

Analysis Method: 8270D
Prep Method: EPA 3520C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Diphenyl Ether	**15**	1.0	1	04/19/24 22:30	4/8/24	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	85	48 - 114	04/19/24 22:30	

QC Summary Forms

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Client: RSEC Inc **Service Request:** K2403622
Project: EKC/0424
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: None

Sample Name	Lab Code	4-Bromofluorobenzene 68 - 117	Dibromofluoromethane 73 - 122	Toluene-d8 65 - 144
ISRW-1	K2403622-001	102	109	102
ISRW-2b	K2403622-002	102	107	104
ISRW-3	K2403622-003	104	108	105
ISRW-4	K2403622-004	98	111	108
ISRW-5	K2403622-005	101	111	103
ISRW-6	K2403622-006	101	112	104
ISRW-7	K2403622-007	97	112	110
ISRW-8	K2403622-008	104	111	104
ISRW-9	K2403622-009	103	110	102
ISRW-10	K2403622-010	102	112	105
MW-250	K2403622-011	103	116	105
MW-243	K2403622-012	102	110	106
MW-97	K2403622-013	103	109	105
MW-239	K2403622-014	103	109	106
KC-14	K2403622-015	92	95	96
PZ-104	K2403622-017	93	96	95
MW-401	K2403622-018	104	111	105
PZ-107	K2403622-019	98	111	103
PDW-117	K2403622-020	102	114	105
KC-9	K2403622-021	104	112	104
W - SUMP	K2403622-022	102	107	103
E - SUMP	K2403622-023	102	108	103
Trip Blank	K2403622-026	101	111	105
Lab Control Sample	KQ2405558-03	100	102	100
Duplicate Lab Control Sample	KQ2405558-04	100	101	100
Method Blank	KQ2405558-05	92	92	94
Lab Control Sample	KQ2405729-03	109	111	106
Duplicate Lab Control Sample	KQ2405729-04	110	110	104
Method Blank	KQ2405729-05	103	110	105
Lab Control Sample	KQ2405827-02	108	109	107
Duplicate Lab Control Sample	KQ2405827-03	107	109	108
Method Blank	KQ2405827-04	103	112	107
E - SUMP MS	KQ2405827-06	109	108	106
E - SUMP DMS	KQ2405827-07	109	110	107

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/04/24
Sample Matrix:	Water	**Date Received:**	04/04/24
		Date Analyzed:	04/11/24
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	E - SUMP	**Units:**	ug/L
Lab Code:	K2403622-023	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	None		

		Matrix Spike KQ2405827-06			Duplicate Matrix Spike KQ2405827-07					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Benzene	ND U	11.2	10.0	112	10.8	10.0	108	63-144	3	30
Toluene	ND U	11.4	10.0	114	11.0	10.0	110	71-136	3	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KQ2405558-05	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	04/11/24 13:35	
Toluene	ND U	0.50	1	04/11/24 13:35	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	68 - 117	04/11/24 13:35	
Dibromofluoromethane	92	73 - 122	04/11/24 13:35	
Toluene-d8	94	65 - 144	04/11/24 13:35	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KQ2405729-05	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	04/09/24 11:32	
Toluene	ND U	0.50	1	04/09/24 11:32	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	103	68 - 117	04/09/24 11:32	
Dibromofluoromethane	110	73 - 122	04/09/24 11:32	
Toluene-d8	105	65 - 144	04/09/24 11:32	

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KQ2405827-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	1	04/11/24 15:43	
Toluene	ND U	0.50	1	04/11/24 15:43	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	103	68 - 117	04/11/24 15:43	
Dibromofluoromethane	112	73 - 122	04/11/24 15:43	
Toluene-d8	107	65 - 144	04/11/24 15:43	

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QA/QC Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Analyzed:**	04/11/24
Sample Matrix:	Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	**Units:**	ug/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	837582

	Lab Control Sample KQ2405558-03			Duplicate Lab Control Sample KQ2405558-04					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Benzene	8.36	10.0	84	8.33	10.0	83	69-124	<1	30
Toluene	8.35	10.0	84	8.32	10.0	83	69-124	<1	30

QA/QC Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Analyzed:**	04/09/24
Sample Matrix:	Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	**Units:**	ug/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	837253

	Lab Control Sample KQ2405729-03			Duplicate Lab Control Sample KQ2405729-04					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Benzene	9.21	10.0	92	9.06	10.0	91	69-124	2	30
Toluene	9.58	10.0	96	9.30	10.0	93	69-124	3	30

QA/QC Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Analyzed:**	04/11/24
Sample Matrix:	Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	**Units:**	ug/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	837580

	Lab Control Sample KQ2405827-02			Duplicate Lab Control Sample KQ2405827-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Benzene	9.60	10.0	96	9.91	10.0	99	69-124	3	30
Toluene	9.75	10.0	98	10.3	10.0	103	69-124	5	30

Client: RSEC Inc **Service Request:** K2403622
Project: EKC/0424
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS SIM

Analysis Method: 8270D
Extraction Method: EPA 3520C

Sample Name	Lab Code	2-Fluorobiphenyl 48 - 114	p-Terphenyl-d14 22 - 146
USRW-2	K2403622-016	80	
PZ-104	K2403622-017	117 *	58
MW-401	K2403622-018	105	52
PZ-107	K2403622-019	64	74
PDW-117	K2403622-020	82	
KC-9	K2403622-021	87	
W - SUMP	K2403622-022	77	
E - SUMP	K2403622-023	76	
MW-245	K2403622-024	81	
MW-256	K2403622-025	85	
Method Blank	KQ2405161-01	71	88
Lab Control Sample	KQ2405161-02	78	88
E - SUMP MS	KQ2405161-03	82	
E - SUMP DMS	KQ2405161-04	80	

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QA/QC Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	04/04/24
Sample Matrix:	Water	**Date Received:**	04/04/24
		Date Analyzed:	04/19/24
		Date Extracted:	04/8/24

Duplicate Matrix Spike Summary
Semivolatile Organic Compounds by GC/MS SIM

Sample Name:	E - SUMP	**Units:**	ug/L
Lab Code:	K2403622-023	**Basis:**	NA
Analysis Method:	8270D		
Prep Method:	EPA 3520C		

		Matrix Spike KQ2405161-03			**Duplicate Matrix Spike** KQ2405161-04					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Biphenyl	ND U	4.35	4.72	92	4.24	4.72	90	70-130	3	30
Diphenyl Ether	200	131 E	4.72	-1466 #	127 E	4.72	-1567 #	70-130	4	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

Analytical Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KQ2405161-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS SIM

Analysis Method: 8270D
Prep Method: EPA 3520C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Biphenyl	ND U	0.94	1	04/19/24 17:15	4/8/24	
Bis(2-ethylhexyl) Phthalate	ND U	2.4	1	04/19/24 17:15	4/8/24	
Diphenyl Ether	ND U	1.0	1	04/19/24 17:15	4/8/24	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	71	48 - 114	04/19/24 17:15	
p-Terphenyl-d14	88	22 - 146	04/19/24 17:15	

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QA/QC Report

Client:	RSEC Inc	**Service Request:**	K2403622
Project:	EKC/0424	**Date Analyzed:**	04/19/24
Sample Matrix:	Water	**Date Extracted:**	04/08/24

Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS SIM

Analysis Method:	8270D	**Units:**	ug/L
Prep Method:	EPA 3520C	**Basis:**	NA
		Analysis Lot:	838537

