Tesoro Alaska Company LLC

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May 30, 2024

Ms. Janice E. Palumbo
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Office of Solid Waste and Emergency Response
RCRA Permitting Unit
U.S. Environmental Protection Agency, Region 10
1200 Sixth Avenue
Seattle, WA 98101

Submitted via email
Palumbo.jan@epa.gov

RE: Submission of Quarterly Progress Report #24-2
Tesoro Alaska Company LLC
Kenai Refinery
EPA ID# AKD 048679682

Dear Ms. Palumbo:

Enclosed is Tesoro Alaska's Kenai Refinery Quarterly Progress Report (QPR) Number 24-2, prepared per the requirements of Tesoro Alaska Company's Resource Conservation and Recovery Act (RCRA) Post-Closure Permit, issued on November 1, 2017 by the U.S. Environmental Protection Agency. This report describes activities conducted February through April 2024.

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

Please contact Maya Lehl of my staff (907) 776-4225 should you have questions or comments regarding the enclosed report.

Sincerely,

Bruce Jackman
General Manager, Kenai Refinery

Enclosure- Quarterly Progress Report Number 24-2

CC via email: Peter Campbell, peter.campbell@alaska.gov, ADEC Soldotna Office
Tong Li, tongligws@comcast.net, ASE

Quarterly Progress Report No. 24-2

February, March, and April 2024

RCRA POST-CLOSURE PERMIT No. AKD 04867 9682

Tesoro Alaska Company, LLC
Kenai, Alaska

May 30, 2024

Table of Contents

Table of Contents (cont.)

List of Tables

List of Tables (cont.)

List of Figures

List of Appendices

List of Abbreviations and Acronyms

µg/L	micrograms per liter
AS	air sparge
BTEX	benzene, toluene, ethylbenzene, and xylenes
CAPP	corrective action program plan
CAMP	corrective action modification plan per Permit condition III.D.1
COC	contaminant(s) of concern (Permit table 2)
COPC	contaminant(s) of potential concern (Permit Table 8)
CSM	conceptual site model
EPA	Environmental Protection Agency
gpm	gallons per minute
HAS	Highway Air Sparge
IP	indicator parameter(s) (Permit Table 3)
LTF	lower tank farm
MLLW	mean lower low water level
NSZD	natural source-zone depletion
Permit	Tesoro's Alaska refinery Part B Post-Closure Permit (AKD 04867 9682)
PRM	Phillips remedial measure
PM	Phillips-Marathon
Q##-#	quarter (year-quarter)
QPR (##-#)	quarterly progress report (year-quarter)
TCE	trichloroethene
TGPS	target groundwater protection standard
UCA	upper confined aquifer

List of Abbreviations and Acronyms (cont.)

SVE	soil vapor extraction
SI	surface impoundment
Tesoro	Tesoro Alaska Company

1.0 INTRODUCTION

Tesoro Alaska Company, LLC (Tesoro) is implementing the requirements specified in the Region 10 Environmental Protection Agency (EPA) Post-Closure Permit No. AKD 04867 9682 (Permit) for Marathon's Kenai refinery in Kenai, Alaska, effective November 1, 2017. Information regarding the performance of the EPA-approved groundwater corrective action program plan (CAPP) is provided herein and includes activities that were completed or in progress during the spring quarter, February through April 2024 (spring quarter).

In winter and summer quarters, Tesoro performs routine system monitoring, and sampling or gauging required by active corrective action modification plans (CAMPs). Winter and summer Quarterly Progress Reports (QPRs) are condensed to include only summaries of activities and systems data.

In spring and fall quarters, Tesoro performs comprehensive monitoring including gauging and sampling monitoring wells required by Permit Table 4 for indicator parameters (IPs), contaminants of concern (COCs), and/or contaminants of potential concern (COPCs), and additional wells required by active CAMPs. Spring and fall QPRs are more comprehensive and include data analysis, a summary of corrective action changes, potentiometric surface maps, semi-annual effectiveness demonstrations, and systems data.

Appendix A contains data validation laboratory data packages for analyses performed during the quarter. Appendix B contains historical data including historical data for monitoring wells sampled this quarter (B-1) and historical benzene concentrations for PM swamp surface water samples (B-2). Appendix C displays concentration/depth to groundwater vs time graphs. Appendix D includes an Index of QPR Appendices. Appendix E contains the Q24-2 SI Area Supplement Groundwater Assessment Data.

2.0 SURFACE IMPOUNDMENT (SI) AREA

Corrective Measure Requirements	Provided/Discussed	Exceptions
Gauging per Permit Table 5	Table 1	None.
Groundwater contour maps per Permit III.E.3.c.vii	Section 2.2, Figure 2A	None.
Sampling for IPs per Permit Table 4	Section 2.3, Table 2A	None.
Assessment of change in contaminant levels, pathways, or impacts	Section 2.4	None.
Annual sampling for COCs per Permit Table 4	Section 2.5, Table 2A	None.
Annual sampling for COPCs per Permit Table 4	Section 2.6, Table 2B	None.
Quarterly treatment per Permit Table 6	Table 3A	None.
Performance demonstrations Permit III.D.3.a.	Section 2.6, Tables 7 and 8, Figure 3A	SD-3 & SMW-36

2.1 SI SYSTEM STATUS

The western section of the SI air sparge (AS) system (AS wells SAS-2 through SAS-10) was turned off for a pilot-scale shutdown following the installation of a liquid-activated carbon wall in October 2022. As a result of the planned pilot-scale shutdown, performance criteria, as designed for an operating system, were not met for the majority of the weeks. The system operating records are provided in Table 3A, and the laboratory report is included in Appendix A.

In accordance with the SI Area Supplemental Groundwater Pilot Study Remedial Action Plan (RAP) submitted September 19, 2022, Tesoro installed a pilot subsurface carbon barrier wall on October 8 through 17, 2022. PlumeStop™ combined with S-Micro Zero Valent Iron (S-MZVI) was injected along a 120 ft transect within the area of highest groundwater impacts to improve the capture and reduce migration of trichloroethene (TCE), vinyl chloride (VC), and benzene contaminated groundwater. The plan included a pilot shutdown of portions of the upgradient AS system captured by the new barrier. A comprehensive review of the installation activities is presented in Q23-1 Appendix C, SI Area Supplemental Groundwater Pilot Study Installation Activities.

Updated carbon barrier groundwater assessment monitoring and maintenance information is included in Q23-4 SI Supplemental Groundwater Assessment Monitoring. Appendix E contains the SI Field Parameter Summary (Table E-1) and SI Analytical Summary (Table E-2) for sampling events following the carbon wall injection. Updated Supplemental RAP reporting will be discussed in the Q24-4 Report.

2.2 GROUNDWATER FLOW PATH

Groundwater flow paths and gradients in the SI area are shown on Figure 2A for the February gauging event. The groundwater flow direction in the SI area is typically to the south to southwest, suggesting plume flow paths pass through the SI AS system and carbon barrier wall zones of influence. However, significant precipitation over the past year and a half has resulted in elevated groundwater levels as high or higher than levels measured in approximately 2013-2014. Similar to the 2013-2014 groundwater elevations, groundwater elevation increases have changed the normally consistent groundwater gradients at the SI area to a west to southwest pattern, but the flow direction change has potentially reduced the capture of TCE, benzene, and VC along the carbon wall, as contaminant flux (measure of contaminant migration in groundwater) potentially misses moving through the carbon wall. Groundwater elevations seem to be slowly decreasing and the groundwater flow direction appears to be returning to a more south to southwest flow direction as of April and shown in Figure 4. Monthly gauging events will continue throughout Q24-3 to assess the groundwater elevations and flow paths within the SI area.

2.3 INDICATOR PARAMETER PLUME MAP EVALUATION

The annual plume map of indicator parameters for the SI area (Figure 3A) shows the TCE plume continues to extend past the AS system, currently shut off to well SMW-35, SMW-36, and SMW-37. Compliance monitoring well SMW-29 measured a TCE concentration below the Target Groundwater Protection Standard (TGPS) at 1.96 µg/L. However, SMW-29 is no longer the downgradient edge of the plume because SMW-36 is consistently above the TGPS.

Following the installation of the carbon wall, TCE concentrations at SMW-31 and SMW-21A have been non-detect, creating an anticipated gap in the TCE plume (Figure 3A). Monitoring wells will continue to be evaluated on a quarterly basis.

The measured TCE concentration in SMW-36, located downgradient of SMW-29, was above the TGPS at 3.62 µg/L. Although SMW-36 remains above cleanup criteria, concentrations have begun to decrease following the installation of the carbon wall in the fall of 2022. Newly installed monitoring wells SMW-37, cross gradient of SMW-29, displayed a TCE concentration above the TGPS at 9.21 µg/L. Continued monitoring will be performed to assess TCE concentrations at SMW-36 and SMW-37 and the effectiveness of the carbon wall.

SD-3 measured benzene above TGPS, at 14.6 µg/L and demonstrates a statistically significant positive trend. Monitoring well SD-3 is up-gradient of the carbon wall and the groundwater flowing past this well is treated (i.e., “captured”) downgradient.

SMW-I-1 had benzene and TCE concentrations above TGPS, at 5.38 µg/L and 19.6 µg/L respectively; however, both display a statistically significant negative trend (Table 7 and Table 8B-8C). SMW-I-1 is up-gradient of the treatment system and the groundwater flowing past this well is treated (i.e., "captured") downgradient.

SMW-05 had TCE concentrations measured above the TGPS, at 3.65 µg/L and displays a not statistically significant positive trend. Increased TCE concentrations are likely the results of increased groundwater elevations and a temporary shift in groundwater flow directions. Continued monitoring will be performed quarterly to further assess SMW-05.

SMW-34 measured TCE above TGPS, at 51.8 µg/L and demonstrates a not statistically significant negative trend. Monitoring well SMW-34 is up-gradient of the carbon wall and the groundwater flowing past this well is treated (i.e., "captured") downgradient.

SMW-24 was inaccessible due to large snowpack and unable to be sampled in Q24-2. This well will be sampled in Q24-3.

2.4 ASSESSMENT OF CHANGE

Monitoring wells SD-3, SMW-05, SMW-09, SMW-34, and SMW-37 have vinyl chloride concentrations above the vinyl chloride TGPS of 0.19 µg/L in Q24-2. These increases are primarily being addressed by the carbon wall. Vinyl chloride is daughter product of TCE breakdown and the observed increases in the wells on the western portion of the site suggests possibility of inconsistent groundwater flow direction in the area. The current groundwater flow pattern is similar to those experienced after high groundwater levels in approximately 2013-2014.

All other SI wells have contaminant concentrations within or below their historical ranges. Benzene or TCE concentrations (depending on the well) and depth to groundwater versus time graphs are available in Appendix C for selected SI Area wells (SMW-I-1, SMW-12B, SMW-21A, and SMW-31). No significant changes in impacts to human health and the environment have been identified since the last progress report.

2.5 COPC REVIEW

Table 2B summarizes the results of COPC analyses for SI well SMW-I-1. All COPC analytes were either not detected or already listed as COC analytes on Permit Table 2.

2.6 PERFORMANCE DEMONSTRATIONS

Tables 7 and 8, and Figure 3A are summaries of the required performance demonstrations for the SI plume area. The SI corrective measure is performing satisfactorily and meets the performance requirements of the Permit with the following exceptions:

- SD-3 is located upgradient of the carbon wall treatment zone, and the benzene concentration remains above the TGPS with a statistically significant positive trend (Table 7 and Table 8A). Well SD-3 performance demonstration failure; however, SD-3 is up-gradient of the treatment system and the groundwater flowing past this well is treated (i.e., "captured") downgradient.
- SMW-36 is located downgradient of the SI AS treatment zone, TCE concentration remains above the TGPS (3.62 µg/L) with a statistically significant positive trend. TCE exceedances are being addressed by the carbon barrier wall installed upgradient of SMW-36 to reduce the TCE dissolved phase contaminant migration.

Monitoring wells SMW-I-1, SMW-05, and SMW-34 were above TGPS for benzene and/or TCE but display statistically significant negative or not statistically significant positive trends (Tables 8B, 8C, 8D and 8E) and are up-gradient of the treatment system and the groundwater flowing past this well is treated (i.e., "captured") downgradient.

2.7 UPCOMING ACTIVITIES

Demonstration failures are intended to be addressed by the carbon wall installation with effectiveness assessed through quarterly monitoring. An updated assessment of the carbon barrier wall efficiency will be submitted in conjunction with the Q24-4 Report, along with supplemental RAP reporting.

3.0 A-AQUIFER

Corrective Measure Requirements	Provided/Discussed	Exceptions
Gauging per Permit Table 5	Table 1	None
Groundwater contour maps per Permit III.E.3.c.vii	Section 3.2, Figure 2A,	None
Sampling for IPs per Permit Table 4	Section 3.3, Table 2A,	None
Assessment of change in contaminant levels, pathways, or impacts	Section 3.4	None
Annual sampling for COCs per Permit Table 4	Section 3.5, Table 2A,	None
Annual sampling for COPCs per Permit Table 4	Section 3.5, Table 2B	None
Quarterly treatment per Permit Table 6	Table 3B, 3C, 3D, 4, 5, and 6	None
Performance demonstrations Permit III. D.3.a.	Section 2.6, Tables 7 and 8, Figure 3A	None

3.1 PHILLIPS MARATHON (PM) AND PHILLIPS REMEDIAL MEASURE (PRM) SYSTEM STATUS

The PRM AS system operating records are provided in Table 3B. All Permit-required corrective action system criteria for this system were met this quarter.

The Highway Air Sparge (HAS) system, the West Highway Air Sparge (WAS) system, and Highway Soil Vapor Extraction (SVE) system operating records are provided in Tables 3C and 3D, respectively. The effectiveness of the WAS is described below, in Section 4.1.

Groundwater extraction rates for the A-aquifer are provided in Table 4. The A-Aquifer groundwater extraction system met the target 60 gallons per minute (gpm) for 13 out of 13 weeks during Q24-2.

Groundwater injection rates to the A-aquifer are reported in Table 5. All Permit-required injection rates were met this quarter.

3.2 GROUNDWATER FLOW PATH

Groundwater flow paths and gradients for the A-Aquifer are shown on Figures 2A and 2B. Figure 2A displays A-Aquifer fluid levels east of the PRM where the A- and B-Aquifers are merged. Groundwater flow directions were

similar to recent quarters, with general flow southwest toward the PRM area. Groundwater elevations are above long-term averages but have begun to decrease since last measured in Q23-4, when elevations were the highest recorded since 2013-2014 levels. Outside of the SI, groundwater flow directions over the last year have not appeared to change, but higher groundwater elevations could result in concentration fluctuation within the plume.

Swamp water level could not be gauged during Q24-2 because of inaccessibility due to snow and ice conditions, but generally high groundwater conditions suggest a lateral transport mechanism for benzene from groundwater to surface Swamp water. However, historical data suggests attenuation of hydrocarbons in the Swamp during summer months is adequate to limit measurable impact of benzene in the Swamp waters. If groundwater elevations continue to drop, hydraulic separation between groundwater and the SWAMP surface water occurs. In this condition, potential flux from the Swamp to the unconfined aquifer vertically exists but is low because of the slow vertical movement through the fine-grain soil lining the Swamp.

Groundwater flow patterns in the PRM area (Figure 2B) are generally to the southwest with flow paths that suggest extraction influence from R-40. Plume flow paths that are not captured by recovery wells, are captured by the PRM AS system.

3.3 INDICATOR PARAMETER PLUME MAP EVALUATION

The extent of dissolved- and free-phase contamination shown on Figures 2A and 3A are similar to previous quarters. In the PRM area, the benzene concentration at E-244 in Q24-2 was non-detect, continuing a decreasing trend. The well is located at the northwestern edge of the benzene plume and groundwater at this location may flow north of the historical PRM air sparge system. Data suggests that the PRM AS expansion in June of 2020, is effectively capturing and inhibiting downgradient migration of benzene to E-244. Benzene concentrations at E-244 will continue to be monitored to demonstrate the AS system expansion remains effective. The Southern Expansion is discussed below in Section 3.4.1.

Benzene concentrations at compliance well E-168 remained below TGPS in Q24-2. Upgradient PRM AS system will be evaluated to determine if system adjustments or repairs might be necessary. Other wells within the benzene plume with concentrations above the TGPS have flow paths that are intercepted by groundwater extraction wells or the PRM AS system.

E-190A was inaccessible due to snowpack and unable to be sampled in Q24-2. It will be sampled in Q24-3.

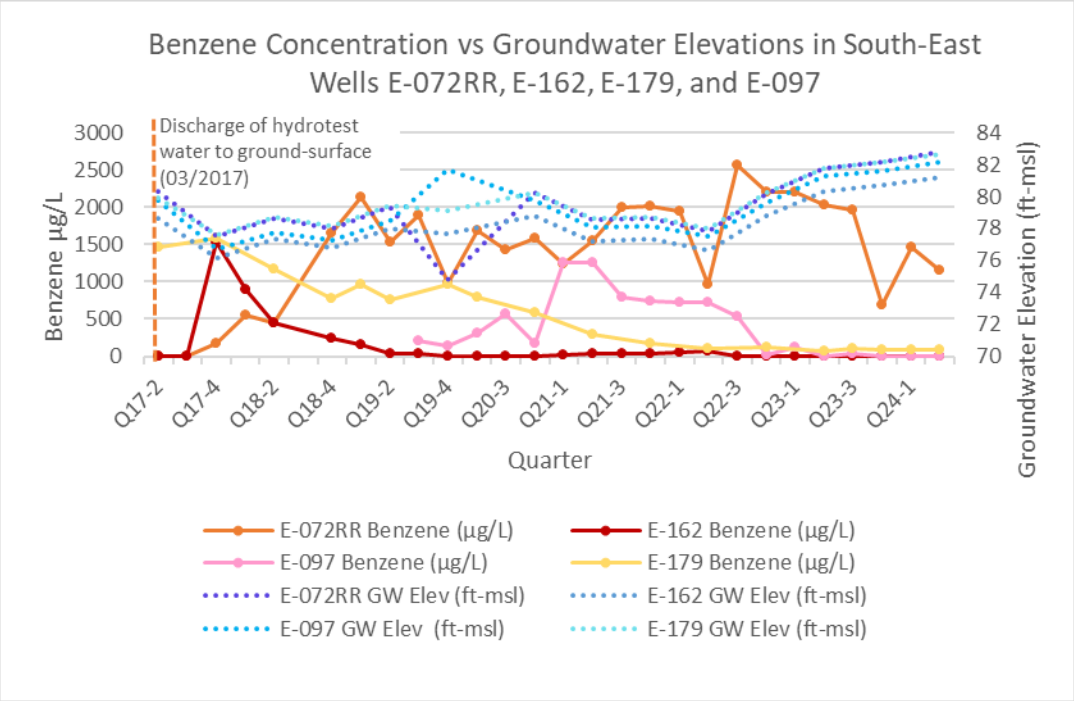
E-234A was destroyed by refinery snowplow operations. A replacement monitoring well, E-243AR, was installed in September of 2023 and sampling resumed in Q24-1 and will continue for 8-consecutive quarters. Benzene was detected above the TGPS; however, flow paths indicated that groundwater is treated downgradient by the WAS or captured within the groundwater extraction zone.

3.4 ASSESSMENT OF CHANGE

Contamination concentrations in A-Aquifer monitoring wells are within or less than the range of historical values, discussed above. Benzene concentrations and depth to groundwater versus time graphs are available in Appendix C for selected A-aquifer wells (E-055, E-072RR, and E-244). No significant changes in impact to human health and the environment have been identified since the last progress report.

3.4.1 SOUTHERN EXPANSION

As discussed in Appendix B of QPR 19-1, groundwater in the vicinity of well E-072RR has shown higher benzene concentrations since the third quarter of 2017. Benzene concentrations have been returning to previous levels and are below TGPS in E-097 (1.06 µg/L). Decreased benzene was detected in Q24-2 at downgradient well E-162 (ND), along with concentrations at E-179 (88.3 µg/L); however, an increase was noted at E-072RR (1150 µg/L) (Figure 3A). Continued elevated concentrations in E-072RR may suggest source mobilization during episodic groundwater elevation fluctuation, but the data is not definitive. The groundwater flow path from E-072RR, E-162, E-179 and E-097 appears to be generally to the west, toward the downgradient groundwater extraction wells (Figure 3A). In September 2023, monitoring well E-259 was installed to more closely bound the benzene plume and provide more confidence of capture to the south (Figure 6). Benzene concentrations at E-259 remain non-detect. This area will continue to be monitored on a quarterly basis to evaluate the change in conditions.



3.4.2 SWAMP

Benzene concentrations measured in the Swamp and groundwater immediately south of the Swamp (e.g., E-247A and E-248A, Figure 3A) were elevated in Q24-2 (Figure 3A). Lack of access to the water level monitoring location due to large snowpack and thick ice in the swamp meant the water level could not be measured in Q24-2. As typical in winter months, benzene concentrations increased across the swamp surface water samples likely due to thick ice buildup. Ice and cold temperatures likely minimized physical and biological attenuation of benzene in surface water. Elevated benzene concentrations in Q24-2 are consistent with previous observations of weaker attenuation of benzene in surface water when the Swamp is capped by ice. Despite the increase in benzene concentrations versus Q23-4, benzene concentrations are overall lower than previous spring historical Swamp concentrations (e.g., Q15-2 & Q23-2). Swamp locations SW-02, SW-06, and SW-13 were unable to be sampled in Q24-2 due to ice thickness.

Swamp surface water sampling results for benzene are displayed in Appendix B2. Benzene concentrations in the samples were above TGPS at all Swamp sample locations except for SW-01. Monitoring wells MW-93 and MW-93A, located west of the Swamp remained non-detect. Well E-059, south of E-247A and E-248A, is potentially downgradient of the swamp and remained non-detect for benzene in Q24-2. This may be indicative of limited downgradient plume migration but this well is also downgradient of the Highway Air Sparge system where treatment occurs.

Well MW-92, located to the southwest of the Swamp, has remained relatively stable, below TGPS. Monitoring will continue to confirm trends.

3.4.3 R-21R OPERATIONS

Recovery well R-21R was shut down the first week of January 2020 due to a leak in piping near R-33. R-21R returned online November 1, 2022, but the well was shutdown March 3, 2023, due to numerous leaks identified along the pipeline. Leaks did not result in changes to migration pathways or impact to human health or the environment. R-21R piping realignment and new configuration is scheduled to be completed in Summer 2024 so R-21R can be restarted. The eight continuous quarters of monitoring required for new wells was completed for the R-21R down gradient monitoring well network (E-249A though E-252). However, these wells will continue to be monitored on a semi-annual basis to monitor the effectiveness of R-21R, once it is restarted.

3.4.4 BEACH SEEP

The beach seep area is checked four days a week, when the beach is accessible and free of ice during the ebbing tide to identify the presence of petroleum sheen seeps and mitigate sheen migration. Continued updates will be included in the Kenai Refinery's Quarterly Progress Reports submitted to EPA. A rip-rap rock wall was installed at the toe of the beach seep bluff area in the fall of 2021 and enhanced in Spring 2022. Rock maintenance, along with the addition of new rocks was performed on the rip-rap rock wall during the week of April 10, 2023. Bluff erosion was minimal during Q24-2; however, additional material will be added to the rip-rap rock wall in Summer 2024. The wall could be slowing bluff erosion in the beach seep area, but significant erosion events continue to occur with approximately 5- to 10-feet or more of bank eroding every year since 2019. Erosion events since 2019 have not resulted in beach seep re-occurrences.

Following EPA approval of the work plan, Tesoro implemented a pilot study bio-sparge test to increase oxygen content of source soils and groundwater near the bluff area, and potentially enhancing natural source-zone depletion (NSZD) rates. The bio-sparge well installation was completed in August of 2022 and bio-sparging testing and start-up took place in February 2023. The bio-sparge well remains in operation.

3.5 COPC REVIEW

Table 2B summarizes the results of COPC analyses for A-aquifer wells E-038 and E-055. All COPC analytes were either not detected or already listed as COC analytes on Permit Table 2 except for sec-butylbenzene, tert-butylbenzene, and chloromethane detected at E-055. E-055 had a sec-Butylbenzene concentration of 11.7 µg/L, a tert-butylbenzene concentration of 1.05 µg/L and chloromethane detected at 3.47 µg/L. Concentrations remained below the TGPS and

are less than 1/10th of the Alaska Groundwater Criteria. Therefore, sec-butylbenzene, tert-butylbenzene, and chloromethane will not be added to the list of COC analytes on Permit Table 2.

3.6 PERFORMANCE DEMONSTRATIONS

Tables 7 and 8 and Figure 3A contain a summary of the A-Aquifer performance demonstrations and show that the PM and PRM corrective measures are performing satisfactorily and meet the performance requirements of the Permit. Monitoring wells E-30A, E-055, E-072RR, E-080, E-118, E-141, E-150, & E-171 have benzene concentrations above TGPS; however, a demonstration is not required because LNAPL recovery is not complete in the PM and PRM units. E-014 was not sampled due to the presence of product.

3.7 UPCOMING ACTIVITIES

Inspections of the beach seep will continue and the bio-sparge well will be utilized to increase NSZD if results suggest operational benefit for long-term use. The possibility of sudden bluff erosion (slumping) makes further beach seep investigation and remediation too dangerous.

4.0 B-AQUIFER

Corrective Measure Requirements	Provided/Discussed	Exceptions
Gauging per Permit Table 5	Table 1	None.
Groundwater contour maps per Permit III.E.3.c.vii	Section 4.2, Figures 2A and 2B,	None.
Sampling for IPs per Permit Table 4	Section 4.3, Table 2A	None.
Assessment of change in contaminant levels, pathways, or impacts	Section 4.4	None.
Annual sampling for COCs per Permit Table 4	Section 4.5, Table 2A,	None
Annual sampling for COPCs per Permit Table 4	Section 4.5, Table 2B	None
Quarterly treatment per Permit Table 6	Table 4 and 5	None
Performance demonstrations Permit III.D.3.a	Section 4.6, Tables 7 and 8, Figure 3B	E-160, E-233, E-234B-R, & E-245B

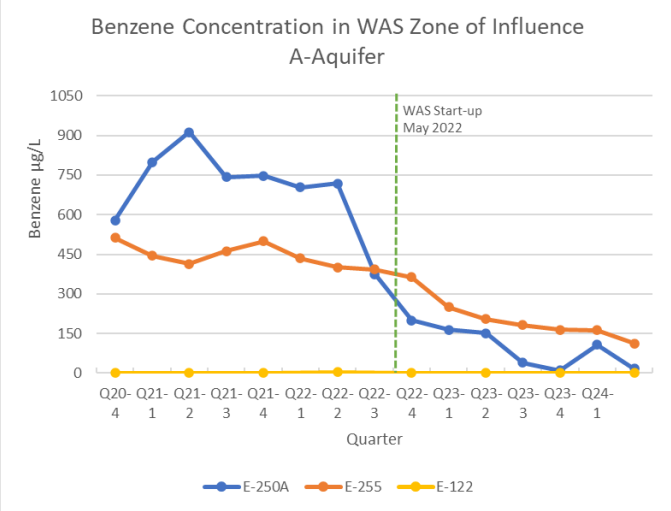
4.1 B-AQUIFER SYSTEM STATUS

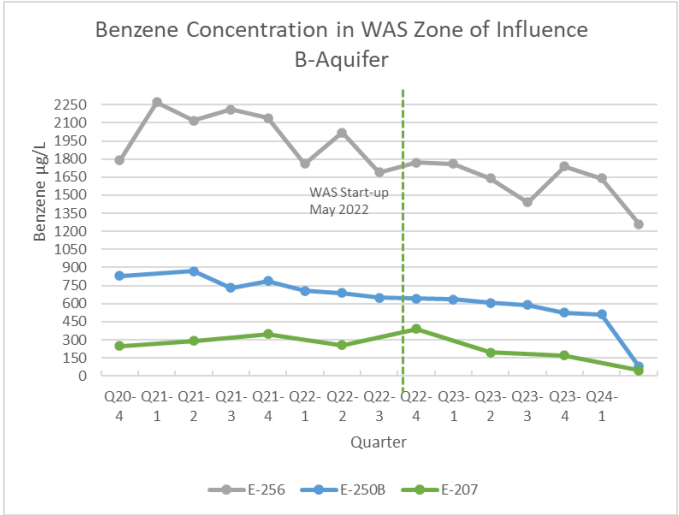
The B-Aquifer groundwater extraction and injection operating records are provided in Tables 4 and 5. All Permit required corrective action system criteria for the B-Aquifer were met this quarter. Due to adequate pumping rates in R-56, the installation of R-56R has been postponed until spring of 2025 unless pumping issues arise at R-56.

The HAS system and Highway SVE system operating records are provided in Tables 3C and 3D, respectively. All Permit-required corrective action system criteria for this system were met this quarter.

The HAS system was expanded to the south in Q19-4, as presented on Figure 3A. Implementation of the HAS expansion, West Highway Air Sparge system (WAS), which includes deep (B-Aquifer) air sparging, was started on May 3, 2022. The AS wells were installed within the B-aquifer, but because the aquifers are merged in this area, the new wells will potentially provide treatment to the A-Aquifer plume as well. All system data were collected in accordance with Permit Table D-6 and are provided in Tables 3C.

Monitoring wells E-255 (A-aquifer) and E-256 (B-aquifer), associated with the expanded system, were sampled before system startup, and will continue for 8 successive quarters after startup. Overall, gradual decreases in benzene have been noted in E-255 and E-256 following the WAS startup. Decreasing concentrations have also been recorded in nearby wells E-250A (A-aquifer), E-250B (B-aquifer), and E-207 (A-aquifer). Monitoring wells E-122 (A-aquifer) and E-207 (B-aquifer) are sampled bi-annually, with quarterly monitoring of E-255, E-256, E-250A, and E-250B to assess WAS system performance will continue to be evaluated with benzene concentration trends.





4.2 GROUNDWATER FLOW PATH

The groundwater flow directions shown on Figures 2A and 2C are generally similar to previous quarters. Groundwater flows southwest toward the extraction wells located in the PRM area. Groundwater elevations are above long-term averages but have begun to decrease since last measured in Q23-4, when elevations were the highest recorded since 2013-2014 levels. Groundwater flow directions have not appeared to change over the last year, but higher groundwater elevations could result in concentration fluctuation within the plume. With R-56 operating, the capture zone for groundwater has extended north capturing groundwater from E-209. The B-Aquifer capture zone continues to encompass the northern edge of the benzene plume.

4.3 INDICATOR PARAMETER PLUME MAP EVALUATION

The extent of dissolved-phase contamination shown on Figures 3A and 3B is similar to previous quarters and shows that the B-Aquifer plume is captured except for E-160. Benzene concentrations at E-160 (9.77 µg/L) increased above cleanup criteria again in Q24-2. A performance demonstration is provided on Table 8H, suggesting a statistically significant positive trend. E-155 and E-156 were sampled in response to benzene concentrations at E-160, which

initially increased above cleanup criteria in Q23-2. In Q24-2, E-155 was non-detect and E-156 (3.29 µg/L) was detected below TGPS. E-160, along with downgradient wells E-155 and E-156 will be sampled quarterly to monitor and evaluate the plume area around E-160.

The benzene concentrations at E-245B remain elevated above TGPS. This well is on the northern edge of the B-Aquifer benzene plume. Wells E-251A and E-251B are downgradient of E-245B and remain non-detect. Continued monitoring of these wells will be important to confirm that there is not additional expansion of the plume. Flow paths from wells upgradient of the B-Aquifer extraction system, including those described here, enter the groundwater extraction capture zone. The WAS expansion may assist in treating downgradient plume migration from E-254B.

Well E-234B was accidentally destroyed by refinery snowplow operations and was not sampled in Q23-4. A replacement monitoring well, E-243B-R, was installed in September of 2023 and sampling resumed in Q24-1 and will continue for 8-consecutive quarters. Benzene was detected above the TGPS and although E-234B-R displays a statistically significant positive trend, flow paths indicated that groundwater is extracted in the downgradient capture zone.

4.4 ASSESSMENT OF CHANGE

Contaminant concentrations in all downgradient B-Aquifer wells were non-detect, including compliance wells E-163 and E-196R, and monitoring well E-187B. Recovery well R-56 is operating optimally following rehabilitation efforts, and flow paths indicate complete capture of the northern edge of the benzene plume.