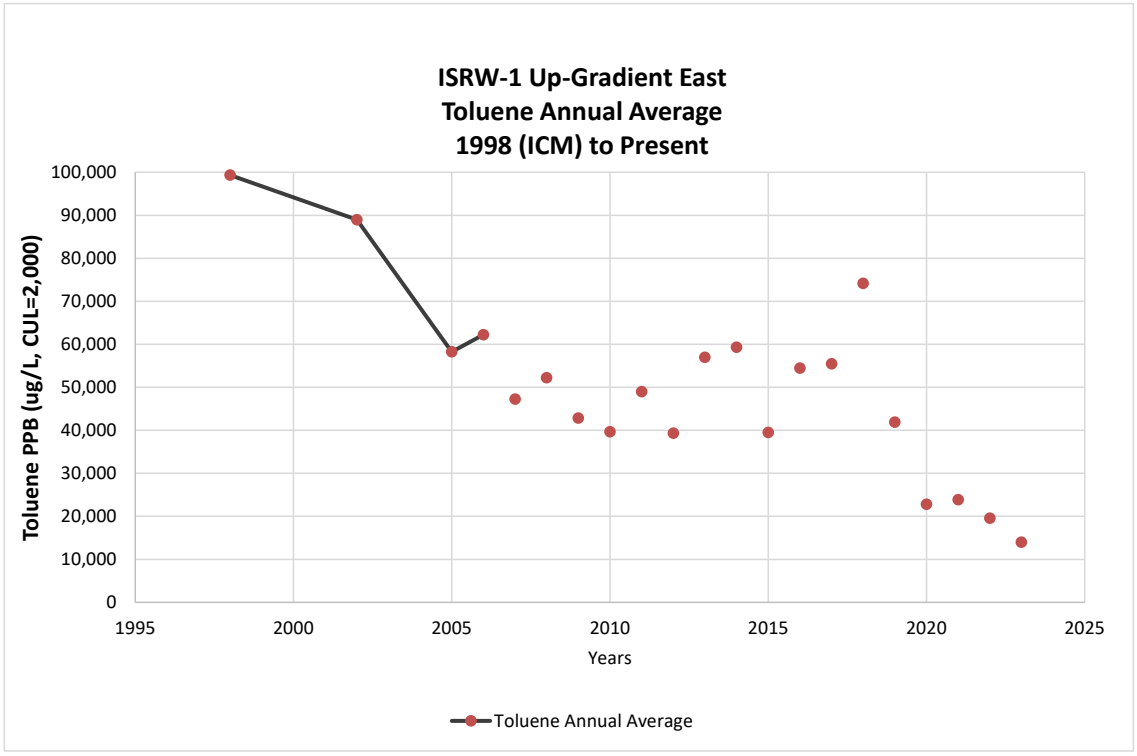
Lab Control Sample
KQ2405161-02

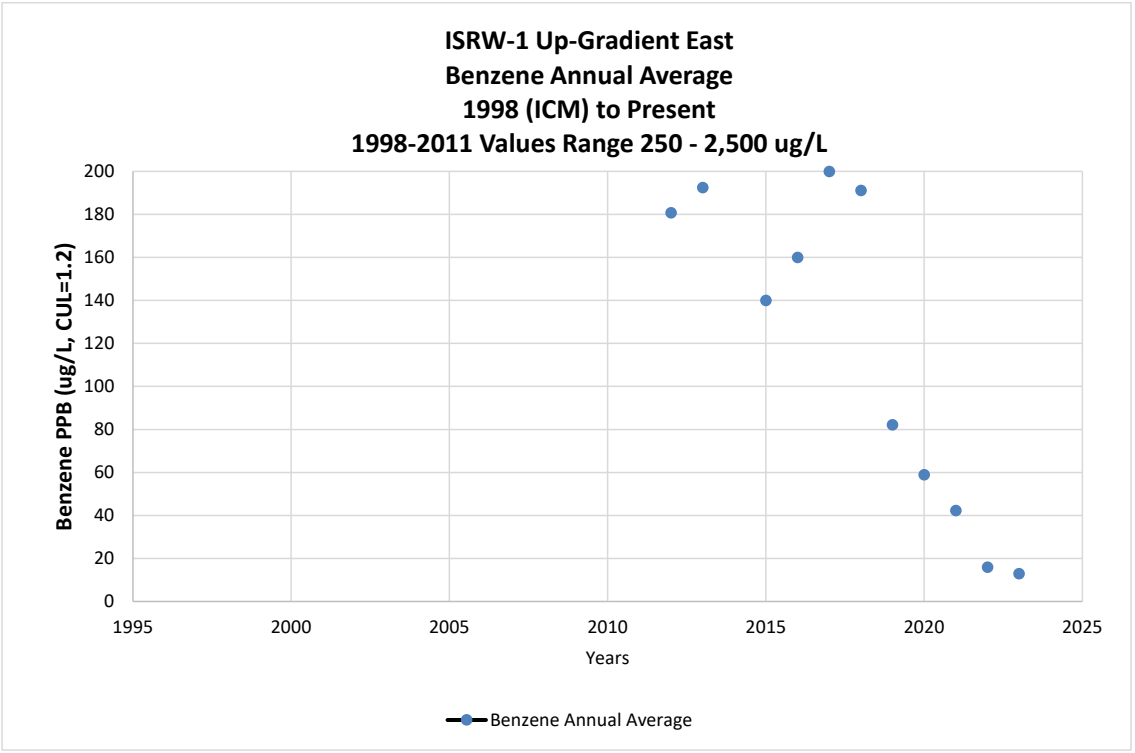
Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Biphenyl	4.01	5.00	80	70-130
Bis(2-ethylhexyl) Phthalate	7.88	5.00	158 *	64-122
Diphenyl Ether	4.05	5.00	81	70-130

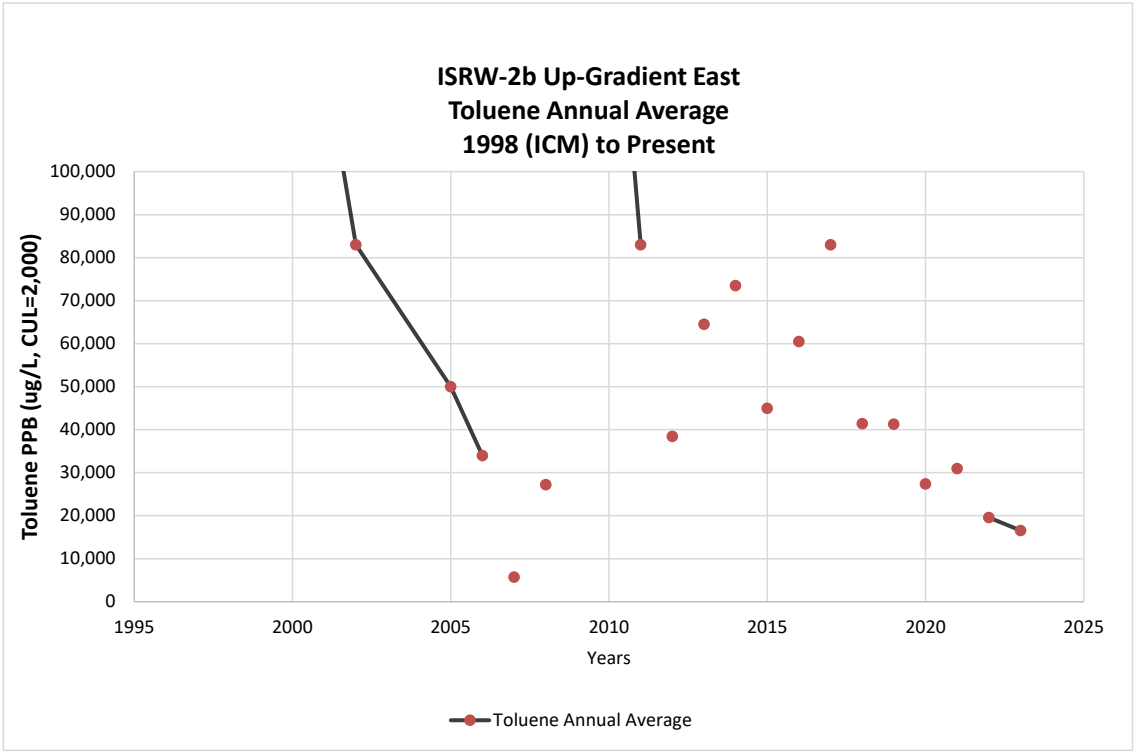
Appendix C

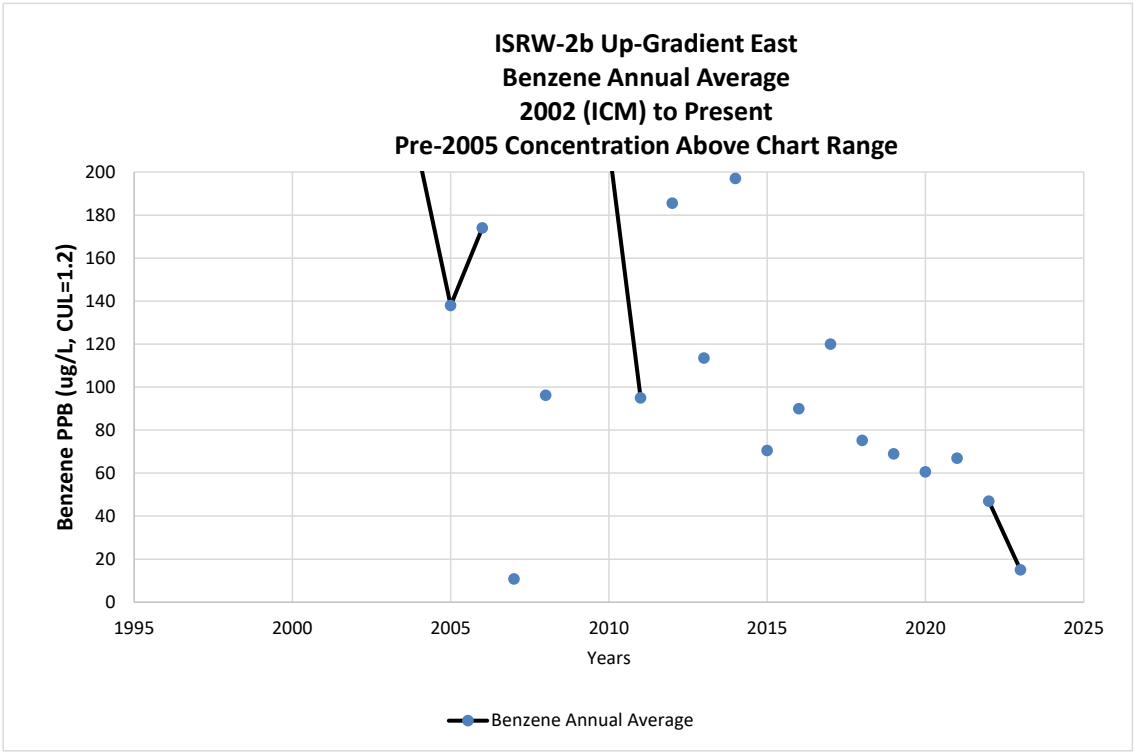
ISRW Benzene & Toluene Concentration Trend Charts