As shown in the table below, benzene concentrations in well E-233 displays a statistically significant positive trend when considering the full data set; however, decreasing concentrations following the start-up of the WAS, decreasing from 2100 µg/L (Q22-2) to 124 µg/L (Q24-2). In addition, well E-253 further to the north remains non-detect. E-233 was previously sampled bi-annually but will be monitored for 4 consecutive quarters to better assess the decreasing trend and determine if the trend is correlated with the WAS installation. Groundwater from E-233 is ultimately captured by the groundwater extraction system. These data, along with those for E-196R (Figure 3B) confirm adequate performance of the B-Aquifer groundwater extraction system.

Summary of benzene concentrations (µg/L) in select BUA monitoring wells

Quarter	E-163	E-187B	E-233	E-209	E-253
	DG	DG	Northern In-Plume	Northern Boundary	Northern Boundary
Q15-4	**150**	1.1	**340**	4	-
Q16-2	**48.9**	0.96	**467**	1.03	ND(0.15)
Q16-4	0.88	ND(0.15)	**635**	**48.1**	ND(0.15)
Q17-2	ND(0.31)	ND(0.15)	**895 J+**	3.02	ND(0.15)
Q17-4	ND(0.15)	0.98	**1530**	0.57	ND(0.15)
Q18-2	ND(0.15)	ND(0.15)	**1000**	**29.8**	ND(0.15)
Q18-4	ND(0.5)	ND(0.5)	**1980**	**13.9**	ND(0.5)
Q19-2	ND(0.12)	ND(0.15)	**2030**	**19.7**	ND(0.15)
Q19-4	ND(0.12)	ND(0.12)	**2440**	**309**	ND(0.12)
Q20-2	ND(0.12)	ND(0.15)	**2600**	**55.8**	ND(0.15)
Q20-4	ND(0.12)	ND(0.15)	**2190**	**106**	ND(0.15)
Q21-2	ND(0.12)	**6.48**	**2110**	**1210**	ND(0.15)
Q21-4	ND(0.12)	**6.01**	**2020**	**75.1**	ND(0.15)
Q22-2	ND(0.12)	ND(0.15)	**2100**	**584**	ND(0.15)
Q22-4	ND(0.12)	ND(0.15)	**2060**	**226**	ND(0.15)
Q23-2	NS	ND(0.15)	**1810**	**392**	ND(0.15)
Q23-4	ND(0.12)	ND(0.15)	**1190**	**394**	ND(0.15)
Q24-2	ND(0.12)	ND(0.15)	**124**	3.25	ND(0.15)

DG - Downgradient well Boundary - Northern plume boundary well ND - Not detected NS – Not Sampled

Contaminant concentrations in other B-Aquifer monitored wells are within or less than the range of historical values. Benzene concentrations and depth to groundwater versus time graphs are provided in Appendix C for selected B-aquifer wells (E-177B, E-179, E-197, E-207, E-209, E-215, and E-233). No significant changes in migration pathways or impact to human health and the environment have been identified since the last progress report.

4.5 COPC REVIEW

Table 2B summarizes the results of COPC analyses for B-aquifer well E-146. All COPC analytes were either not detected or already listed as COC analytes on Permit Table 2.

4.6 PERFORMANCE DEMONSTRATIONS

Tables 7 and 8 and Figures 3A and 3B summarize the performance demonstrations for the B-Aquifer. The tables show that the corrective measure meets the performance requirements of the Permit, with the exception of wells E-160, E-233, E-234B-R, and E-245B which have statistically significant positive trends for benzene (Table 8H, 8N, 8O,

& 8P). Demonstration failures are addressed by the 2017 B-Aquifer CAMP Update. Groundwater flow from E-233, E-234B-R, and E-245B is captured by the B-Aquifer groundwater extraction system. Groundwater flow from E-160 is not captured downgradient and additional monitoring is needed. E-160, along with downgradient wells E-155 and E-156 will be sampled quarterly to monitor and evaluate the plume area around E-160.

4.7 UPCOMING ACTIVITIES

None.

5.0 UPPER CONFINED AQUIFER (UCA)

Corrective Measure Requirements	Provided/Discussed	Exceptions
Gauging per Permit Table 5	Table 1	None.
Groundwater contour maps per Permit III.E.3.c.vii	Section 5.2, Figure 2D	None.
Sampling for IPs per Permit Table 4	Section 5.3, Table 2A	None.
Assessment of change in contaminant levels, pathways, or impacts	Section 5.4	None.
Annual sampling for COCs per Permit Table 4	Section 5.5, Table 2A	None.
Annual sampling for COPCs per Permit Table 4	Section 5.5, Table 2B	None.
Quarterly treatment per Permit Table 6	Table 6	None.
Performance demonstrations Permit III.D.3.a	Section 5.6, Tables 8 and 9, Figure 3C	E-147

5.1 UCA SYSTEM STATUS

All Permit required corrective action system criteria for the UCA were met this quarter. The UCA system consists of monitored natural attenuation and production pumping well TW-2B. The production rates are presented in Table 6 and the natural attenuation parameters are provided in Table 9.

5.2 GROUNDWATER FLOW PATH

The UCA groundwater flows generally westward, as shown on Figure 2D, similar to recent quarters. On average, groundwater elevations are above long-term averages and the highest recorded since 2013-2014 levels, if not higher at some locations. Potentiometric surfaces found over the last year have not appeared out of the ordinary, but higher groundwater elevations could result in possible concentration fluctuation within the plume.

5.3 INDICATOR PARAMETER PLUME MAP EVALUATION

The extent of dissolved-phase contamination shown on Figure 3C has increased in size. As of Q21-4, the previous benzene plume in the southern portion of the facility returned in the vicinity of E-147, with E-198 reaching non-detect benzene concentrations. Benzene was detected in E-147 during Q20-4 and increased above TGPS at 8.15 µg/L in Q21-4. Elevated benzene concentrations are likely the result of contaminate migration downgradient from E-198. Additional sampling was performed in Q22-1 and concentrations returned below TGPS and remained below TGPS in Q22-2 but has been recorded above TGPS since Q22-4. E-147 has been sampled for natural attenuation parameters

since Q23-2. Assimilative capacity calculations were performed and are presented in Table 9. Results suggest that natural attenuation is sufficient to control benzene in groundwater near E-147. This area will be monitored on a quarterly basis to evaluate the change in conditions. TW-2B decreased below TGPS in Q23-4 and remained below TGPS in Q24-2. The only other remaining well with benzene greater than the TGPS for the current quarter is TW-2B E-109 at 36.3 µg/L. Groundwater from these wells is captured by industrial pumping from the UCA.

5.4 ASSESSMENT OF CHANGE

All downgradient wells for the UCA are below the TGPS, except for compliance well E-147 (10.8 µg/L) which continues to display an overall increasing trend. This area will be monitored on a quarterly basis to evaluate the change in conditions and natural attenuation parameters will be collected spring and fall quarters. Contaminant concentrations in all other UCA monitoring wells are within or less than the range of historical values. Benzene concentrations and depth to groundwater versus time graphs are provided in Appendix C for selected UCA wells (E-109, E-145, and E-198). No significant changes in impact to human health and the environment have been identified since the last progress report.

5.5 COPC REVIEW

Table 2B summarizes the results of COPC analyses for UCA well E-109. All COPC analytes were either not detected or already listed as COC analytes on Permit Table 2.

5.6 PERFORMANCE DEMONSTRATIONS

Tables 7 and 8 and Figure 3B summarize the performance demonstrations for the UCA. The tables show that the corrective measure meets the performance requirements of the Permit, except for compliance well E-147. Assimilative capacity results suggest that natural attenuation is sufficient to control benzene in groundwater near E-147. Groundwater concentrations at E-147 will be monitored on a quarterly basis to evaluate the change in conditions and determine if further action is required.

Groundwater flow from E-109 intersects with the capture zone of industrial pumping well TW-2B, capturing benzene in this area. An assimilative capacity calculation was conducted for wells E-125 and E-127 but it is noted that benzene concentrations at these wells were all less than TGPS. This quarter, assimilative capacity results suggest that natural attenuation is sufficient to control benzene in groundwater near E-127, however, the assimilative capacity was calculated as negative in E-125 (Table 9). The negative assimilative capacity was due to a lower biodegradation product (iron and methane) concentration downgradient versus upgradient and a higher biodegradation reactant (sulfate) concentration downgradient versus upgradient. Mathematically, this is calculated as a negative assimilative

capacity, but practically this may be due simply to precipitation from the aquifer following biodegradation (especially for iron as reduced sulfides) or variable regional concentrations (for sulfate). Regardless, benzene concentrations at E-125 and E-127 were non-detect Q24-2, indicating minimal current need for additional natural attenuation.

5.7 UPCOMING ACTIVITIES

Natural attenuation monitoring at E-147 in Q24-4.

Production rates at TW-2B have decreased to a point where Refinery operations are considering installing a replacement well. If a decision is made to move forward, the location of the replacement well will be near TW-2B and the nearby UCA plume will continue to provide capture of the local UCA plume.

6.0 ADMINISTRATIVE ACTIVITIES

The draft 2024 RCRA Post-Closure Permit is planned to be submitted to EPA in the Summer of 2024.

7.0 INDEX OF CAMPS

CAMP	Summary	Status
1999 Boardwalk Plume Lobe CAMP	Modify the corrective measures system to more effectively meet the performance standards for the boardwalk plume.	Closed
2000 B-Aquifer Interim Corrective Measures Plan	Installation of groundwater pumping and injection systems.	Closed
2001 B-Aquifer Corrective Measure and Monitoring Plan	Describes required water level monitoring, water quality monitoring, and treatment monitoring.	Included in Permit
2002 E-228 CAMP	Evaluation if E-228 was within capture zone, including source area evaluation, natural attenuation evaluation, and groundwater flow and capture zone evaluation.	Updated in 2013 and Subsequently Closed
2009 CAMP for UCA Well E-198	Evaluation of elevated benzene concentrations in E-198, including pressurization test and supplemental sampling.	Updated in 2013 and Subsequently Closed
2009 SI CAMP	Air sparge combined with natural attenuation as the corrective measure for the SI plume.	Included in Permit
2012 SI TCE CAMP	System maintenance and additional sampling of downgradient wells to evaluate the effectiveness of the actions.	Active
2013 B-Aquifer CAMP	Address dissolved-phase contamination that occurs in the B-aquifer and lower portion of the merged UCA.	Updated in 2015
2013 E-228 CAMP	Evaluation if E-228 was within capture zone, including source area evaluation, natural attenuation evaluation, and groundwater flow and capture zone evaluation.	Closed
2013 E-198 CAMP	Evaluation of elevated benzene concentrations in E-198, including pressurization test and supplemental sampling.	Closed

CAMP	Summary	Status
2014 PM Swamp CAMP	Additional surface water sampling, groundwater sampling, sediment sampling, and gauging.	Updated in 2014
2014 E-219 CAMP	Lower Tank Farm AS/SVE restart.	Updated in 2017
2014 PM Area Swamp CAMP Update	Expansion of air sparge system, installation of monitoring wells, additional groundwater, and surface water sampling, and additional gauging.	Active
2015 B-Aquifer CAMP	New recovery wells, well redevelopment, pipeline modifications, additional gauging and capture evaluation, and additional sampling.	Updated in 2017
2017 LTF CAMP	Lower Tank Farm AS/SVE restart and monitoring.	Active
2017 B-Aquifer CAMP	New recovery wells, monitoring wells, pumping rates, and monitoring.	Active

TABLES

TABLE 1. WATER LEVEL DATA - POTENTIOMETRIC SURFACE ELEVATIONS

Well No.	Gauge Date	TOC Elevation (ft-msl)	Depth to Product (ft-BTOC)	Depth to Water (ft-BTOC)	Product Thickness (ft)	Potentiometric Surface (ft-msl)
Aquifer A						
E-001	02/13/24	118.91	ND	39.96	NA	78.95
E-002	02/13/24	118.55	ND	41.44	NA	77.11
E-003	02/13/24	129.28	ND	49.74	NA	79.54
E-004	02/13/24	137.32	ND	55.99	NA	81.33
E-005	02/13/24	120.40	NA	NM	NA	NM
E-007	02/13/24	108.24	30.08	30.16	0.08	78.08
E-008	02/13/24	108.24	ND	29.90	NA	78.34
E-010	02/13/24	109.47	ND	31.21	NA	78.26
E-011	02/13/24	100.24	ND	22.99	NA	77.25
E-012	02/13/24	113.46	ND	33.24	NA	80.22
E-012A	02/13/24	109.75	NA	NM	NA	NM
E-014	02/13/24	98.48	ND	23.70	NA	74.78
E-015	02/13/24	125.79	ND	20.99	NA	104.80
E-016	02/13/24	97.17	ND	47.00	NA	50.17
E-017R	02/13/24	128.24	ND	48.74	NA	79.50
E-018	02/15/24	87.92	ND	11.07	NA	76.85
E-019	02/15/24	88.44	ND	11.72	NA	76.72
E-020	02/15/24	88.80	ND	10.26	NA	78.54
E-021	02/15/24	90.53	14.29	15.05	0.76	75.48
E-022	02/15/24	91.40	ND	16.19	NA	75.21
E-023	02/15/24	93.75	ND	17.25	NA	76.50
E-025	02/13/24	98.37	ND	20.91	NA	77.46
E-027	02/13/24	131.76	ND	52.40	NA	79.36
E-028	02/13/24	137.42	ND	57.93	NA	79.49
E-029	02/14/24	113.13	ND	34.41	NA	78.72
E-030	02/13/24	95.64	ND	17.95	NA	77.69
E-030A	02/13/24	95.21	ND	17.85	NA	77.36
E-032	02/13/24	100.52	22.82	23.30	0.48	77.22
E-033	02/15/24	85.46	ND	8.45	NA	77.01
E-034	02/15/24	92.80	ND	15.30	NA	77.50
E-035	02/15/24	90.86	13.46	16.60	3.14	74.26
E-037	02/14/24	109.59	ND	31.02	NA	78.57
E-038	02/13/24	128.77	ND	49.74	NA	79.03
E-040	02/14/24	100.41	ND	22.02	NA	78.39
E-041	02/14/24	89.94	ND	11.69	NA	78.25
E-042	02/13/24	87.84	ND	47.85	NA	39.99
E-043	02/15/24	87.82	ND	11.53	NA	76.29
E-045	02/15/24	87.72	ND	10.25	NA	77.47
E-047	02/15/24	87.79	ND	10.86	NA	76.93
E-052	02/15/24	87.37	ND	11.49	NA	75.88
E-053	02/15/24	87.40	ND	11.64	NA	75.76

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Well No.	Gauge Date	TOC Elevation (ft-msl)	Depth to Product (ft-BTOC)	Depth to Water (ft-BTOC)	Product Thickness (ft)	Potentiometric Surface (ft-msl)
Aquifer A						
E-054	02/15/24	87.60	ND	11.90	NA	75.70
E-055	02/15/24	86.89	ND	11.46	NA	75.43
E-056	02/15/24	94.74	ND	18.36	NA	76.38
E-057	02/15/24	89.05	ND	13.52	NA	75.53
E-058	02/15/24	87.11	ND	11.62	NA	75.49
E-059	02/15/24	106.84	ND	31.60	NA	75.24
E-062	02/15/24	100.23	23.53	23.60	0.07	76.63
E-065R	02/14/24	NA	ND	25.00	NA	NA
E-066	02/15/24	93.28	15.35	15.68	0.33	77.60
E-068	02/15/24	96.06	ND	18.48	NA	77.58
E-071	02/13/24	144.81	ND	57.90	NA	86.91
E-072RR	02/14/24	139.71	ND	56.94	NA	82.77
E-073	02/13/24	143.56	ND	58.39	NA	85.17
E-074	02/14/24	131.19	ND	50.53	NA	80.66
E-076	02/14/24	145.68	ND	60.73	NA	84.95
E-077	02/14/24	140.36	ND	54.32	NA	86.04
E-078	02/15/24	99.74	ND	22.68	NA	77.06
E-080	02/07/24	96.80	ND	22.52	NA	74.28
E-081	02/14/24	107.56	ND	30.98	NA	76.58
E-081A	02/14/24	104.22	ND	27.64	NA	76.58
E-082	02/15/24	97.78	21.00	21.19	0.19	76.59
E-083	02/07/24	104.98	ND	30.14	NA	74.84
E-086	02/15/24	92.03	ND	14.28	NA	77.75
E-087	02/13/24	140.64	NA	NM	NA	NM
E-088	02/14/24	122.35	ND	43.35	NA	79.00
E-089	02/14/24	120.57	ND	43.15	NA	77.42
E-090	02/14/24	121.54	ND	44.19	NA	77.35
E-091	02/07/24	108.77	ND	33.18	NA	75.59
E-092	02/15/24	100.33	ND	23.00	NA	77.33
E-094	02/13/24	142.43	ND	56.55	NA	85.88
E-095	02/13/24	143.18	ND	55.51	NA	87.67
E-096	02/14/24	142.77	ND	58.18	NA	84.59
E-097	02/14/24	136.00	ND	53.81	NA	82.19
E-098	02/14/24	124.55	ND	46.91	NA	77.64
E-099	02/14/24	125.60	ND	49.05	NA	76.55
E-100	02/14/24	93.79	ND	16.66	NA	77.13
E-101A	02/07/24	109.50	ND	58.50	NA	51.00
E-103A	02/07/24	99.50	ND	57.83	NA	41.67
E-103B	02/07/24	98.78	ND	57.10	NA	41.68
E-104	02/07/24	93.46	ND	21.67	NA	71.79
E-105	02/07/24	113.91	ND	38.70	NA	75.21

TABLE 1. WATER LEVEL DATA - POTENTIOMETRIC SURFACE ELEVATIONS

Well No.	Gauge Date	TOC Elevation (ft-msl)	Depth to Product (ft-BTOC)	Depth to Water (ft-BTOC)	Product Thickness (ft)	Potentiometric Surface (ft-msl)
Aquifer A						
E-107	02/13/24	141.25	ND	54.42	NA	86.83
E-108	02/13/24	127.34	ND	48.20	NA	79.14
E-108A	02/13/24	127.67	ND	48.25	NA	79.42
E-111	02/13/24	142.80	NA	NM	NA	NM
E-114	02/13/24	132.73	ND	50.67	NA	82.06
E-115	02/14/24	97.73	ND	19.64	NA	78.09
E-116	02/13/24	147.19	ND	57.78	NA	89.41
E-117	02/13/24	146.38	ND	57.79	NA	88.59
E-118	02/07/24	89.02	ND	19.31	NA	69.71
E-119	02/07/24	106.17	ND	37.57	NA	68.60
E-121A	02/07/24	106.33	ND	35.32	NA	71.01
E-122	02/07/24	102.22	ND	28.44	NA	73.78
E-123	02/07/24	110.12	ND	42.88	NA	67.24
E-128	02/07/24	93.80	ND	62.51	NA	31.29
E-130	02/07/24	86.12	ND	67.42	NA	18.70
E-131	02/14/24	142.62	ND	56.86	NA	85.76
E-132	02/07/24	99.56	ND	32.26	NA	67.30
E-133	02/13/24	140.18	56.85	57.04	0.19	83.14
E-134	02/13/24	140.38	55.28	55.41	0.13	84.97
E-135	02/13/24	141.23	NA	NM	NA	NM
E-136	02/13/24	141.68	ND	55.32	NA	86.36
E-138	02/07/24	108.33	ND	41.95	NA	66.38
E-139	02/07/24	106.79	ND	40.33	NA	66.46
E-140	02/07/24	95.24	ND	34.26	NA	60.98
E-141	02/07/24	96.64	ND	36.35	NA	60.29
E-142	02/07/24	99.73	ND	38.70	NA	61.03
E-144	02/07/24	93.88	ND	34.67	NA	59.21
E-150	02/07/24	96.47	ND	38.25	NA	58.22
E-151	02/07/24	93.73	ND	35.09	NA	58.64
E-152	02/07/24	90.90	ND	53.01	NA	37.89
E-164	02/07/24	112.73	ND	45.41	NA	67.32
E-165	02/07/24	105.99	ND	36.49	NA	69.50
E-168	02/07/24	93.64	ND	64.87	NA	28.77
E-171	02/06/24	116.02	ND	48.48	NA	67.54
E-172	02/06/24	93.43	ND	38.20	NA	55.23
E-173	02/07/24	93.81	ND	25.04	NA	68.77
E-175	02/07/24	92.34	ND	23.45	NA	68.89
E-176	02/06/24	100.10	ND	32.24	NA	67.86
E-177A	02/15/24	143.94	ND	55.72	NA	88.22
E-181	02/14/24	145.99	ND	60.33	NA	85.66
E-185	02/06/24	93.76	ND	39.14	NA	54.62

TABLE 1. WATER LEVEL DATA - POTENTIOMETRIC SURFACE ELEVATIONS

Well No.	Gauge Date	TOC Elevation (ft-msl)	Depth to Product (ft-BTOC)	Depth to Water (ft-BTOC)	Product Thickness (ft)	Potentiometric Surface (ft-msl)
Aquifer A						
E-186	02/06/24	94.36	ND	47.32	NA	47.04
E-187A	02/06/24	94.00	ND	52.40	NA	41.60
E-189	02/06/24	93.95	ND	47.39	NA	46.56
E-190A	02/06/24	96.53	ND	59.52	NA	37.01
E-196R	02/07/24	97.13	ND	61.76	NA	35.37
E-203	02/07/24	95.61	ND	23.20	NA	72.41
E-208	02/13/24	146.35	ND	59.09	NA	87.26
E-210	02/06/24	90.51	ND	55.58	NA	34.93
E-211	02/06/24	98.08	ND	40.58	NA	57.50
E-212A	02/13/24	140.81	ND	56.22	NA	84.59
E-212B	02/13/24	140.87	ND	56.05	NA	84.82
E-213	02/13/24	140.66	ND	55.71	NA	84.95
E-214	02/13/24	137.77	ND	53.96	NA	83.81
E-217A	02/13/24	112.85	ND	33.97	NA	78.88
E-221	02/13/24	134.02	ND	55.55	NA	78.47
E-223	02/13/24	118.68	ND	39.11	NA	79.57
E-226	02/13/24	144.56	ND	56.15	NA	88.41
E-227	02/13/24	102.19	ND	24.81	NA	77.38
E-228	02/14/24	90.60	ND	13.35	NA	77.25
E-229R	02/14/24	NA	ND	28.30	NA	NA
E-230	02/13/24	93.56	ND	15.92	NA	77.64
E-234A-R	02/15/24	93.12	ND	17.14	NA	75.98
E-235A	02/15/24	100.75	ND	24.49	NA	76.26
E-236	02/15/24	90.01	ND	14.07	NA	75.94
E-237	02/06/24	99.36	ND	NM	NA	NM
E-238	02/06/24	97.16	ND	56.10	NA	41.06
E-239	02/06/24	93.22	ND	48.85	NA	44.37
E-240	02/06/24	96.57	ND	39.16	NA	57.41
E-243	02/06/24	95.08	ND	37.59	NA	57.49
E-245A	02/15/24	98.97	ND	22.99	NA	75.98
E-246A	02/15/24	86.85	ND	10.56	NA	76.29
E-247A	02/15/24	88.41	ND	12.13	NA	76.28
E-247B	02/15/24	88.49	ND	12.30	NA	76.19
E-248A	02/15/24	85.39	ND	9.56	NA	75.83
E-248B	02/15/24	85.23	ND	9.48	NA	75.75
E-255	02/07/24	101.72	ND	28.48	NA	73.24
E-257A	02/07/24	100.83	ND	56.56	NA	44.27
E-259	02/13/24	134.72	ND	63.15	NA	71.57
E-A	02/14/24	98.75	ND	20.44	NA	78.31
E-B	02/14/24	89.82	ND	11.22	NA	78.60
E-C	02/14/24	97.89	ND	19.23	NA	78.66

TABLE 1. WATER LEVEL DATA - POTENTIOMETRIC SURFACE ELEVATIONS

Well No.	Gauge Date	TOC Elevation (ft-msl)	Depth to Product (ft-BTOC)	Depth to Water (ft-BTOC)	Product Thickness (ft)	Potentiometric Surface (ft-msl)
Aquifer A						
E-D	02/14/24	109.47	ND	30.90	NA	78.57
MW-12	02/13/24	132.29	ND	52.21	NA	80.08
MW-22	02/13/24	140.42	ND	33.16	NA	107.26
MW-32	02/13/24	125.80	ND	46.63	NA	79.17
MW-42	02/15/24	127.32	ND	47.92	NA	79.40
MW-52	02/13/24	113.87	NA	NM	NA	NM
MW-92	02/15/24	99.20	ND	26.17	NA	73.03
MW-93	02/15/24	79.24	ND	56.73	NA	22.51
MW-93A	02/15/24	79.34	ND	56.45	NA	22.89
MW-93B	02/15/24	79.24	ND	56.69	NA	22.55
P-40	02/07/24	97.32	ND	37.40	NA	59.92
P-40/41	02/07/24	97.50	ND	35.13	NA	62.37
P-41	02/07/24	95.89	ND	34.14	NA	61.75
P-44	02/07/24	105.91	ND	38.70	NA	67.21
P-45	02/07/24	98.08	ND	34.53	NA	63.55
P-46	02/07/24	97.87	ND	36.58	NA	61.29
P-47	02/07/24	95.24	26.69	26.76	0.07	68.48
P-48	02/07/24	103.80	34.85	35.10	0.25	68.70
P-49	02/07/24	107.76	ND	39.05	NA	68.71
P-53	02/15/24	93.22	ND	16.87	NA	76.35
PI-01	02/07/24	94.88	ND	38.98	NA	55.90
PI-01A	02/07/24	94.90	ND	37.91	NA	56.99
PI-02	02/07/24	92.97	ND	39.72	NA	53.25
PI-03	02/07/24	94.36	ND	43.20	NA	51.16
PI-04	02/07/24	97.15	ND	NM	NA	NM
PI-05	02/07/24	97.49	ND	49.12	NA	48.37
PMW	02/14/24	123.40	ND	46.28	NA	77.12
PMZ-1	02/14/24	122.15	ND	43.59	NA	78.56
PMZ-2	02/14/24	128.04	ND	48.48	NA	79.56
PMZ-3	02/14/24	131.94	ND	51.78	NA	80.16
PMZ-4	02/14/24	133.15	ND	51.58	NA	81.57
PMZ-5	02/14/24	134.37	ND	52.58	NA	81.79
PS-2	02/09/24	142.89	ND	53.30	NA	89.59
R-19	02/13/24	97.32	18.40	18.67	0.27	78.65
R-20	02/15/24	87.90	10.77	11.10	0.33	76.80
R-21	02/15/24	87.72	NA	NM	NA	NM
R-21R	02/15/24	87.14	ND	11.41	NA	75.73
R-22	02/15/24	90.80	ND	15.11	NA	75.69
R-23	02/13/24	90.55	ND	14.90	NA	75.65
R-24	02/15/24	92.59	ND	15.30	NA	77.29
R-25	02/15/24	91.73	15.13	16.70	1.57	75.03

TABLE 1. WATER LEVEL DATA - POTENTIOMETRIC SURFACE ELEVATIONS

Well No.	Gauge Date	TOC Elevation (ft-msl)	Depth to Product (ft-BTOC)	Depth to Water (ft-BTOC)	Product Thickness (ft)	Potentiometric Surface (ft-msl)
Aquifer A						
R-26	02/15/24	98.60	ND	21.94	NA	76.66
R-27	02/15/24	99.06	ND	23.83	NA	75.23
R-28	02/13/24	95.37	ND	19.63	NA	75.74
R-33	02/13/24	88.63	11.52	12.00	0.48	76.63
R-34	02/13/24	92.35	15.16	15.33	0.17	77.02
R-38	02/07/24	98.69	ND	33.53	NA	65.16
R-39	02/07/24	96.63	ND	35.05	NA	61.58
R-40	02/07/24	96.34	ND	44.73	NA	51.61
R-41	02/07/24	96.34	ND	43.40	NA	52.94
R-42	02/07/24	98.43	ND	32.18	NA	66.25
R-43	02/07/24	110.66	ND	43.52	NA	67.14
R-44	02/07/24	104.67	ND	37.49	NA	67.18
R-45	02/07/24	96.50	ND	33.30	NA	63.20
R-47	02/07/24	92.65	ND	24.45	NA	68.20
R-48	02/07/24	101.97	33.01	33.30	0.29	68.67
R-49	02/07/24	105.36	ND	36.65	NA	68.71
R-53	02/15/24	91.11	ND	15.13	NA	75.98
RE-36	02/13/24	100.11	22.47	22.66	0.19	77.45
RS-1	02/09/24	142.30	ND	54.18	NA	88.12
RS-2	02/09/24	143.37	ND	53.79	NA	89.58
SD-1	02/09/24	147.86	ND	58.28	NA	89.58
SD-3	02/09/24	147.12	ND	57.04	NA	90.08
SMW-04	02/09/24	144.31	ND	54.87	NA	89.44
SMW-05	02/09/24	145.93	ND	56.38	NA	89.55
SMW-06	02/09/24	143.45	ND	53.75	NA	89.70
SMW-07	02/09/24	138.21	ND	48.22	NA	89.99
SMW-08	02/09/24	142.60	ND	53.31	NA	89.29
SMW-09	02/09/24	143.26	ND	54.14	NA	89.12
SMW-10	02/09/24	143.02	ND	53.46	NA	89.56
SMW-11	02/09/24	141.98	ND	51.85	NA	90.13
SMW-12A	02/09/24	136.54	ND	46.70	NA	89.84
SMW-12B	02/09/24	136.07	ND	46.02	NA	90.05
SMW-12C	02/09/24	136.28	ND	46.35	NA	89.93
SMW-14	02/09/24	143.86	ND	54.45	NA	89.41
SMW-17	02/09/24	140.52	ND	50.47	NA	90.05
SMW-18	02/09/24	135.88	ND	45.39	NA	90.49
SMW-20	02/09/24	137.65	ND	47.01	NA	90.64
SMW-21A	02/09/24	145.33	ND	55.82	NA	89.51
SMW-21B	02/09/24	145.50	ND	55.98	NA	89.52
SMW-22A	02/09/24	143.24	NA	NM	NA	NM
SMW-22B	02/09/24	142.73	NA	NM	NA	NM

TABLE 1. WATER LEVEL DATA - POTENTIOMETRIC SURFACE ELEVATIONS

Well No.	Gauge Date	TOC Elevation (ft-msl)	Depth to Product (ft-BTOC)	Depth to Water (ft-BTOC)	Product Thickness (ft)	Potentiometric Surface (ft-msl)
Aquifer A						
SMW-23	02/09/24	142.14	ND	52.23	NA	89.91
SMW-25	02/09/24	138.27	ND	48.03	NA	90.24
SMW-27	02/09/24	143.06	ND	53.78	NA	89.28
SMW-29	02/09/24	143.23	ND	53.83	NA	89.40
SMW-30	02/09/24	144.98	ND	56.24	NA	88.74
SMW-31	02/09/24	143.06	ND	53.56	NA	89.50
SMW-32	02/09/24	141.68	ND	52.01	NA	89.67
SMW-33R	02/09/24	141.05	ND	51.29	NA	89.76
SMW-34	02/09/24	145.39	ND	55.38	NA	90.01
SMW-35	02/09/24	144.03	ND	54.48	NA	89.55
SMW-36	02/09/24	144.06	ND	54.96	NA	89.10
SMW-37	02/09/24	143.34	ND	54.14	NA	89.20
SMW-I-1	02/09/24	145.85	ND	55.77	NA	90.08
SPZ-3	02/09/24	144.04	ND	54.66	NA	89.38
SU-1	02/09/24	147.05	ND	56.40	NA	90.65
SWAMP	02/13/24	79.52	NA	NM	NA	NM
T-114	02/13/24	143.67	ND	56.54	NA	87.13
Aquifer B						
E-101B	02/07/24	109.31	ND	74.27	NA	35.04
E-121B	02/07/24	106.90	ND	37.94	NA	68.96
E-129	02/07/24	93.69	ND	64.89	NA	28.80
E-137B	02/07/24	118.25	ND	59.06	NA	59.19
E-146	02/14/24	143.35	ND	58.56	NA	84.79
E-149	02/07/24	106.03	ND	55.59	NA	50.44
E-155	02/07/24	93.24	ND	56.85	NA	36.39
E-156	02/07/24	121.96	ND	81.45	NA	40.51
E-158	02/07/24	112.98	ND	NM	NA	NM
E-159	02/07/24	115.03	ND	63.49	NA	51.54
E-160	02/07/24	124.29	ND	65.06	NA	59.23
E-162	02/13/24	137.51	ND	56.31	NA	81.20
E-163	02/07/24	93.92	ND	62.39	NA	31.53
E-167	02/07/24	93.26	ND	58.00	NA	35.26
E-169	02/07/24	120.87	ND	64.51	NA	56.36
E-177B	02/15/24	143.93	ND	55.73	NA	88.20
E-178	02/13/24	138.04	ND	56.23	NA	81.81
E-179	02/14/24	141.80	ND	59.16	NA	82.64
E-180	02/14/24	134.33	ND	53.35	NA	80.98
E-182	02/14/24	142.85	ND	58.11	NA	84.74
E-183	02/13/24	142.45	ND	57.85	NA	84.60
E-187B	02/06/24	93.99	ND	58.13	NA	35.86
E-190B	02/06/24	96.51	ND	55.06	NA	41.45