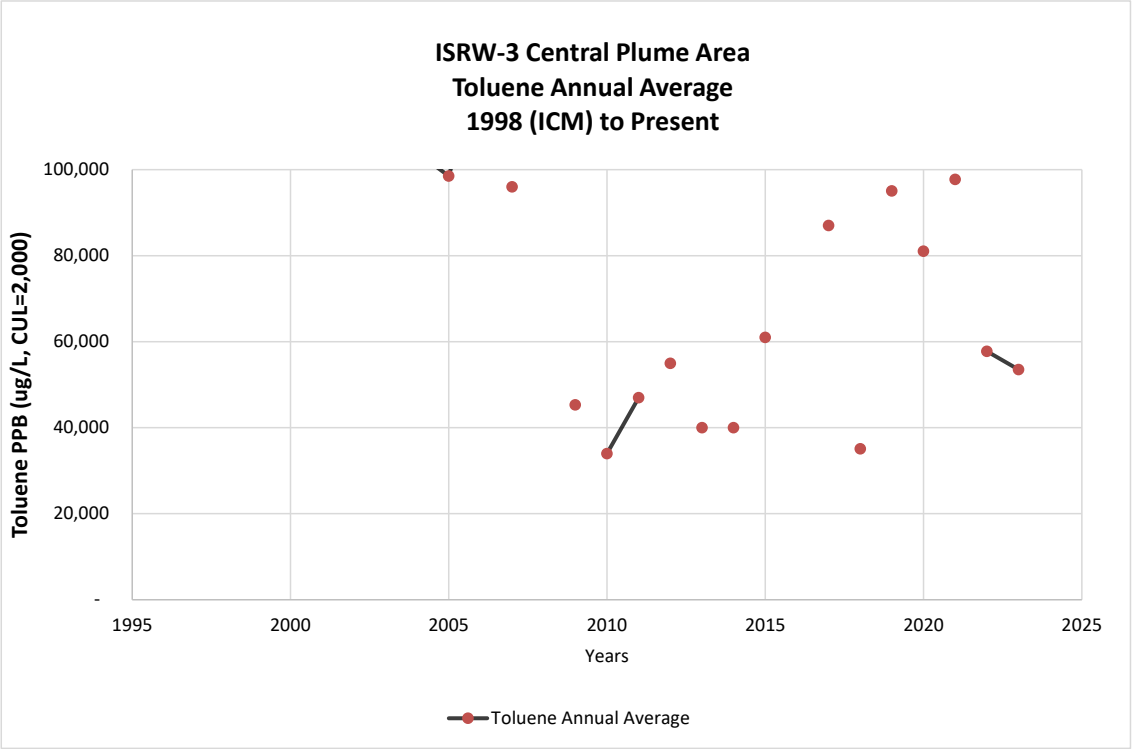
ISRW-1

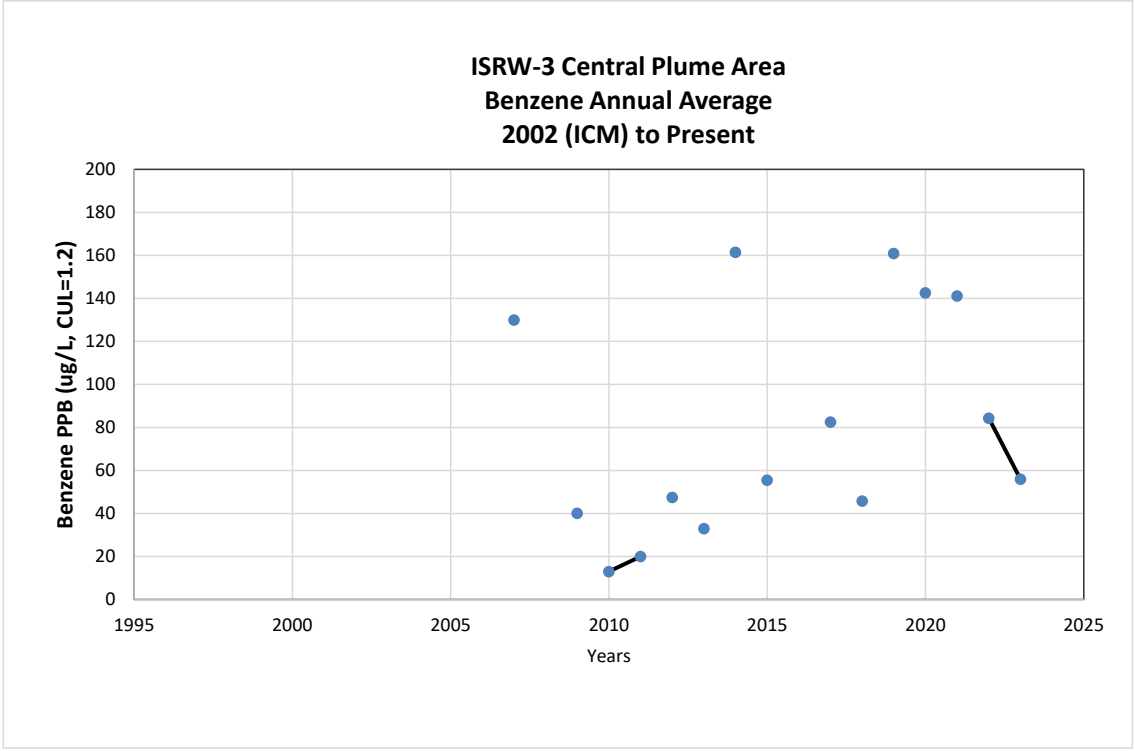

ISRW-1 Up-Gradient East
Toluene Annual Average
1998 (ICM) to Present
Toluene PPB (ug/L, CUL=2,000)
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
1995
2000
2005
2010
2015
2020
2025
Years
Toluene Annual Average