TABLE 1. WATER LEVEL DATA - POTENTIOMETRIC SURFACE ELEVATIONS

Well No.	Gauge Date	TOC Elevation (ft-msl)	Depth to Product (ft-BTOC)	Depth to Water (ft-BTOC)	Product Thickness (ft)	Potentiometric Surface (ft-msl)
Aquifer B						
E-191	02/14/24	99.09	ND	21.23	NA	77.86
E-195	02/06/24	102.78	ND	62.85	NA	39.93
E-197	02/15/24	91.54	ND	51.04	NA	40.50
E-202A	02/07/24	98.65	ND	42.14	NA	56.51
E-202B	02/07/24	98.64	ND	42.16	NA	56.48
E-205	02/07/24	97.86	ND	43.75	NA	54.11
E-206	02/14/24	114.26	ND	39.90	NA	74.36
E-207	02/07/24	102.66	ND	28.69	NA	73.97
E-209	02/07/24	96.22	ND	42.59	NA	53.63
E-215	02/13/24	108.64	ND	30.92	NA	77.72
E-216	02/13/24	118.59	ND	39.98	NA	78.61
E-217B	02/13/24	112.70	ND	33.86	NA	78.84
E-218A	02/14/24	112.37	ND	33.65	NA	78.72
E-218B	02/14/24	112.30	ND	33.50	NA	78.80
E-219	02/13/24	120.42	ND	41.58	NA	78.84
E-220	02/13/24	122.69	ND	43.83	NA	78.86
E-222	02/13/24	117.64	ND	38.97	NA	78.67
E-224	02/06/24	106.21	ND	48.42	NA	57.79
E-225	02/06/24	95.78	ND	41.38	NA	54.40
E-233	02/07/24	90.76	ND	21.43	NA	69.33
E-234B-R	02/15/24	92.93	ND	17.35	NA	75.58
E-235B	02/15/24	100.76	ND	24.90	NA	75.86
E-245B	02/15/24	98.75	ND	22.85	NA	75.90
E-249A	02/15/24	87.75	ND	12.13	NA	75.62
E-249B	02/15/24	87.74	ND	12.11	NA	75.63
E-249C	02/15/24	87.54	ND	11.97	NA	75.57
E-250A	02/07/24	103.25	ND	29.19	NA	74.06
E-250B	02/07/24	103.30	ND	29.23	NA	74.07
E-251A	02/07/24	98.99	ND	26.36	NA	72.63
E-251B	02/07/24	99.10	ND	26.47	NA	72.63
E-252A	02/07/24	89.97	ND	19.90	NA	70.07
E-252B	02/07/24	90.05	ND	19.95	NA	70.10
E-253	02/07/24	94.60	ND	24.98	NA	69.62
E-254	02/07/24	97.05	ND	36.12	NA	60.93
E-256	02/07/24	103.23	ND	29.30	NA	73.93
E-257B	02/06/24	101.08	ND	NM	NA	NM
E-258	02/07/24	93.19	ND	52.55	NA	40.64
O-2	02/07/24	99.02	ND	41.77	NA	57.25
O-4	02/07/24	100.11	ND	42.90	NA	57.21
O-5	02/07/24	100.01	ND	42.92	NA	57.09
P-50	02/07/24	97.97	ND	41.60	NA	56.37

TABLE 1. WATER LEVEL DATA - POTENTIOMETRIC SURFACE ELEVATIONS

Well No.	Gauge Date	TOC Elevation (ft-msl)	Depth to Product (ft-BTOC)	Depth to Water (ft-BTOC)	Product Thickness (ft)	Potentiometric Surface (ft-msl)
Aquifer B						
PI-06A	02/07/24	93.56	ND	41.69	NA	51.87
PI-06B	02/07/24	93.59	ND	40.62	NA	52.97
PI-07	02/07/24	94.54	ND	41.21	NA	53.33
PI-08	02/07/24	102.50	ND	48.60	NA	53.90
PI-09	02/07/24	108.56	ND	53.78	NA	54.78
R-50	02/07/24	97.75	ND	41.63	NA	56.12
R-50R	02/07/24	98.31	ND	42.14	NA	56.17
R-51	02/07/24	98.08	ND	42.32	NA	55.76
R-51R	02/07/24	96.82	ND	41.31	NA	55.51
R-52	02/07/24	100.88	ND	45.37	NA	55.51
R-52R	02/07/24	99.97	ND	42.82	NA	57.15
R-54	02/07/24	96.91	ND	46.49	NA	50.42
R-55	02/07/24	97.72	ND	57.96	NA	39.76
Aquifer UCA						
E-109	02/13/24	120.00	ND	46.65	NA	73.35
E-110	02/14/24	98.05	ND	56.74	NA	41.31
E-125	02/13/24	119.68	ND	82.16	NA	37.52
E-126	02/13/24	97.02	ND	24.12	NA	72.90
E-127	02/14/24	108.42	ND	63.95	NA	44.47
E-145	02/13/24	113.32	ND	70.36	NA	42.96
E-147	02/15/24	92.55	ND	58.68	NA	33.87
E-148	02/14/24	113.28	ND	79.23	NA	34.05
E-153	02/14/24	123.93	ND	81.95	NA	41.98
E-154	02/14/24	134.99	ND	61.60	NA	73.39
E-157	02/07/24	125.11	ND	103.49	NA	21.62
E-161	02/06/24	98.40	ND	79.26	NA	19.14
E-198	02/14/24	143.37	ND	92.56	NA	50.81
E-199	02/15/24	91.85	ND	57.33	NA	34.52
E-200	02/15/24	91.53	ND	57.11	NA	34.42
E-201	02/15/24	95.96	ND	61.62	NA	34.34
PTW-6	02/14/24	120.74	ND	85.41	NA	35.33
SMW-16	02/15/24	144.24	ND	69.21	NA	75.03
SMW-26C	02/14/24	128.70	ND	50.08	NA	78.62
SMW-28	02/14/24	141.84	ND	65.92	NA	75.92

TABLE 1. WATER LEVEL DATA - POTENTIOMETRIC SURFACE ELEVATIONS

Well No.	Gauge Date	TOC Elevation (ft-msl)	Depth to Product (ft-BTOC)	Depth to Water (ft-BTOC)	Product Thickness (ft)	Potentiometric Surface (ft-msl)
Aquifer UCA						
TW-3	02/13/24	139.08	ND	64.61	NA	74.47

ft Feet
ft-BTOC Feet below top of casing
ft-msl Feet above mean sea level
NA Not measured
ND Non detect
TOC Top of casing
* Monitoring wells not accessible due to excess snow. Later gauging would not provide comparable elevations.

TABLE 2A. ANALYTICAL RESULTS – INDICATOR PARAMETERS (IPs) AND CONTAMINANTS OF CONCERN (COCs)

Well ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes, Total (µg/L)	Trichloro-ethene (µg/L)	Vinyl Chloride (µg/L)	Naphthalene (µg/L)	Diesel Range Organics (µg/L)	Gasoline Range Organics (µg/L)	1,2,4-Trimethyl-benzene (µg/L)	1,3,5-Trimethyl-benzene (µg/L)	2-Methyl-naphthalene (µg/L)	Isopropyl-benzene (µg/L)
TGPS		**4.6**	**1,100**	**15**	**190**	**2.8**	**0.19**	**1.7**	**1500**	**2200**	**56**	**60**	**36**	**450**
E-004	03/13/24	1.36	ND(0.31)	ND(0.31)	ND(1)	ND(0.15)	ND(0.05)	**34.3**	730	295	8.54	ND(0.31)	32.8	7.72
E-010	03/22/24	**2150**	22.2	**27.8**	**298**	--	--	--	--	--	--	--	--	--
E-030A	03/27/24	**923**	ND(0.31)	2.83	ND(1)	ND(0.15)	ND(0.05)	**235**	**2700**	**2620 J+**	14.5	ND(0.31)	35.4	59.1
E-038	03/13/24	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)	ND(0.15)	ND(0.05)	ND(0.31)	ND(202)	ND(45)	ND(0.31)	ND(0.31)	ND(3.33)	ND(0.31)
E-055	03/08/24	**276**	ND(0.31)	ND(0.31)	ND(1)	ND(0.15)	ND(0.05)	**35**	**1650**	1200	**78.5**	ND(0.31)	**43.1**	28.8
E-059	02/27/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-065R	02/28/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-072RR	03/22/24	**1150**	ND(2.5)	**396**	**795**	--	--	--	--	--	--	--	--	--
E-080	03/27/24	**25**	ND(0.31)	ND(0.31)	ND(1)	ND(0.15)	ND(0.05)	**843**	**3580**	784 J+	**405**	8.65	**142**	53.9
E-089	02/21/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-091	03/08/24	1.31	ND(0.31)	ND(0.31)	ND(1)	ND(0.15)	ND(0.05)	**65.4**	**2630**	ND(45)	1.67	ND(0.31)	7.01	6.93
E-094	03/01/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-097	03/25/24	1.06 J	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-105	03/06/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-109	03/13/24	**36.3**	ND(0.31)	ND(0.31)	ND(1)	ND(0.15)	ND(0.05)	**15.7**	ND(198)	150	ND(0.31)	ND(0.31)	ND(3.23)	7.88
E-110	02/23/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-118	03/27/24	**39**	ND(0.31)	ND(0.31)	ND(1)	ND(0.15)	ND(0.05)	**51.6**	861	242 JB	2.1	ND(0.31)	8.86	14.2
E-122	03/06/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-125	02/21/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-127	03/08/24	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)	ND(0.15)	ND(0.05)	ND(0.31)	ND(200)	ND(45)	ND(0.31)	ND(0.31)	ND(0.015)	ND(0.31)
E-132	02/22/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-137A	02/22/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-137B	02/22/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-141	03/26/24	**46.8**	ND(2.5)	ND(2.5)	**265**	--	**--**	**--**	--	**--**	**--**	--	--	--
E-144	03/26/24	**17.9**	ND(2.5)	ND(2.5)	111	--	--	--	--	--	--	--	--	--
E-145	03/01/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-146	03/27/24	**1240**	ND(3.1)	14.9	187	ND(1.5)	**ND(0.5)**	**22**	776	**5920 J+**	**408**	**60.8**	ND(3.23)	118
E-147	03/08/24	**10.8**	ND(0.31)	ND(0.31)	ND(1)	ND(0.15)	ND(0.05)	ND(0.31)	ND(200)	ND(45)	ND(0.31)	ND(0.31)	ND(0.0147)	ND(0.31)
E-148	02/23/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-150	03/26/24	**30.1 J+**	ND(0.31)	ND(0.31)	102 J+	ND(0.15)	ND(0.05)	**209 J+**	**2280**	644 J+	**218 J+**	50.4 J+	**67.6**	25.3 J+
E-151	03/26/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-152	03/26/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-153	02/28/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-155	03/06/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-156	03/06/24	3.29	ND(2.5)	ND(2.5)	17.3	--	--	--	--	--	--	--	--	--
E-160	03/08/24	**9.77**	ND(0.31)	ND(0.31)	31	ND(0.15)	ND(0.05)	**179**	**1470**	236	**164**	35.6	34.2	29.2
E-162	03/25/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-163	03/07/24	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)	ND(0.15)	ND(0.05)	ND(0.31)	ND(204)	ND(45)	ND(0.31)	ND(0.31)	0.0999 JB	ND(0.31)
E-168	03/07/24	2.22	ND(0.31)	ND(0.31)	ND(1)	ND(0.15)	ND(0.05)	ND(0.31)	749	ND(45)	ND(0.31)	ND(0.31)	ND(0.0147)	ND(0.31)
E-171	03/27/24	**13 J+**	ND(0.31)	7.05 J+	46.8 J+	ND(0.15)	ND(0.05)	**370 J+**	**3400**	1060 J+	**328 J+**	**89.9 J+**	**93.9**	39.1 J+
E-177B	03/13/24	**110**	941	**889**	**4330**	**ND(3)**	ND(1)	**21.6**	1060	**19000**	**944**	**301**	3.42 J-	62.6

TABLE 2A. ANALYTICAL RESULTS – INDICATOR PARAMETERS (IPs) AND CONTAMINANTS OF CONCERN (COCs)

Well ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes, Total (µg/L)	Trichloro-ethene (µg/L)	Vinyl Chloride (µg/L)	Naphthalene (µg/L)	Diesel Range Organics (µg/L)	Gasoline Range Organics (µg/L)	1,2,4-Trimethyl-benzene (µg/L)	1,3,5-Trimethyl-benzene (µg/L)	2-Methyl-naphthalene (µg/L)	Isopropyl-benzene (µg/L)
TGPS		**4.6**	**1,100**	**15**	**190**	**2.8**	**0.19**	**1.7**	**1500**	**2200**	**56**	**60**	**36**	**450**
E-179	03/25/24	**88.3**	ND(2.5)	ND(2.5)	10.2	--	--	--	--	--	--	--	--	--
E-187B	03/26/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-196R	03/07/24	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)	ND(0.15)	ND(0.05)	ND(0.31)	ND(200)	ND(45)	ND(0.31)	ND(0.31)	ND(0.015)	ND(0.31)
E-197	02/28/24	**22.8**	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-198	03/27/24	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)	ND(0.15)	ND(0.05)	ND(0.31)	ND(197)	ND(45)	ND(0.31)	ND(0.31)	ND(0.0153) UJ	ND(0.31)
E-199	02/28/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-203	02/22/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-206	02/23/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-207	03/12/24	**48**	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-208	03/01/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-209	03/12/24	3.25	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-215	03/27/24	**1080**	ND(3.1)	ND(3.1)	ND(10)	ND(1.5)	**ND(0.5)**	**ND(3.1)**	626	**2520**	ND(3.1)	ND(3.1)	0.0779 J	ND(3.1)
E-216	03/01/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-217A	03/01/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-217B	03/01/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-224	02/22/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	**--**	**--**	**--**	--	**--**	--	--	--	--
E-227	03/22/24	**529**	ND(2.5)	**366**	**507**	--	--	--	--	--	--	--	--	--
E-229R	02/28/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-233	03/12/24	**124**	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-234A-R	02/27/24	**15.3**	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-234B-R	03/22/24	**1440**	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-244	03/26/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-245B	03/11/24	**307 J**	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-247A	03/11/24	**67.9**	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-247B	03/11/24	**57**	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-248A	02/27/24	**39.1**	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-248B	02/27/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-249A	03/22/24	**891**	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-249B	03/11/24	**158 J-**	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-249C	03/11/24	**17.5**	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-250A	03/12/24	**16.1**	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-250B	03/12/24	**80**	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-251B	02/22/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-252B	03/12/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-253	03/06/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-254	02/22/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-255	03/12/24	**113**	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-256	03/22/24	**1260**	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-257B	03/15/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-258	03/15/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
E-259	02/21/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--

TABLE 2A. ANALYTICAL RESULTS – INDICATOR PARAMETERS (IPs) AND CONTAMINANTS OF CONCERN (COCs)

Well ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes, Total (µg/L)	Trichloro-ethene (µg/L)	Vinyl Chloride (µg/L)	Naphthalene (µg/L)	Diesel Range Organics (µg/L)	Gasoline Range Organics (µg/L)	1,2,4-Trimethyl-benzene (µg/L)	1,3,5-Trimethyl-benzene (µg/L)	2-Methyl-naphthalene (µg/L)	Isopropyl-benzene (µg/L)
TGPS		**4.6**	**1,100**	**15**	**190**	**2.8**	**0.19**	**1.7**	**1500**	**2200**	**56**	**60**	**36**	**450**
IWS-6	03/19/24	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)	**10.3**	ND(0.05)	--	--	--	--	--	--	--
MW-12	03/06/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	**--**	--	--	--	--	--	--	--	--
MW-92	02/23/24	0.82	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
MW-93	02/23/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
MW-93A	02/23/24	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
SD-3	03/21/24	**14.6**	13.7	**208**	133	1.38	**5.6**	**40.5**	796	1100 J+	**65.5**	5.84	0.827	24.6
SMW-05	03/18/24	3.32	ND(0.31)	ND(0.31)	ND(1)	**3.65**	**1.45**	--	--	--	--	--	--	--
SMW-06	03/18/24	0.7	ND(0.31)	ND(0.31)	ND(1)	1.37	ND(0.05)	--	--	--	--	--	--	--
SMW-09	03/21/24	0.54	ND(0.31)	ND(0.31)	ND(1)	0.74	**0.43**	--	637	ND(45)	--	--	ND(0.0153)	--
SMW-10	03/18/24	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)	ND(0.15)	ND(0.05)	--	--	--	--	--	--	--
SMW-12B	03/20/24	1.3	ND(0.31)	ND(0.31)	7.04	ND(0.15)	ND(0.05)	ND(0.31)	ND(202)	ND(45)	ND(0.31)	ND(0.31)	ND(0.015)	9.78
SMW-21A	03/20/24	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)	ND(0.15)	ND(0.05)	--	ND(202)	ND(45)	--	--	ND(0.0156)	--
SMW-29	03/20/24	1	ND(0.31)	ND(0.31)	ND(1)	1.96	ND(0.05)	--	ND(198)	ND(45)	--	--	ND(0.015)	--
SMW-31	03/19/24	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)	ND(0.15)	ND(0.05)	--	--	--	--	--	--	--
SMW-32	03/19/24	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)	ND(0.15)	ND(0.05)	--	--	--	--	--	--	--
SMW-33R	03/19/24	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)	ND(0.15)	ND(0.05)	--	--	--	--	--	--	--
SMW-34	03/21/24	2.63	ND(0.31)	1.19	ND(1)	**51.8**	**2.91**	ND(0.31)	ND(202)	115	ND(0.31)	ND(0.31)	ND(0.015)	ND(0.31)
SMW-35	03/20/24	1.15	ND(0.31)	ND(0.31)	ND(1)	**42.7**	ND(0.05)	--	--	--	--	--	--	--
SMW-36	03/19/24	0.84	ND(0.31)	ND(0.31)	ND(1)	**3.62**	ND(0.05)	--	--	--	--	--	--	--
SMW-37	03/21/24	0.93	ND(0.31)	ND(0.31)	ND(1)	**9.21**	**0.23**	--	--	--	--	--	--	--
SMW-I-1	03/21/24	**5.38**	ND(0.31)	ND(0.31)	ND(1)	**19.6**	ND(0.05)	ND(0.31)	ND(205)	ND(45)	ND(0.31)	ND(0.31)	ND(3.26)	ND(0.31)
SW-01	03/14/24	1.06	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
SW-03	03/14/24	**13.2**	27.8	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
SW-09	03/14/24	**270**	40.8	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
SW-11	03/14/24	**31.2**	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
SW-12	03/14/24	**193**	9.13	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
SW-14	03/14/24	**4.73**	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--
TW-2B	03/01/24	2.42	ND(2.5)	ND(2.5)	ND(2.5)	--	--	--	--	--	--	--	--	--

Notes:

-E-014 and E-257A were not sampled due to the presence of LNAPL.

-E-190A, SW-02, SW-04, SW-05, SW-06, SW-07, SW-08, SW-10, and SW-13 were dry/frozen and not sampled.

-SMW-24 was unaccessible due to snow and was not sampled.

TGPS Target Groundwater Protection Standards, from Permit Table 2

ND Analyte was not present in a concentration above detection level

J -/+ Estimated concentration; but may be biased low/high

UJ Estimated reporting limit

JB Estimated concentration due to possible blank contamination

-- Not analyzed

The method detection limit (MDL) was used as the reporting limit.

TABLE 2B. ANALYTICAL RESULTS - CONTAMINANTS OF POTENTIAL CONCERN (COPCs)

Location ID	E-038	E-055	E-109	E-146	SMW-I-1	Comparison	Criteria
Date Sampled	03/13/24	03/08/24	03/13/24	03/27/24	03/21/24	Criteria	Source
1,1,1-Trichloroethane	ND(0.31)	ND(0.31)	ND(0.31)	ND(3.1)	ND(0.31)	5.7	PRG
1,1,2-Trichloroethane	ND(0.12)	ND(0.12)	ND(0.12)	ND(1.2)	ND(0.12)	0.41	AK GW
1,1-Dichloroethane	ND(0.31)	ND(0.31)	ND(0.31)	ND(3.1)	ND(0.31)	28	AK GW
* 1,2,4-Trimethylbenzene	ND(0.31)	**78.5**	ND(0.31)	**408**	ND(0.31)	56	AK GW
1,2-Dibromoethane	ND(0.018)	ND(0.018)	ND(0.018)	ND(0.18)	ND(0.018)	0.075	AK GW
1,2-Dichlorobenzene	ND(0.31)	ND(0.31)	ND(0.31)	ND(3.1)	ND(0.31)	300	AK GW
1,2-Dichloroethane	ND(0.2)	ND(0.2)	ND(0.2)	ND(2)	ND(0.2)	1.7	AK GW
* 1,3,5-Trimethylbenzene	ND(0.31)	ND(0.31)	ND(0.31)	**60.8**	ND(0.31)	60	AK GW
1,3-Dichlorobenzene	ND(0.31)	ND(0.31)	ND(0.31)	ND(3.1)	ND(0.31)	300	AK GW
1,4-Dichlorobenzene	ND(0.15)	ND(0.15)	ND(0.15)	ND(1.5)	ND(0.15)	4.8	AK GW
1,4-Dioxane	ND(0.1) UJ	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1) R	4.6	PRG
2,4-Dimethylphenol	ND(3.33) UJ	ND(3.3) UJ	ND(3.23) UJ	ND(3.23) UJ	ND(3.26)	360	AK GW
2,4-Dinitrophenol	ND(32.3)	ND(31.9)	ND(31.3)	ND(31.3)	ND(31.6)	39	AK GW
2-Butanone	ND(3.1)	ND(3.1)	ND(3.1)	ND(31)	ND(3.1)	5600	AK GW
2-Hexanone	ND(3.1)	ND(3.1)	ND(3.1)	ND(31)	ND(3.1)	38	AK GW
2-Methyl phenol	ND(3.33)	ND(3.3)	ND(3.23)	ND(3.23)	ND(3.26)	930	AK GW
* 2-Methyl-naphthalene	ND(3.33)	**43.1**	ND(3.23)	ND(3.23)	ND(3.26)	36	AK GW
3&4-Methyl phenol	ND(6.67)	ND(6.6)	ND(6.46)	ND(6.46)	ND(6.53)	930	AK GW
4-Nitrophenol	ND(21.5)	ND(21.3)	ND(20.8)	ND(20.8)	ND(21.1)	NE	NA
Acenaphthene	ND(3.33)	ND(3.3)	ND(3.23)	ND(3.23)	ND(3.26)	530	AK GW
Acetone	ND(3.1)	ND(3.1)	ND(3.1)	ND(31)	ND(3.1)	14000	AK GW
Anthracene	ND(3.33)	ND(3.3)	ND(3.23)	ND(3.23)	ND(3.26)	43	AK GW
** Arsenic, Total	ND(3.1)	ND(3.1)	29.5	24.3	ND(3.1)	100	95%UCL
* Benzene	ND(0.12)	**276**	**36.3**	**1240**	**5.38**	4.6	AK GW
Benzo(a)anthracene	**ND(3.33)**	**ND(3.3)**	**ND(3.23)**	**ND(3.23)**	**ND(3.26)**	0.3	AK GW
Benzo(a)pyrene	**ND(3.33)**	**ND(3.3)**	**ND(3.23)**	**ND(3.23)**	**ND(3.26)**	0.25	AK GW
Benzo(b)fluoranthene	**ND(3.33)**	**ND(3.3)**	**ND(3.23)**	**ND(3.23)**	**ND(3.26)**	2.5	AK GW
Benzo(k)fluoranthene	**ND(3.33)**	**ND(3.3)**	**ND(3.23)**	**ND(3.23)**	**ND(3.26)**	0.8	AK GW
Benzyl Butyl Phthalate	ND(3.33)	ND(3.3)	ND(3.23)	ND(3.23)	ND(3.26)	NE	NA
Bis(2-ethyl hexyl)phthalate	ND(3.33)	ND(3.3)	ND(3.23)	ND(3.23)	ND(3.26)	56	AK GW
Carbon Disulfide	ND(3.1)	ND(3.1)	ND(3.1)	ND(31)	ND(3.1)	810	AK GW
Carbon tetrachloride	ND(0.31)	ND(0.31)	ND(0.31)	ND(3.1)	ND(0.31)	4.6	AK GW
Chlorobenzene	ND(0.15)	ND(0.15)	ND(0.15)	ND(1.5)	ND(0.15)	78	AK GW
Chloroform	ND(0.31)	ND(0.31)	ND(0.31)	ND(3.1)	ND(0.31)	2.2	AK GW
Chloromethane	ND(0.31)	3.47	ND(0.31)	ND(3.1)	ND(0.31)	190	AK GW
Chrysene	**ND(3.33)**	**ND(3.3)**	**ND(3.23)**	**ND(3.23)**	**ND(3.26)**	2	AK GW
Cyanide, Total	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	1.5	AK GW
Dibenz(a,h)anthracene	**ND(3.33)**	**ND(3.3)**	**ND(3.23)**	**ND(3.23)**	**ND(3.26)**	0.25	AK GW
Dibenzofuran	ND(1.61)	ND(1.6)	ND(1.56)	ND(1.56)	ND(1.58)	7.9	AK GW
* Diesel Range Organics	ND(202)	**1650**	ND(198)	776	ND(205)	1500	AK GW
Diethylphthalate	ND(3.33)	ND(3.3)	ND(3.23)	ND(3.23)	ND(3.26)	15000	AK GW
Dimethyl Phthalate	ND(3.33)	ND(3.3)	ND(3.23)	ND(3.23) UJ	ND(3.26)	16000	AK GW
Di-n-butylphthalate	ND(3.33)	ND(3.3)	ND(3.23)	ND(3.23)	ND(3.26)	900	AK GW
Di-n-octylphthalate	ND(3.33)	ND(3.3)	ND(3.23)	ND(3.23)	ND(3.26)	22	AK GW
* Ethylbenzene	ND(0.31)	ND(0.31)	ND(0.31)	14.9	ND(0.31)	15	AK GW
Fluoranthene	ND(3.33)	ND(3.3)	ND(3.23)	ND(3.23)	ND(3.26)	260	AK GW
Fluorene	ND(3.33)	ND(3.3)	ND(3.23)	ND(3.23)	ND(3.26)	290	AK GW
* Gasoline Range Organics	ND(45)	1200	150	**5920 J+**	ND(45)	2200	AK GW
Indeno-(1,2,3-cd) pyrene	**ND(3.33)**	**ND(3.3)**	**ND(3.23)**	**ND(3.23)**	**ND(3.26)**	0.19	AK GW
* Isopropylbenzene (cumene)	ND(0.31)	28.8	7.88	118	ND(0.31)	450	AK GW
** Lead, Total	ND(0.31)	ND(0.31)	2.01	ND(0.31)	ND(0.31)	5	95%UCL
Methyl Isobutyl Ketone (MIBK	ND(3.1)	ND(3.1)	ND(3.1)	ND(31)	ND(3.1)	6,300	AK GW
* Naphthalene	**ND(3.33) UJ**	**35 J-**	**ND(3.23) UJ**	**ND(3.23)**	**ND(3.26)**	1.7	AK GW
n-Butylbenzene	ND(0.31)	6.64	ND(0.31)	ND(3.1)	ND(0.31)	1000	AK GW

TABLE 2B. ANALYTICAL RESULTS - CONTAMINANTS OF POTENTIAL CONCERN (COPCs)

Location ID	E-038	E-055	E-109	E-146	SMW-I-1	Comparison	Criteria
Date Sampled	03/13/24	03/08/24	03/13/24	03/27/24	03/21/24	Criteria	Source
N-Nitrosodi-n-propylamine	**ND(3.33) UJ**	**ND(3.3) UJ**	**ND(3.23) UJ**	**ND(3.23) UJ**	**ND(3.26)**	0.11	AK GW
Phenanthrene	ND(3.33)	ND(3.3)	ND(3.23)	ND(3.23)	ND(3.26)	170	AK GW
Phenol	ND(3.33)	ND(3.3)	ND(3.23)	ND(3.23)	ND(3.26)	5800	AK GW
Pyrene	ND(3.33)	ND(3.3)	ND(3.23)	ND(3.23)	ND(3.26)	120	AK GW
Pyridine	ND(6.67) UJ	ND(6.6) UJ	ND(6.46) UJ	ND(6.46) R	ND(6.53)	36	PRG
sec-Butylbenzene	ND(0.31)	11.7	ND(0.31)	ND(3.1)	ND(0.31)	2000	AK GW
Styrene	ND(0.31)	ND(0.31)	ND(0.31)	ND(3.1)	ND(0.31)	1200	AK GW
Sulfide, Total	ND(0.031)	ND(0.031) UJ	ND(0.031)	ND(0.031)	ND(0.031)	NA	NA
tert-Butylbenzene	ND(0.31)	1.05	ND(0.31)	ND(3.1)	ND(0.31)	690	AK GW
Tetrachloroethene	ND(0.31)	ND(0.31)	ND(0.31)	ND(3.1)	ND(0.31)	41	AK GW
* Toluene	ND(0.31)	ND(0.31)	ND(0.31)	ND(3.1)	ND(0.31)	1100	AK GW
* Trichloroethylene	ND(0.15)	ND(0.15)	ND(0.15)	ND(1.5)	**19.6**	2.8	AK GW
* Vinyl Chloride	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.5)	ND(0.05)	0.19	AK GW
* Xylenes, Total	ND(1)	ND(1)	ND(1)	187	ND(1)	190	AK GW

Notes:

All concentrations reported in **µg/L**

Bold Results exceed 10% of comparison criteria

UJ Estimated reporting limit

J -/+ Estimated concentration; but may be biased low/high

R Rejected, data not usable

AK GW Alaska state groundwater standard (18 AAC 75.345)

PRG Preliminary remediation goal (EPA Region IX)

ND Not detected at method detection limit shown in parentheses

NE Not established

* Listed contaminant of concern (COC)

** Comparison criteria are used as described in Permit Attachment D except for metals. Arsenic and lead are compared to the 95% Upper Confidence Level (UCL) of the background metal concentrations documented in "Groundwater Metals Assessment Report, Tesoro Alaska Refinery" by Kent Sullivan, dated December 9, 2005.