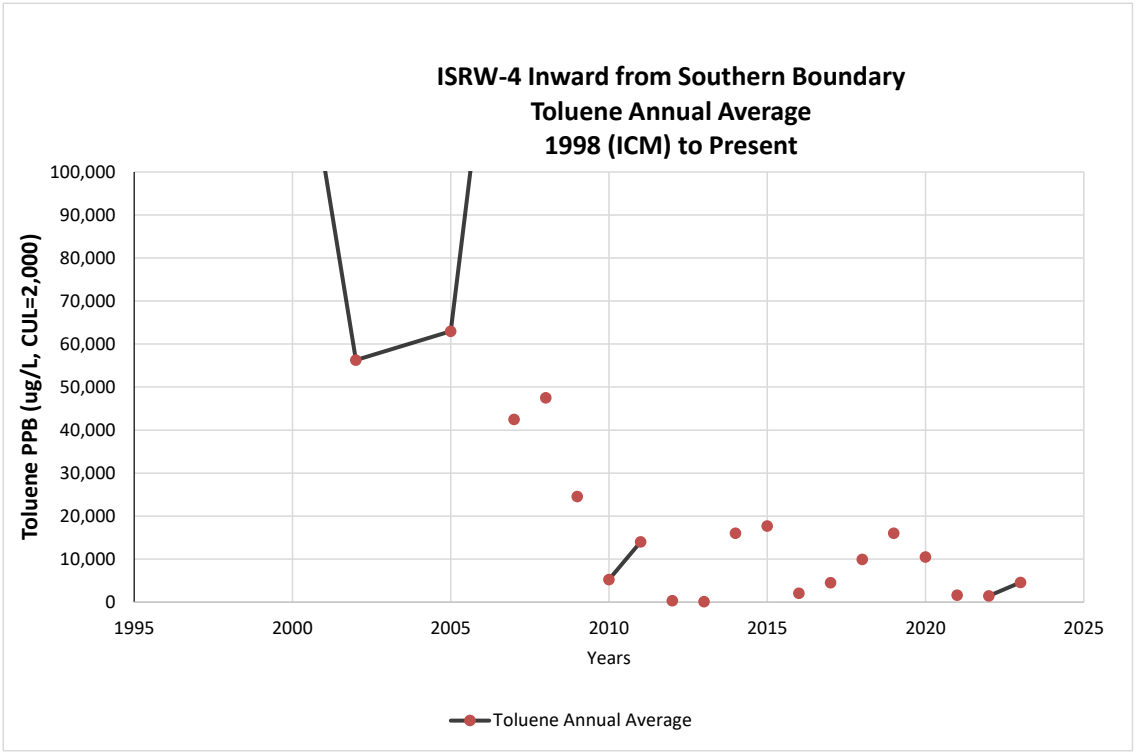

ISRW-1 Up-Gradient East
Benzene Annual Average
1998 (ICM) to Present
1998-2011 Values Range 250 - 2,500 ug/L
Benzene PPB (ug/L, CUL=1.2)
200
180
160
140
120
100
80
60
40
20
0
1995
2000
2005
2010
2015
2020
2025
Years
Benzene Annual Average

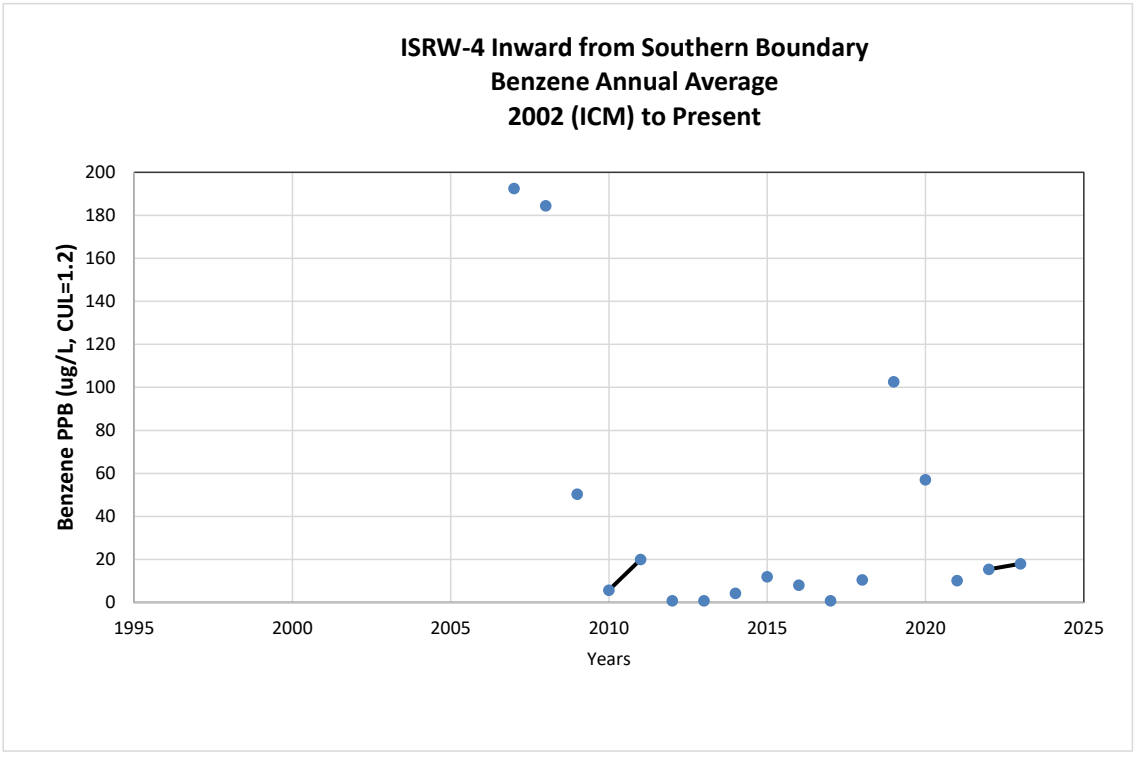

ISRW-2b Up-Gradient East
Toluene Annual Average
1998 (ICM) to Present
Toluene PPB (ug/L, CUL=2,000)
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
1995
2000
2005
2010
2015
2020
2025
Years
Toluene Annual Average

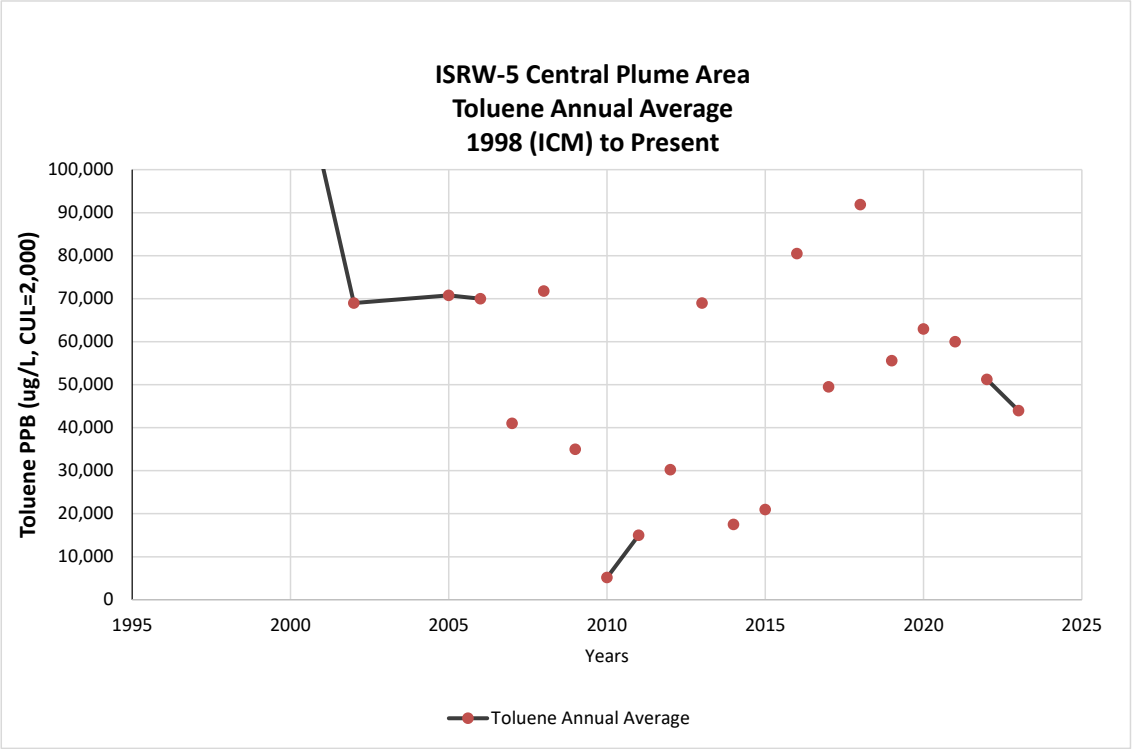

ISRW-2b Up-Gradient East
Benzene Annual Average
2002 (ICM) to Present
Pre-2005 Concentration Above Chart Range
Benzene PPB (ug/L, CUL=1.2)
200
180
160
140
120
100
80
60
40
20
0
1995
2000
2005
2010
2015
2020
2025
Years
Benzene Annual Average

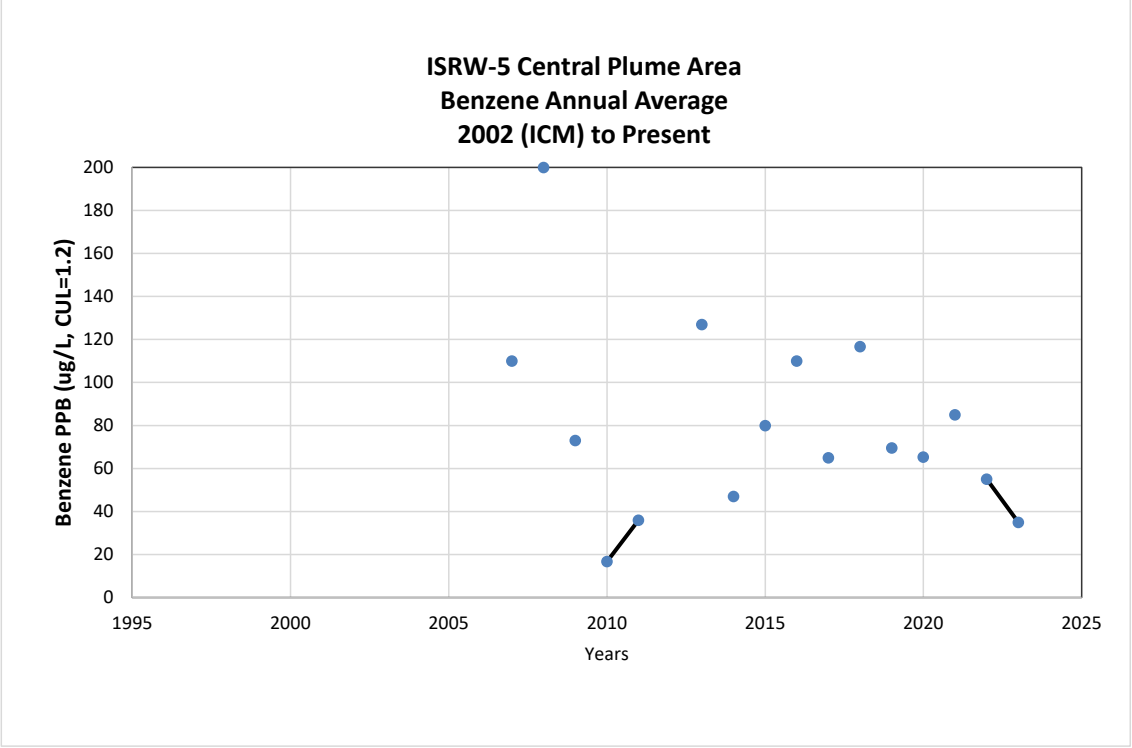

ISRW-3 Central Plume Area
Toluene Annual Average
1998 (ICM) to Present
Toluene PPB (ug/L, CUL=2,000)
100,000
80,000
60,000
40,000
20,000
-
1995
2000
2005
2010
2015
2020
2025
Years
Toluene Annual Average

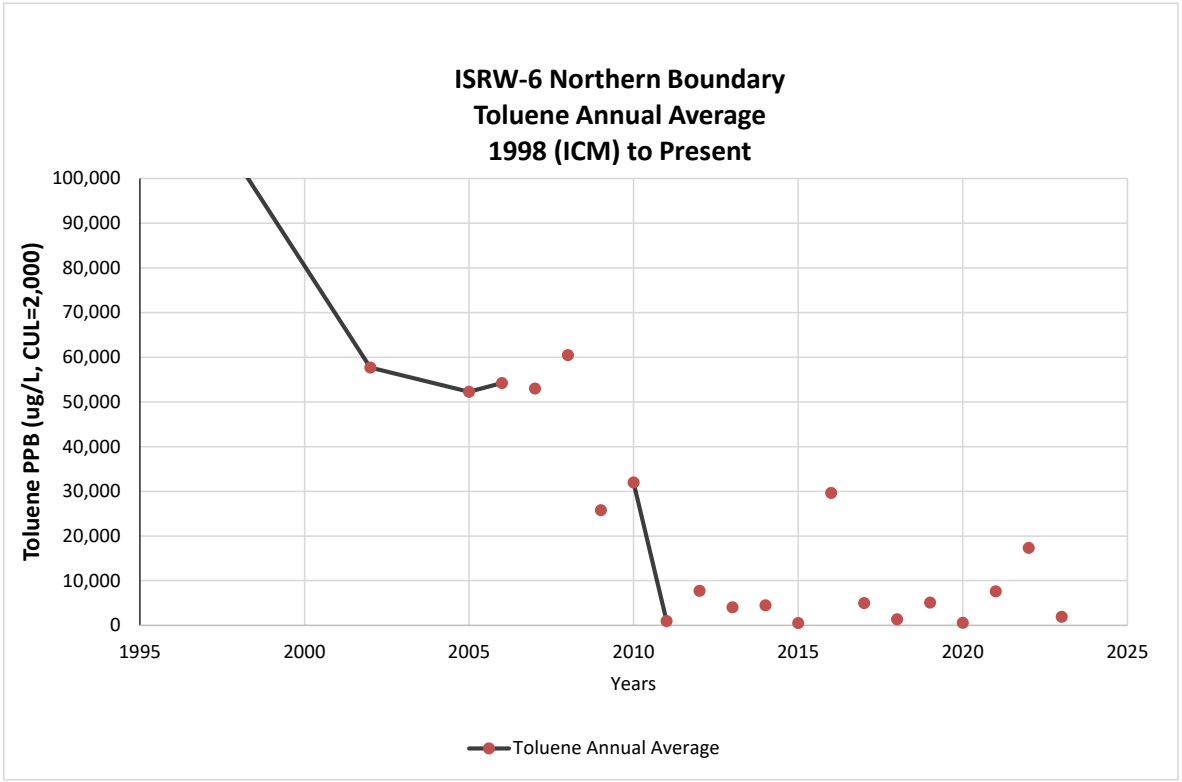

ISRW-3 Central Plume Area
Benzene Annual Average
2002 (ICM) to Present
Benzene PPB (ug/L, CUL=1.2)
200
180
160
140
120
100
80
60
40
20
0
1995
2000
2005
2010
2015
2020
2025
Years

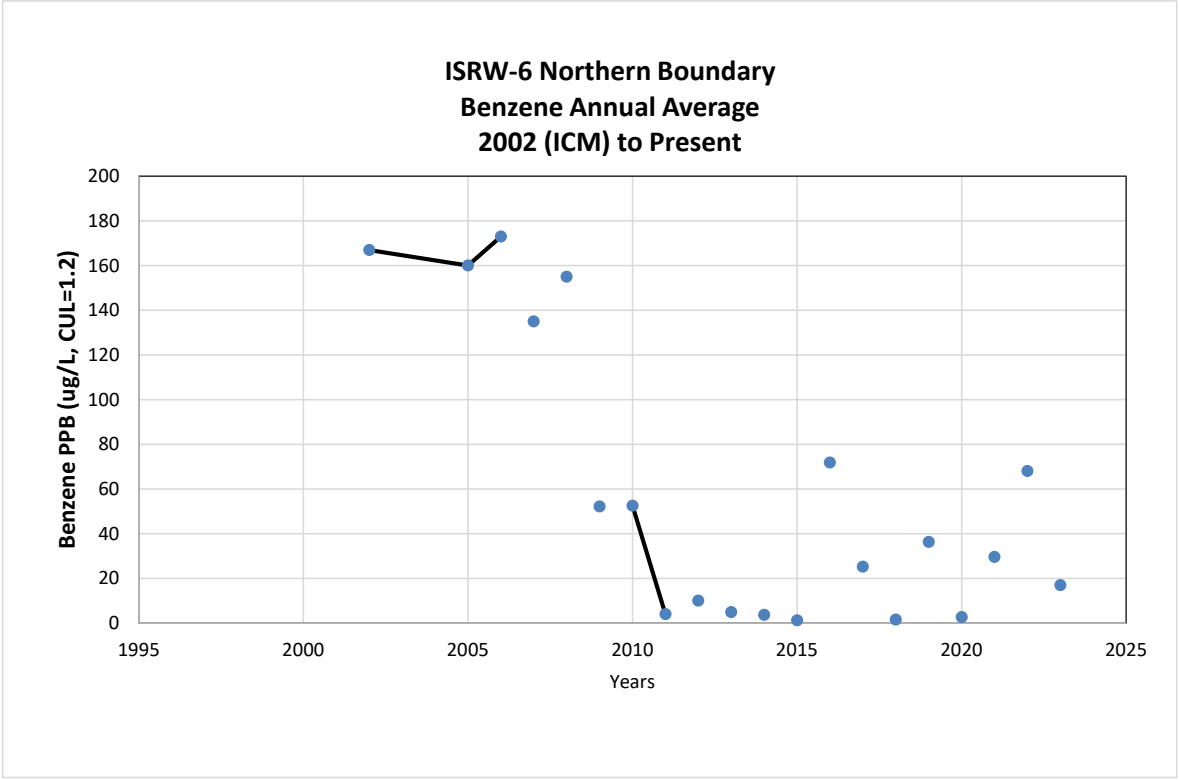

ISRW-4 Inward from Southern Boundary
Toluene Annual Average
1998 (ICM) to Present
Toluene PPB (ug/L, CUL=2,000)
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
1995
2000
2005
2010
2015
2020
2025
Years
Toluene Annual Average