TABLE 3A. SI AIR SPARGE SYSTEM PERFORMANCE DATA

	SAS-1		SAS-2		SAS-3		SAS-4	
Week ending:	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
2/2/2024	0	0	0	0	0	0	0	0
2/9/2024	0	0	0	0	0	0	0	0
2/16/2024	0	0	0	0	0	0	0	0
2/23/2024	0	0	0	0	0	0	0	0
3/1/2024	0	0	0	0	0	0	0	0
3/8/2024	0	0	0	0	0	0	0	0
3/15/2024	0	0	0	0	0	0	0	0
3/22/2024	0	0	0	0	0	0	0	0
3/29/2024	0	0	0	0	0	0	0	0
4/5/2024	0	0	0	0	0	0	0	0
4/12/2024	0	0	0	0	0	0	0	0
4/19/2024	0	0	0	0	0	0	0	0
4/26/2024	0	0	0	0	0	0	0	0

	SAS-5		SAS-6		SAS-7		SAS-8	
Week ending:	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
2/2/2024	0	0	0	0	0	0	0	0
2/9/2024	0	0	0	0	0	0	0	0
2/16/2024	0	0	0	0	0	0	0	0
2/23/2024	0	0	0	0	0	0	0	0
3/1/2024	0	0	0	0	0	0	0	0
3/8/2024	0	0	0	0	0	0	0	0
3/15/2024	0	0	0	0	0	0	0	0
3/22/2024	0	0	0	0	0	0	0	0
3/29/2024	0	0	0	0	0	0	0	0
4/5/2024	0	0	0	0	0	0	0	0
4/12/2024	0	0	0	0	0	0	0	0
4/19/2024	0	0	0	0	0	0	0	0
4/26/2024	0	0	0	0	0	0	0	0

	SAS-9		SAS-10		SAS-11		SAS-12	
Week ending:	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
2/2/2024	0	0	0	0	5	11	3	9
2/9/2024	0	0	0	0	5	10.5	3	8
2/16/2024	0	0	0	0	5	11	5	8
2/23/2024	0	0	0	0	5	9	3	8.5
3/1/2024	0	0	0	0	6	8	5	8
3/8/2024	0	0	0	0	5	7.5	5	7
3/15/2024	0	0	0	0	5	11	5	7.5
3/22/2024	0	0	0	0	5	9	3	8.5
3/29/2024	0	0	0	0	6	9	5	8.5
4/5/2024	0	0	0	0	5	9	5	7.5
4/12/2024	0	0	0	0	5	8	5	8
4/19/2024	0	0	0	0	5	9	4	7
4/26/2024	0	0	0	0	**5**	**9**	2.5	7.5

TABLE 3A. SI AIR SPARGE SYSTEM PERFORMANCE DATA

	SAS-13		SAS-14		SAS-15		SAS-16	
Week ending:	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
2/2/2024	6	9	6	10	7	5	3	10.5
2/9/2024	6	8.5	6	10	7	4	3	10.5
2/16/2024	5	9.5	7	10.5	8	4	3	10.5
2/23/2024	5	9	7	9	7	4	3	10.5
3/1/2024	5	8.5	6	8.5	7	3	3	9.5
3/8/2024	5	6.5	6	9.5	7	3	3	9
3/15/2024	5	6.5	7	13	7	3.5	3	9
3/22/2024	5	8.5	6	10.5	7	3.5	3	10
3/29/2024	5	9.5	6	10.5	7	4	3	10
4/5/2024	5	8.5	6	11	7	3	3	9.5
4/12/2024	7	8	6	11	7	3	2.5	9
4/19/2024	6	7.5	6	11	7	2.5	2.5	8.5
4/26/2024	5	9	**7**	**11**	9	3.5	2.5	10

	SAS-17		SAS-18		SAS-19		SAS-20	
Week ending:	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
2/2/2024	3	8	3	11.5	3	11.5	6	0
2/9/2024	3	7.5	3	11.5	3	11	7	0
2/16/2024	3	7.5	3	11.5	3	11	6	0
2/23/2024	3	6	3	10	3	11	6	0
3/1/2024	3	5	3	8	3	10	7	0
3/8/2024	3	5	3	8.5	3	9	8	0
3/15/2024	3	8.5	3	12	3	9	9	6
3/22/2024	3	6	3	9.5	3	10.5	8	0
3/29/2024	3	6	3	10	3	10.5	9	0
4/5/2024	3	6.5	3	10	3	10	9	0
4/12/2024	2.5	6	2.5	9	2.5	10	9	0
4/19/2024	3	6	2.5	9	2.5	9.5	6	0
4/26/2024	**5**	**6**	2.5	10	2.5	10.5	**6**	**0**

	SAS-21		SAS-22		TOTAL CFM			Minimum
Week ending:	CFM	PSI	CFM	PSI	BANK 1	BANK 2	BANK 3	Total
2/2/2024	6	9.5	3	8.5	**15**	**20**	**19**	35
2/9/2024	6	9	3	7.5	**15**	**21**	**19**	35
2/16/2024	6	9.5	3	7.5	**14**	**21**	**22**	35
2/23/2024	6	8	3	7.5	**14**	**21**	**19**	35
3/1/2024	6	6	3	7	**14**	**22**	**21**	35
3/8/2024	5	8	3	7	**14**	**22**	**20**	35
3/15/2024	11	12	3	7.5	**14**	**24**	**26**	35
3/22/2024	13	7	5	8	**16**	**22**	**26**	35
3/29/2024	7	8	5	7.5	**16**	**24**	**22**	35
4/5/2024	5	9.5	6	7	**17**	**23**	**20**	35
4/12/2024	6	7	6	7	**18**	**23**	**21**	35
4/19/2024	5	8	6	6	**17**	**20**	**19**	35
4/26/2024	4	9	2.5	7	**13**	**23**	**18**	35

Notes:
CFM - cubic feet per minute
PSI - pounds per square inch
Minimum total rate per permit Table D-6
Bold - Below Minimum Total
- System Readings Not Collected
- Pilot Shutdown Wells

TABLE 3B. PRM AIR SPARGE SYSTEM PERFORMANCE DATA

	PAS-7		PAS-8		PAS-9		PAS-10	
Week ending:	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
2/2/2024	4.8	9	5.9	13.5	0.0	18	3.2	4
2/9/2024	4.7	8.5	6.4	12	0.0	18	3.6	5
2/16/2024	4.8	9	6.4	12	0.0	18.5	3.2	4
2/23/2024	5.6	12.5	0.0	18.5	0.0	18.5	3.2	4
3/1/2024	4.1	10	5.6	12.5	0.0	17	2.8	3
3/8/2024	4.9	9.5	6.2	11.5	0.0	17	3.0	3.5
3/15/2024	5.2	10.5	5.8	13	0.0	17	3.2	4
3/22/2024	4.4	11.5	5.8	13	0.0	18	3.2	4
3/29/2024	4.2	10.5	5.4	11.5	0.0	18	3.2	4
4/5/2024	4.1	10	5.5	12	0.0	18	2.5	2.5
4/12/2024	4.1	10	4.5	12	0.0	17	2.3	2.5
4/19/2024	4.8	13.5	0.0	18	0.0	18	3.2	4
4/26/2024	4.2	10.5	5.8	13	0.0	17	3.2	4

	PAS-11		PAS-12		PAS-13		PAS-16	
Week ending:	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
2/2/2024	5.6	18.5	4.9	9.5	0.0	0	6.2	15
2/9/2024	7.0	19	5.0	10	0.0	0	8.0	15
2/16/2024	5.7	19	4.7	8.5	0.0	0	7.1	15
2/23/2024	5.6	18.5	5.4	8.5	0.0	0	6.2	15
3/1/2024	5.5	17.5	5.0	7.5	0.0	0	7.1	15
3/8/2024	5.7	19	4.9	9.5	0.0	0	6.2	15
3/15/2024	5.5	17.5	5.0	10	0.0	0	7.1	15
3/22/2024	4.0	18.5	4.9	9.5	0.0	0	6.2	15
3/29/2024	4.0	19	3.4	4.5	0.0	0	0.0	15
4/5/2024	0.0	18.5	4.9	14	0.0	0	0.0	15
4/12/2024	3.9	18	5.5	9	0.0	1	0.0	15
4/19/2024	4.0	19	3.1	11	0.0	0.5	7.4	13
4/26/2024	5.5	18	4.5	8	0.0	0	8.0	15

	PAS-17		PAS-18		PAS-19		PAS-21	
Week ending:	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
2/2/2024	3.4	14	7.5	11	0.0	10.5	0.0	0
2/9/2024	3.4	13.5	7.5	11	0.0	5	0.0	0
2/16/2024	3.4	14	7.7	11.5	0.0	15	0.0	0
2/23/2024	3.4	13.5	7.5	11	0.0	15	0.0	0
3/1/2024	0.0	13.5	7.9	10.5	0.0	15	0.0	0
3/8/2024	3.5	14.5	7.8	12	0.0	15	0.0	0
3/15/2024	3.4	14	7.0	11.5	0.0	15	0.0	0
3/22/2024	3.6	15	7.1	12	0.0	15	1.6	1
3/29/2024	3.6	15	5.9	13.5	0.0	15	2.3	2
4/5/2024	3.6	15	3.6	15	0.0	15	1.6	1
4/12/2024	3.6	15	7.1	12	0.0	15	2.3	2
4/19/2024	0.0	15	7.1	12	0.0	15	2.8	3
4/26/2024	2.5	15	7.1	10	0.0	15	2.8	1

TABLE 3B. PRM AIR SPARGE SYSTEM PERFORMANCE DATA

	PAS-22		PAS-23		PAS-24		PAS-25	
Week ending:	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
2/2/2024	5.2	8	2.5	7.5	0.0	20	3.6	15
2/9/2024	5.8	10	2.4	7	0.0	19.5	3.6	15
2/16/2024	6.2	9	3.0	10.5	0.0	19	5.0	15
2/23/2024	5.5	6	2.6	8	0.0	19.5	5.0	15
3/1/2024	5.0	6	2.9	10	0.0	20	5.0	15
3/8/2024	5.5	9	2.8	9	0.0	18.5	3.6	15
3/15/2024	5.5	9	2.4	7	0.0	18.5	5.0	15
3/22/2024	5.2	8	2.6	8	0.0	18.5	5.0	15
3/29/2024	5.5	9	2.8	9.5	0.0	19	3.6	15
4/5/2024	5.5	9	2.8	9.5	0.0	18.5	5.0	15
4/12/2024	6.2	9	1.5	5	0.0	19	3.6	15
4/19/2024	5.8	8	1.5	5	0.0	18	3.6	15
4/26/2024	5.5	7	2.1	5	0.0	20	5.0	15
						18		

	PAS-26		PAS-27		PAS-28		PAS-29	
Week ending:	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
2/2/2024	0.0	15	7.5	16.5	0.0	18.5	7.1	15
2/9/2024	0.0	15	7.4	16	0.0	18.5	8.0	15
2/16/2024	0.0	15	8.0	19	4.1	19.5	7.1	15
2/23/2024	0.0	15	7.9	18.5	5.5	18	5.0	15
3/1/2024	0.0	15	7.4	16	6.4	16	6.2	15
3/8/2024	0.0	15	7.6	17	0.0	16	6.2	15
3/15/2024	0.0	15	7.3	15.5	6.4	16	7.1	15
3/22/2024	0.0	15	6.6	17	5.5	17.5	3.6	15
3/29/2024	0.0	15	6.9	18.5	3.9	18	5.0	15
4/5/2024	0.0	15	6.6	17	6.5	16.5	3.6	15
4/12/2024	0.0	15	7.6	17	6.6	17	5.0	15
4/19/2024	0.0	15	7.0	19	6.8	18	3.6	15
4/26/2024	3.6	15	6.4	16	5.8	16	6.2	15
		15						

	PAS-30		PAS-31		PAS-32		PAS-33	
Week ending:	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
2/2/2024	4.2	20.5	0.0	15	0.0	20.5	0.0	0
2/9/2024	4.2	20.5	0.0	15	0.0	21	0.0	0
2/16/2024	4.1	20	0.0	15	0.0	21	0.0	0
2/23/2024	4.1	20	0.0	15	0.0	20.5	0.0	0
3/1/2024	4.1	20	0.0	15	0.0	20	0.0	0
3/8/2024	4.1	20	0.0	15	0.0	20.5	0.0	0
3/15/2024	4.0	19	0.0	15	0.0	19.5	0.0	0
3/22/2024	4.1	20	0.0	15	0.0	20.5	0.0	0
3/29/2024	4.1	19.5	0.0	15	0.0	20	0.0	0
4/5/2024	0.0	19.5	0.0	15	0.0	20	0.0	0
4/12/2024	4.1	20	0.0	15	0.0	20	0.0	1
4/19/2024	0.0	21	0.0	15	0.0	21	0.0	0
4/26/2024	3.9	18	0.0	15	0.0	20	0.0	0

TABLE 3B. PRM AIR SPARGE SYSTEM PERFORMANCE DATA

	PAS-34		PAS-35		PAS-36		PAS-37	
Week ending:	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
2/2/2024	0.0	0	6.0	14	7.7	10	8.8	13
2/9/2024	0.0	0	6.0	14	6.4	12	8.6	12.5
2/16/2024	0.0	0	6.3	15.5	6.7	10.5	8.8	13
2/23/2024	0.0	0	5.3	16.5	6.7	10.5	8.4	14
3/1/2024	0.0	0	5.6	15	7.0	9.5	8.1	13
3/8/2024	0.0	0	5.2	16	7.0	9.5	8.0	12.5
3/15/2024	0.0	0	8.0	15	6.5	10	8.1	13
3/22/2024	0.0	0	6.0	14	6.8	9	6.8	18
3/29/2024	0.0	0	5.3	16.5	7.1	10	5.7	19
4/5/2024	0.0	0	4.9	18.5	6.7	10.5	4.0	18.5
4/12/2024	0.0	0	4.1	20	7.1	10	4.1	20
4/19/2024	0.0	0	4.2	21	7.5	11	5.0	20
4/26/2024	0.0	0	6.0	14	6.5	10	8.1	13

	PAS-38		PAS-39		Total
Week ending:	CFM	PSI	CFM	PSI	CFM
2/2/2024	6.1	11	7.7	14	107.9
2/9/2024	6.4	12	8.1	11	112.2
2/16/2024	6.2	11.5	8.4	12	116.9
2/23/2024	6.5	12.5	5.7	19	105.3
3/1/2024	6.2	11.5	5.5	18	107.6
3/8/2024	6.0	10.5	7.3	15.5	105.4
3/15/2024	6.1	11	7.4	13	116.1
3/22/2024	6.2	11.5	7.1	15	106.2
3/29/2024	5.5	18	5.6	18.5	93.0
4/5/2024	5.3	16.5	7.4	16	84.0
4/12/2024	5.2	16	8.0	15	96.4
4/19/2024	6.4	16	6.6	17	90.2
4/26/2024	6.2	15	8.1	11	116.9

Notes:

CFM - cubic feet per minute

PSI - pounds per square inch

TABLE 3C. HIGHWAY AIR SPARGE SYSTEM PERFORMANCE DATA

	HAS-01		HAS-02		HAS-03		HAS-04	
Week ending:	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
2/2/2024	0.0	0	0.0	0	0.0	29	9.2	17
2/9/2024	0.0	0	0.0	0	0.0	29	10.1	18
2/16/2024	0.0	0	0.0	0	10.8	29	9.2	17
2/23/2024	0.0	0	0.0	0	6.2	29	10.8	18
3/1/2024	0.0	0	0.0	0	12.6	30	9.2	17
3/8/2024	0.0	0	0.0	0	10.9	30	9.2	17
3/15/2024	0.0	0	0.0	0	8.8	29	10.1	18
3/22/2024	0.0	0	0.0	0	10.0	30	9.3	17.5
3/29/2024	0.0	0	0.0	0	10.9	30	9.9	17
4/5/2024	0.0	0	0.0	0	12.6	30	10.8	18
4/12/2024	0.0	0	0.0	0	10.0	30	9.9	17
4/19/2024	0.0	0	0.0	0	10.9	30	10.9	19
4/26/2024	0.0	0	0.0	0	6.3	30	10.4	16

	HAS-05		HAS-06		HAS-07		HAS-08	
Week ending:	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
2/2/2024	0.0	23	0.0	21.5	0.0	22.5	8.0	21.5
2/9/2024	0.0	22	0.0	22	5.8	22.5	9.1	22.5
2/16/2024	4.1	24	0.0	21.5	4.1	24	4.0	22
2/23/2024	5.6	21	0.0	23.5	6.9	21	5.9	24
3/1/2024	0.0	26	0.0	21.5	7.4	26	5.7	22
3/8/2024	0.0	25	0.0	21.5	0.0	25.5	6.9	21.5
3/15/2024	7.0	22	0.0	22.5	5.7	22	8.2	23
3/22/2024	6.1	27	0.0	21.5	7.5	28	8.0	21.5
3/29/2024	6.2	28	0.0	21.5	4.4	28	5.7	21.5
4/5/2024	4.1	23.5	0.0	22.5	7.1	23	7.0	22.5
4/12/2024	5.9	25	0.0	22	4.8	2.5	8.1	22
4/19/2024	0.0	22	0.0	24	4.0	22	5.9	25
4/26/2024	5.6	21	0.0	24	5.6	20	5.8	23

	HAS-09		HAS-10		HAS-11		HAS-12	
Week ending:	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
2/2/2024	12.3	23	5.6	21	0.0	25	0.0	21
2/9/2024	12.1	22	5.7	22	0.0	24	0.0	20
2/16/2024	11.0	24	5.6	21	4.2	25	0.0	21
2/23/2024	14.8	20.5	5.8	23	5.8	22.5	0.0	22.5
3/1/2024	10.3	25	9.6	20	0.0	28	0.0	2.5
3/8/2024	11.6	23	7.9	20	0.0	27	0.0	20.5
3/15/2024	10.9	19	8.1	22	5.8	23	0.0	22
3/22/2024	11.3	26.5	9.6	20	6.2	29	0.0	21
3/29/2024	11.4	27	9.6	20	6.3	30	0.0	20.5
4/5/2024	11.9	21	9.8	21	4.2	25	0.0	21.5
4/12/2024	10.3	25	9.8	21	0.0	28	0.0	22
4/19/2024	12.1	18	10.2	24	5.8	23	0.0	23
4/26/2024	10.1	18	11.3	21	5.7	22	0.0	21