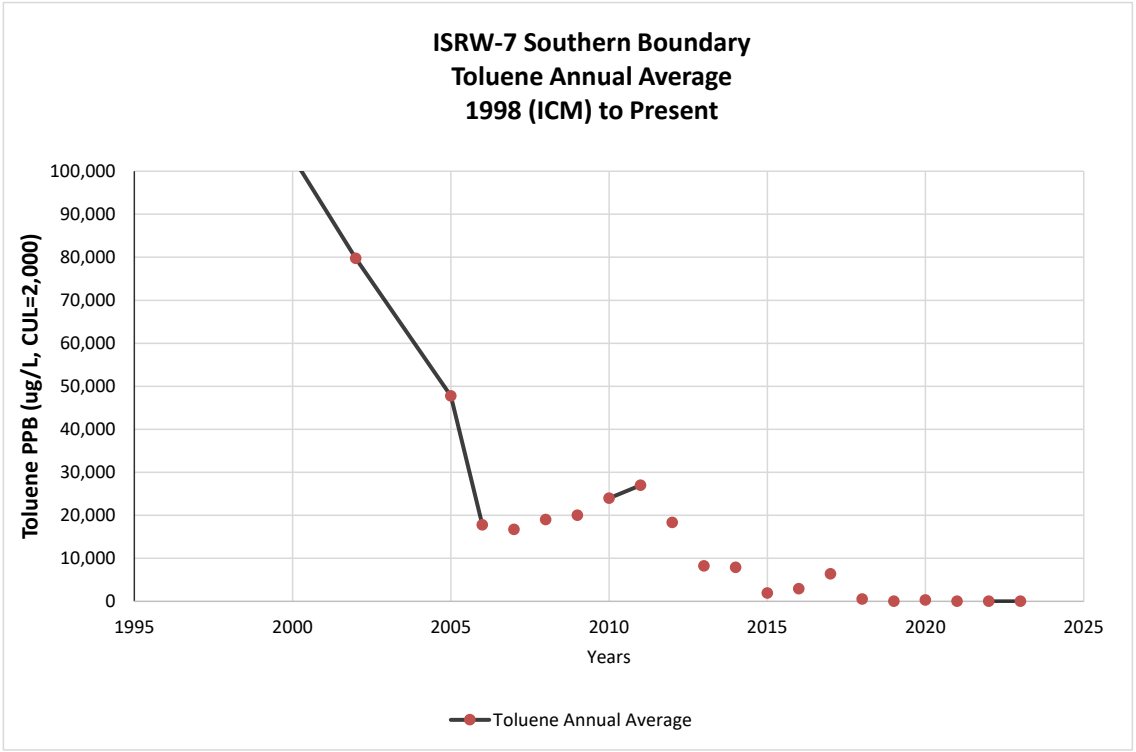

ISRW-4 Inward from Southern Boundary
Benzene Annual Average
2002 (ICM) to Present
Benzene PPB (ug/L, CUL=1.2)
200
180
160
140
120
100
80
60
40
20
0
1995
2000
2005
2010
2015
2020
2025
Years

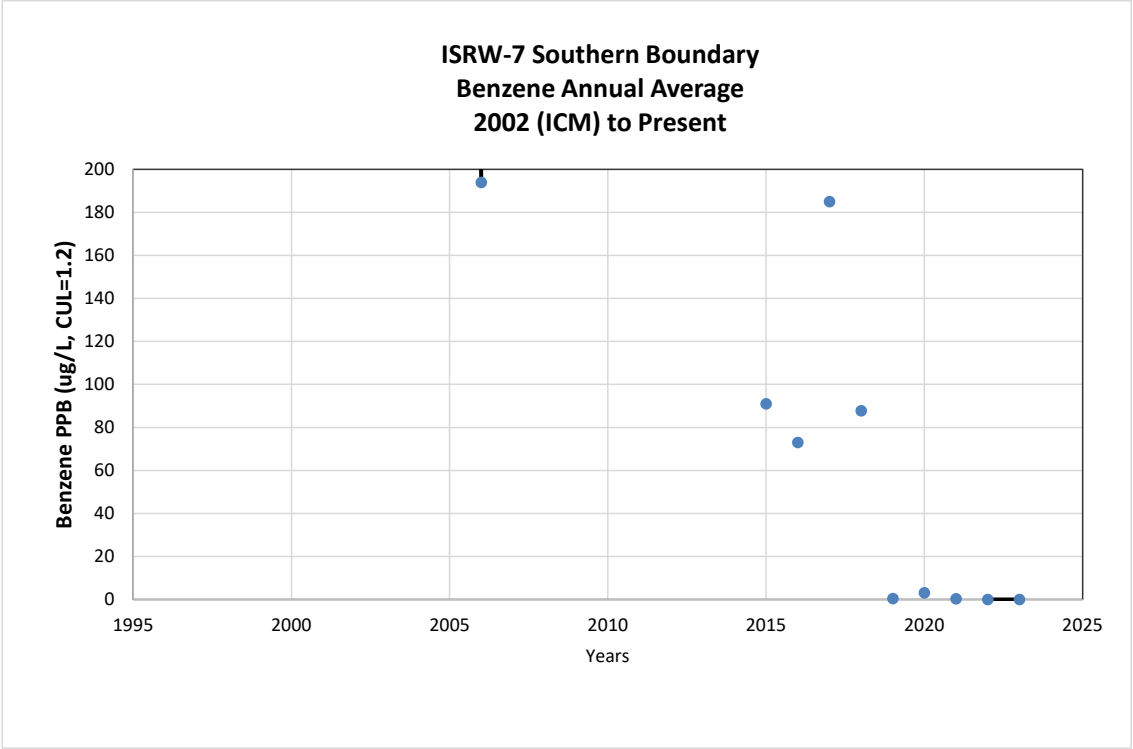

ISRW-5 Central Plume Area
Toluene Annual Average
1998 (ICM) to Present
Toluene PPB (ug/L, CUL=2,000)
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
1995
2000
2005
2010
2015
2020
2025
Years
Toluene Annual Average

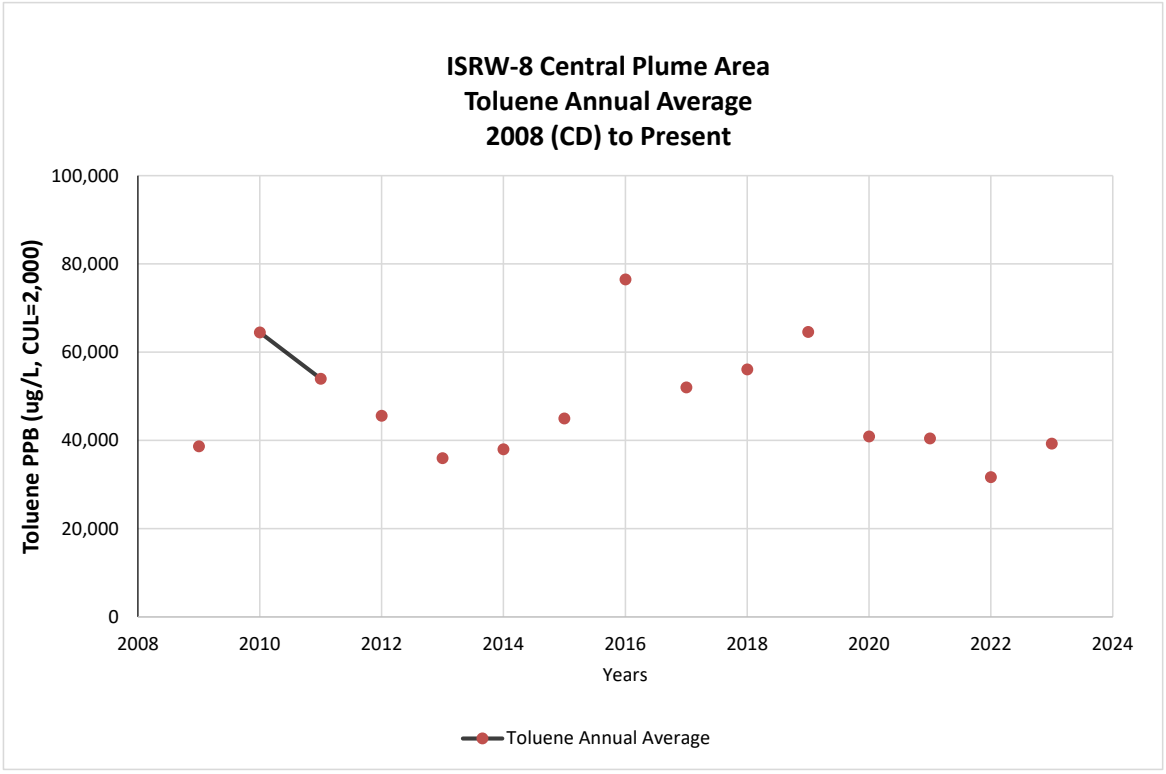

ISRW-5 Central Plume Area
Benzene Annual Average
2002 (ICM) to Present
Benzene PPB (ug/L, CUL=1.2)
200
180
160
140
120
100
80
60
40
20
0
1995
2000
2005
2010
2015
2020
2025
Years

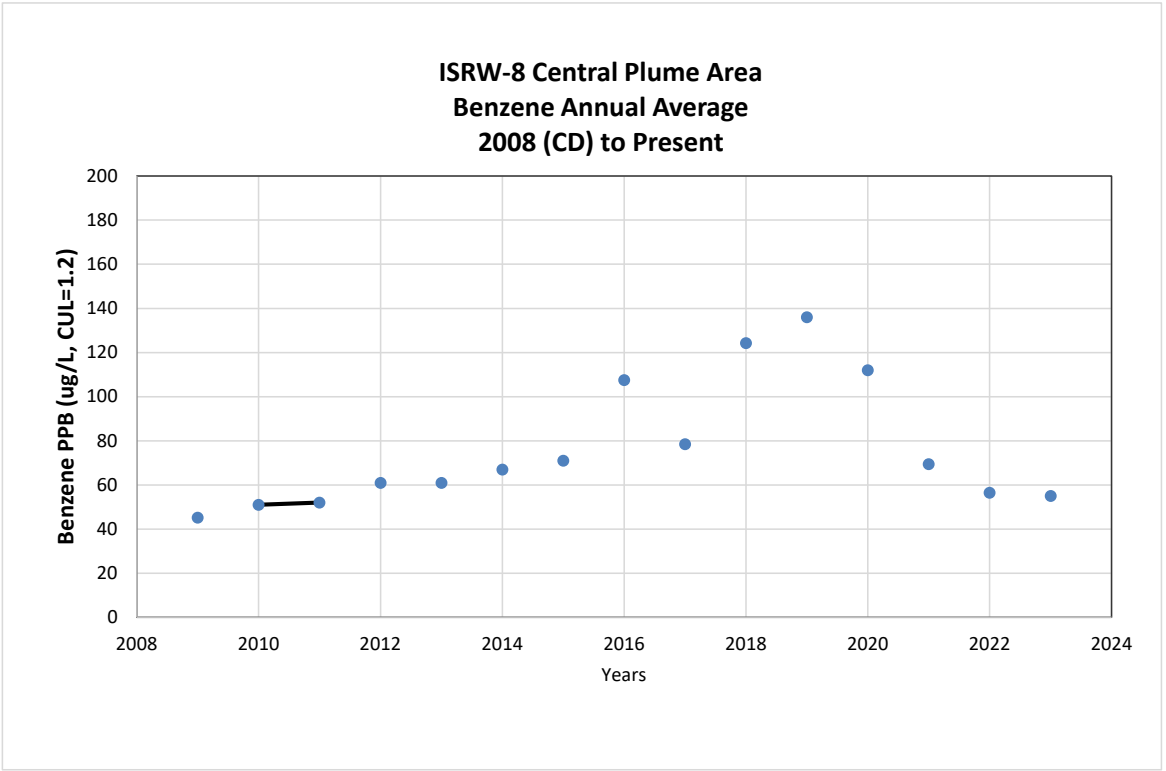

ISRW-6 Northern Boundary
Toluene Annual Average
1998 (ICM) to Present
Toluene PPB (ug/L, CUL=2,000)
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
1995
2000
2005
2010
2015
2020
2025
Years
Toluene Annual Average

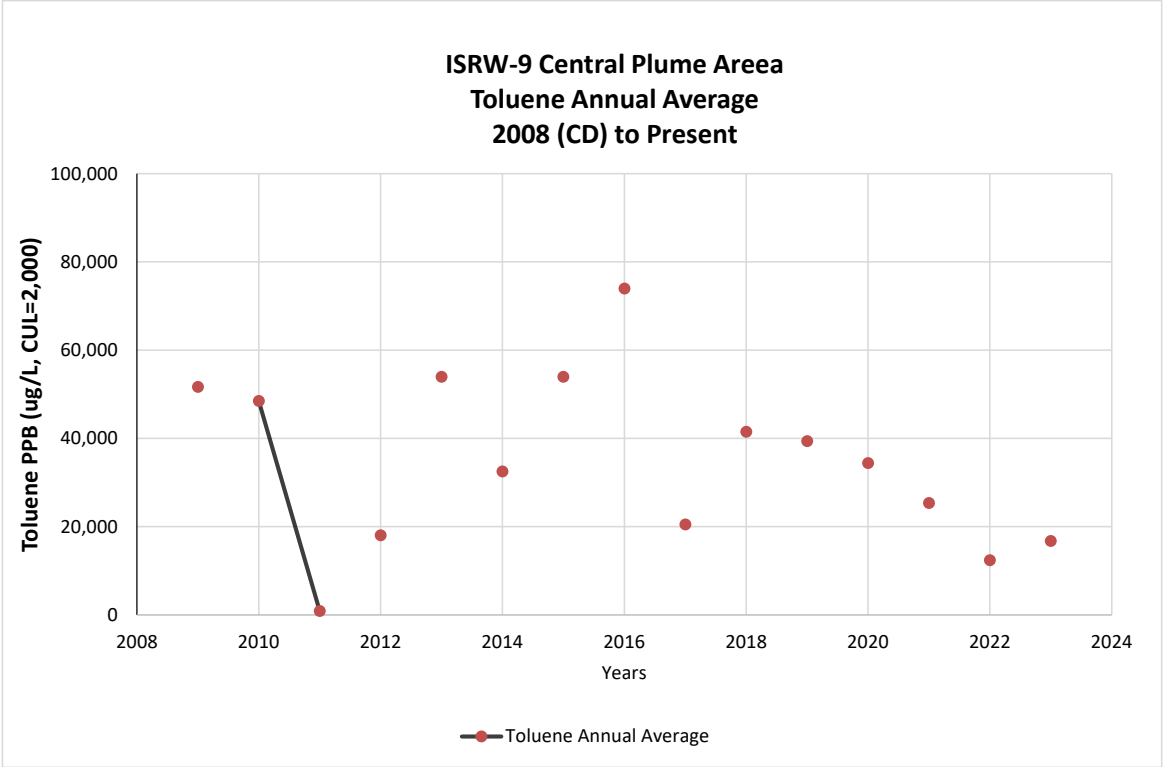

ISRW-6 Northern Boundary
Benzene Annual Average
2002 (ICM) to Present
Benzene PPB (ug/L, CUL=1.2)
200
180
160
140
120
100
80
60
40
20
0
1995
2000
2005
2010
2015
2020
2025
Years

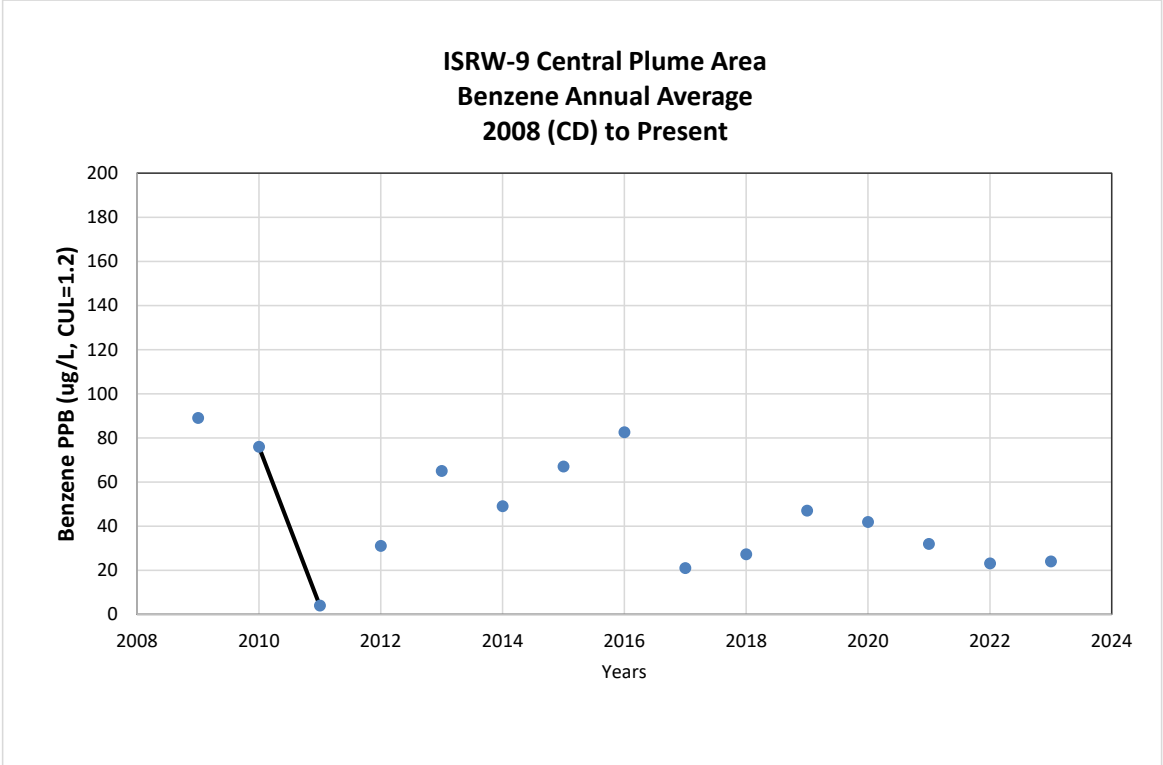

ISRW-7 Southern Boundary
Toluene Annual Average
1998 (ICM) to Present
Toluene PPB (ug/L, CUL=2,000)
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
1995
2000
2005
2010
2015
2020
2025
Years
Toluene Annual Average

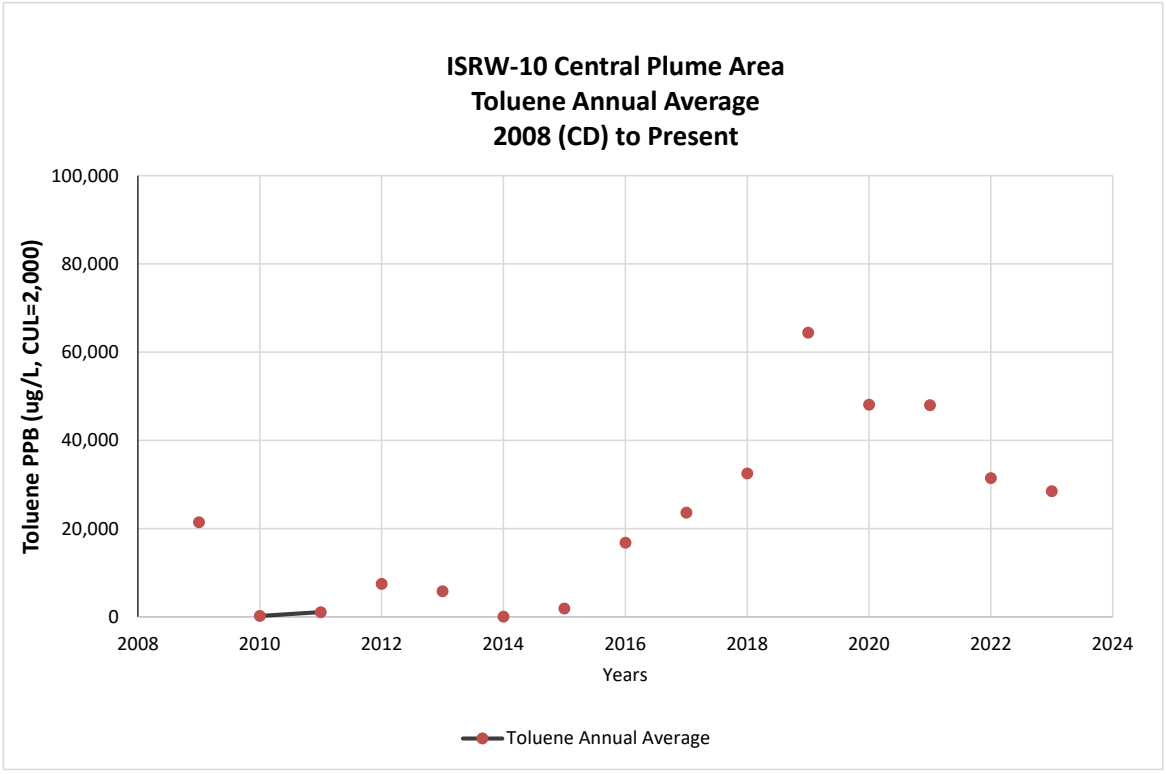

ISRW-7 Southern Boundary
Benzene Annual Average
2002 (ICM) to Present
Benzene PPB (ug/L, CUL=1.2)
200
180
160
140
120
100
80
60
40
20
0
1995
2000
2005
2010
2015
2020
2025
Years

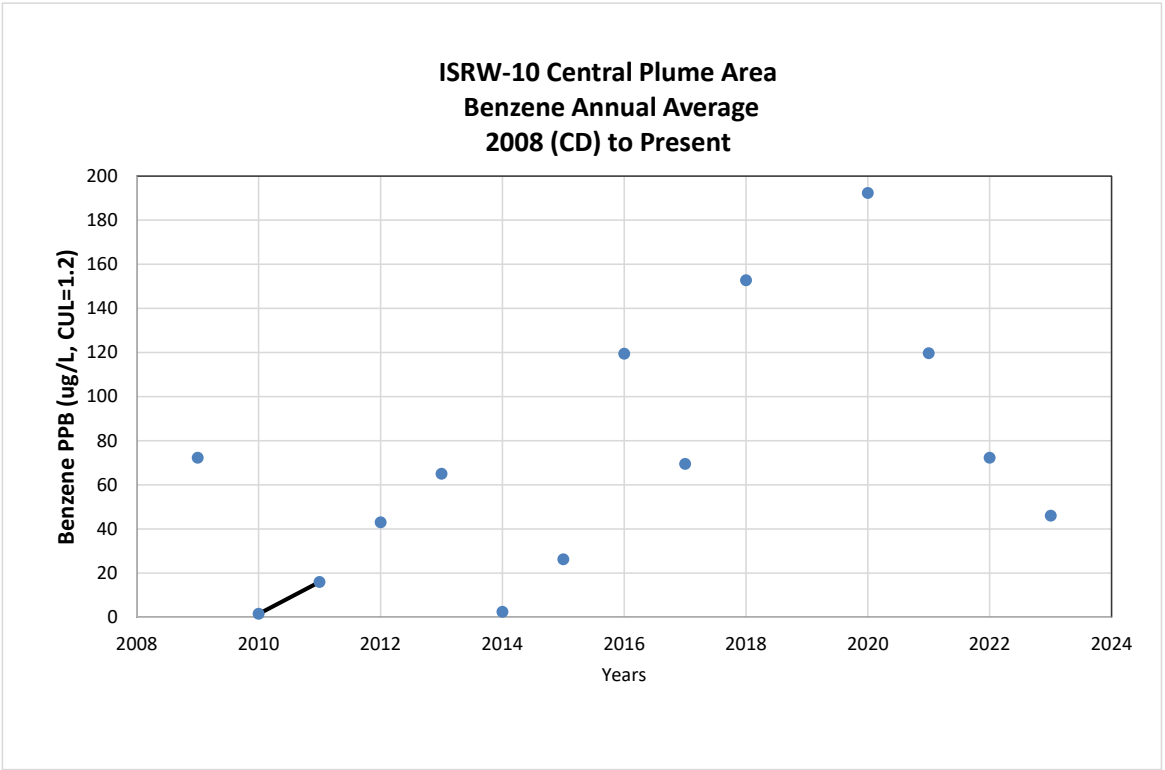

ISRW-8 Central Plume Area
Toluene Annual Average
2008 (CD) to Present
Toluene PPB (ug/L, CUL=2,000)
100,000
80,000
60,000
40,000
20,000
0
2008
2010
2012
2014
2016
2018
2020
2022
2024
Years
Toluene Annual Average


ISRW-8 Central Plume Area
Benzene Annual Average
2008 (CD) to Present
Benzene PPB (ug/L, CUL=1.2)
200
180
160
140
120
100
80
60
40
20
0
2008
2010
2012
2014
2016
2018
2020
2022
2024
Years


ISRW-9 Central Plume Areea
Toluene Annual Average
2008 (CD) to Present
Toluene PPB (ug/L, CUL=2,000)
100,000
80,000
60,000
40,000
20,000
0
2008
2010
2012
2014
2016
2018
2020
2022
2024
Years
Toluene Annual Average


ISRW-9 Central Plume Area
Benzene Annual Average
2008 (CD) to Present
Benzene PPB (ug/L, CUL=1.2)
200
180
160
140
120
100
80
60
40
20
0
2008
2010
2012
2014
2016
2018
2020
2022
2024
Years


ISRW-10 Central Plume Area
Toluene Annual Average
2008 (CD) to Present
Toluene PPB (ug/L, CUL=2,000)
100,000
80,000
60,000
40,000
20,000
0
2008
2010
2012
2014
2016
2018
2020
2022
2024
Years
Toluene Annual Average


ISRW-10 Central Plume Area
Benzene Annual Average
2008 (CD) to Present
Benzene PPB (ug/L, CUL=1.2)
200
180
160
140
120
100
80
60
40
20
0
2008
2010
2012
2014
2016
2018
2020
2022
2024
Years