TABLE 3C. HIGHWAY AIR SPARGE SYSTEM PERFORMANCE DATA

	HAS-13		HAS-14		HAS-15		HAS-16	
Week ending:	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
2/2/2024	9.9	22	9.9	17	0.0	26	5.6	20.5
2/9/2024	10.5	21	10.0	17.5	4.5	30	5.6	20
2/16/2024	12.0	21.5	10.0	17.5	4.5	30	0.0	20.5
2/23/2024	9.7	20.5	10.4	20	4.5	30	5.8	22.5
3/1/2024	12.1	22	10.1	18	4.5	30	3.9	20
3/8/2024	12.1	22	10.0	17.5	0.0	30	5.6	20
3/15/2024	9.6	20	10.4	20	0.0	30	5.8	23
3/22/2024	12.3	23	10.1	18	0.0	30	5.6	20.5
3/29/2024	6.2	28	10.1	18	0.0	30	4.0	20.5
4/5/2024	9.7	20.5	10.2	19	0.0	30	4.0	22
4/12/2024	12.8	22	9.9	17	0.0	30	5.6	21
4/19/2024	7.9	20	11.3	21	0.0	30	7.0	22
4/26/2024	7.9	20	10.8	18	17.8	30	5.7	22

	HAS-17		HAS-18		HAS-19		HAS-20	
Week ending:	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
2/2/2024	0.0	30	8.0	14	13.8	21	6.7	19
2/9/2024	10.9	30	8.1	14.5	13.9	21.5	6.7	19
2/16/2024	4.5	30	8.1	14.5	11.3	21	7.6	18
2/23/2024	4.5	30	9.1	22.5	9.5	19	9.2	23
3/1/2024	0.0	30	8.1	15	9.8	21	6.8	19.5
3/8/2024	0.0	30	8.1	15	10.5	21	6.8	20
3/15/2024	0.0	30	8.0	21.5	9.5	19	10.7	22
3/22/2024	0.0	30	8.1	15	10.6	21.5	7.6	17.5
3/29/2024	4.5	30	8.1	15	10.7	22	7.7	19
4/5/2024	0.0	30	9.0	15.52	9.7	20.5	8.8	20
4/12/2024	0.0	30	8.9	15	10.7	22	7.9	20
4/19/2024	6.3	30	9.0	16	9.5	19	9.0	22
4/26/2024	6.3	30	7.3	15	7.9	20	7.9	20

	HAS-21		HAS-22		HAS-23		HAS-24		Total
Week ending:	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI	CFM
2/2/2024	12.6	21	11.4	22	10.4	12.5	8.5	18	132.0
2/9/2024	12.6	21	10.4	20	10.5	13	9.9	17	156.3
2/16/2024	11.9	21	9.8	21	9.8	12.5	10.0	17.5	152.6
2/23/2024	9.3	18	11.4	27	8.2	7	11.3	21	164.4
3/1/2024	10.5	21	9.9	22	8.6	13	10.2	19	149.3
3/8/2024	11.1	20	10.7	22	8.3	11	10.1	18	139.8
3/15/2024	9.4	18.5	9.5	26	7.9	8.5	11.1	20	156.5
3/22/2024	11.3	21.5	11.1	20	9.3	13	9.9	17	164.0
3/29/2024	12.2	22.5	10.5	21	9.8	16	10.1	18	158.2
4/5/2024	10.5	21	8.1	22	8.4	12	10.2	19	156.3
4/12/2024	11.4	22	11.4	22	8.7	14	10.2	19	156.4
4/19/2024	8.4	17	11.5	28	6.8	6	11.4	22	157.9
4/26/2024	7.6	18	8.2	23	6.2	7	10.4	20	164.7

TABLE 3C. HIGHWAY AIR SPARGE SYSTEM PERFORMANCE DATA

	WAS-1		WAS-2		WAS-3		WAS-4	
Week ending:	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
2/2/2024	15	37	16	33	16	27	16	31
2/9/2024	16	37	16	33	16	26	16	31
2/16/2024	16.0	37	16.0	33	16.0	26	16.0	30
2/23/2024	16.0	36	16.0	32	16.0	26	16.0	30
3/1/2024	16.0	36	16.0	33	16.0	27	16.0	31
3/8/2024	16.0	36	16.0	32	16.0	26	16.0	30
3/15/2024	16.0	37	16.0	32	16.0	26	16.0	29
3/22/2024	16.0	35	16.0	33	16.0	27	16.0	30
3/29/2024	16.0	35	16.0	32	16.0	26	16.0	30
4/5/2024	16.0	35	16.0	33	16.0	26	16.0	30
4/12/2024	9.0	52	17.0	32	17.0	26	16.0	31
4/19/2024	15.0	38	15.0	35	15.0	29	16.0	31
4/26/2024	16.0	35	16.0	32	16.0	21	16.0	30

	WAS-5		WAS-6		WAS-7		WAS-8	
Week ending:	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
2/2/2024	16	30	15.5	28	16	30	15	41
2/9/2024	16	30	16	28	16	29	16	41
2/16/2024	16.0	30	16.0	28	16.0	30	16.0	42
2/23/2024	16.0	29	16.0	27	16.0	28	16.0	41
3/1/2024	16.0	30	16.0	28	16.0	28	16.0	42
3/8/2024	16.0	30	16.0	28	16.0	28	16.0	42
3/15/2024	16.0	29	16.0	27	16.0	28	16.0	42
3/22/2024	16.0	30	16.0	28	16.0	26	16.0	41
3/29/2024	16.0	30	16.0	28	16.0	28	16.0	42
4/5/2024	16.0	30	16.0	28	16.0	30	16.0	42
4/12/2024	16.0	31	17.0	29	16.0	30	17.0	45
4/19/2024	16.0	31	16.0	30	16.0	28	17.0	41
4/26/2024	16.0	31	16.0	29	17.0	30	17.0	42

	WAS-9		WAS-10		WAS-11		WAS-12		Total
Week ending:	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI	CFM
2/2/2024	11.5	39	14	43	14.5	53	4	55	169.5
2/9/2024	14	40	16	42	11.5	58	2	60	171.5
2/16/2024	14.0	41	16.0	40	10.0	60	2.0	60	170.0
2/23/2024	16.0	42	16.0	42	0.0	60	0.0	60	160.0
3/1/2024	16.0	42	16.0	42	2.0	60	2.0	60	164.0
3/8/2024	16.0	43	16.0	42	2.0	60	2.0	60	164.0
3/15/2024	16.0	42	16.0	41	2.0	60	2.0	60	164.0
3/22/2024	16.0	41	16.0	42	0.0	60	0.0	60	160.0
3/29/2024	16.0	42	16.0	43	0.0	60	0.0	60	160.0
4/5/2024	13.0	41	16.0	43	16.0	42	5.0	39	178.0
4/12/2024	14.0	41	17.0	44	17.5	44	5.0	41	178.5
4/19/2024	13.0	40	15.0	44	15.0	44	5.0	39	174.0
4/26/2024	7.0	42	17.0	42	16.0	42	5.0	39	175.0

TABLE 3C. HIGHWAY AIR SPARGE SYSTEM PERFORMANCE DATA

Week ending:	SVE-1 CFM	SVE-2 CFM	SVE-3 CFM	SVE-4 CFM	SVE-5 CFM	SVE-6 CFM	SVE-7 CFM	SVE-8 CFM
2/2/2024	0.00	0.00	**32.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**
2/9/2024	0.00	0.00	32.00	6.00	4.00	4.00	50.00	4.00
2/16/2024	0.00	0.00	30.00	26.00	0.00	28.00	34.00	0.00
2/23/2024	0.00	0.00	30.00	24.00	34.00	24.00	50.00	4.00
3/1/2024	0.00	0.00	26.00	22.00	30.00	22.00	32.00	34.00
3/8/2024	0.00	0.00	26.00	20.00	30.00	22.00	26.00	38.00
3/15/2024	0.00	0.00	24.00	20.00	28.00	20.00	24.00	36.00
3/22/2024	0.00	0.00	26.00	20.00	30.00	20.00	24.00	34.00
3/29/2024	0.00	0.00	24.00	22.00	34.00	22.00	24.00	26.00
4/5/2024	0.00	0.00	24.00	20.00	34.00	24.00	22.00	24.00
4/12/2024	0.00	0.00	26.00	22.00	34.00	24.00	24.00	24.00
4/19/2024	0.00	0.00	26.00	22.00	34.00	24.00	23.00	16.00
4/26/2024	0.00	0.00	**26.00**	**22.00**	**34.00**	**24.00**	**23.00**	**18.00**

Notes:
CFM - cubic feet per minute
PSI - pounds per square inch

TABLE 3D. VADOSE ZONE MONITORING DATA

Highway SVE System

DATE	WELL	VACUUM (" H_2O)
3/21/2024	HSVE-1	0
3/21/2024	HSVE-2	2
3/21/2024	HSVE-3	0.13
3/21/2024	HSVE-4	4
3/21/2024	HSVE-5	12
3/21/2024	HSVE-6	5
3/21/2024	HVMP-1	0.14
3/21/2024	HVMP-2 (shallow)	0.16
3/21/2024	HVMP-3	NM
3/21/2024	HVMP-4	NM
3/21/2024	HVMP-5 (shallow)	0.06
3/21/2024	HVMP-6	0
3/21/2024	E-021	0

Note:
NM - Not Measured

TABLE 4. RECOVERY WELL PUMPING RATE

A-AQUIFER

Week ending:	R-21R GPM	R-40 GPM	R-41 GPM	COMBINED TOTAL GPM	MIN GPM
2/2/2024	0	39	34	73	60
2/9/2024	0	37	33	70	60
2/16/2024	0	39	34	73	60
2/23/2024	0	40	34	74	60
3/1/2024	0	40	33	73	60
3/8/2024	0	39	32	71	60
3/15/2024	0	44	32	76	60
3/22/2024	0	43	31	74	60
3/29/2024	0	44	32	76	60
4/5/2024	0	45	30	75	60
4/12/2024	0	43.5	30.8	74.3	60
4/19/2024	0	42	30	72	60
4/26/2024	0	44	34	78	60

B-AQUIFER

Week ending:	R-50 GPM	R-51 GPM	R-52 GPM	R-54 GPM	R-55 GPM	R-56 GPM	COMBINED TOTAL GPM	MIN GPM
2/2/2024	0	0	0	36	40	16	92	60
2/9/2024	0	0	0	36	40	16	92	60
2/16/2024	0	0	0	35	39	16	90	60
2/23/2024	0	0	0	36	39	15	90	60
3/1/2024	0	0	0	36	39	15	90	60
3/8/2024	0	0	0	36	39	15	90	60
3/15/2024	0	0	0	36	39	15	90	60
3/22/2024	0	0	0	36	39	14	89	60
3/29/2024	0	0	0	36	38	15	89	60
4/5/2024	0	0	0	36	38	15	89	60
4/12/2024	0	0	0	36.5	38.1	15	89.6	60
4/19/2024	0	0	0	36.1	38.9	15	90	60
4/26/2024	0	0	0	36	40	16	92	60

TABLE 4. RECOVERY WELL PUMPING RATE

CALGON

Week ending:	GPM	GPD	MAX GPD
2/2/2024	209	300960	1000000
2/9/2024	204	293760	1000000
2/16/2024	204	293760	1000000
2/23/2024	210	302400	1000000
3/1/2024	205	295200	1000000
3/8/2024	205	295200	1000000
3/15/2024	205	295200	1000000
3/22/2024	201	289440	1000000
3/29/2024	206	296640	1000000
4/5/2024	199	286560	1000000
4/12/2024	202	290880	1000000
4/19/2024	200	288000	1000000
4/26/2024	205.5	295920	1000000

Notes:

gpm - gallons per minute

gpd - gallons per day

TABLE 5. GROUNDWATER INJECTION RATES

B-INJECTION

Week ending:	I-6 GPM	I-7 GPM	I-8 GPM	I-9 GPM	COMBINED TOTAL GPM	MIN GPM
2/2/2024	9	11	19	19	58	30
2/9/2024	10	10	20	19	59	30
2/16/2024	10	8	19	19	56	30
2/23/2024	10	7	18	18	53	30
3/1/2024	9	10	18	19	56	30
3/8/2024	10	7	19	19	55	30
3/15/2024	9	11	19	19	58	30
3/22/2024	10	8	19	18	55	30
3/29/2024	11	7	20	19	57	30
4/5/2024	11	7	19	18	55	30
4/12/2024	13	10	20	20	62.6	30
4/19/2024	13	10	21	20	64	30
4/26/2024	11	10	19	20	60	30

A-INJECTION

Week ending:	IR-29 GPM	IR-30 GPM	IR-31 GPM	IR-32 GPM	COMBINED TOTAL GPM	MIN GPM
2/2/2024	43	82	45	39	209	60
2/9/2024	44	82	45	33	204	60
2/16/2024	43	81	45	35	204	60
2/23/2024	43	82	45	40	210	60
3/1/2024	42	81	45	37	205	60
3/8/2024	43	81	45	36	205	60
3/15/2024	44	81	45	35	205	60
3/22/2024	42	80	44	35	201	60
3/29/2024	43	81	45	37	206	60
4/5/2024	42	80	44	33	199	60
4/12/2024	42	79.5	44	37	202.5	60
4/19/2024	42	80	43	35	200	60
4/26/2024	43	80	45	38	206	60

Note:
gpm- gallons per minute
* System shutdown for installation of replacement injection wells

TABLE 6. UCA INDUSTRIAL PUMPING

	WELL TW-2B		WELL TW-1		WELL TW-7	
Date	Total GAL	GPD	Total GAL	GPD	GAL	GPD
2/2/2024	45599265	328,847	27878	1676	144940	2
2/9/2024	47381410	254,592	46424	2649	144953	2
2/16/2024	49293913	273,215	64548	2589	144953	0
2/23/2024	51248669	279,251	82828	2611	144953	0
3/1/2024	53117952	267,040	98865	2291	144985	5
3/8/2024	55235466	302,502	113222	2051	144985	0
3/15/2024	57435960	314,356	127254	2005	145121	19
3/22/2024	60294084	408,303	143083	2261	145172	7
3/29/2024	62572631	325,507	155307	1746	145172	0
4/5/2024	65043153	352,932	169078	1967	145207	5
4/12/2024	67408456	337,900	185227	2307	145223	2
4/19/2024	69450049	291,656	197283	1722	145263	6
4/26/2024	72521705	438,808	213345	2295	145286	3

Notes:
gal- gallons
gpd- gallons per day
NM- Not Measured

TABLE 7. SUMMARY OF PERFORMANCE DEMONSTRATIONS

Area		Well *TGPS*	**Indicator Parameter Concentrations** *(ug/L)* *Benzene (4.6)*	 *TCE (2.8)*	**Effectiveness Demonstration** [A]	**Adequate Progress Demonstration** [B]	**Adequate Downgradient WQ Demonstration** [C]
SI							
		SD-3	**14.6**	1.38	Captured	SS Positive Trend [D]	--
		SMW-I-1	**5.38**	**19.6**	Captured	SS Negative Trend	--
		SMW-05	3.32	**3.65**	Not Captured	NSS Positive Trend	--
	*	SMW-09	0.54	0.74	1	1	Adequate WQ
		SMW-10	ND(0.12)	ND(0.15)	1	1	--
		SMW-12B	1.3	ND(0.15)	1	1	--
		SMW-21A	ND(0.12)	ND(0.15)	1	1	--
		SMW-24	NS****	NS****	1	1	--
	*	SMW-29	1	1.96	1	1	Adequate WQ
		SMW-31	ND(0.12)	ND(0.15)	1	1	--
		SMW-32	ND(0.12)	ND(0.15)	1	1	--
		SMW-33R	ND(0.12)	ND(0.15)	1	1	--
		SMW-34	2.63	**51.8**	Captured	NSS Negative Trend	--
A-Aq							
		E-004	1.36	ND(0.15)	1	1	--
		E-014	NS**	NS**	--	--	--
		E-030A	**923**	ND(0.15)	Captured	3	--
		E-038	ND(0.12)	ND(0.15)	Captured	3	--
		E-055	**276**	ND(0.15)	Captured	3	--
		E-059	ND(0.15)	--	1	1	--
		E-065R	ND(0.15)	--	1	1	--
		E-072RR	**1150**	--	Captured	3	--
		E-080	**25**	ND(0.15)	Captured	3	--
		E-089	ND(0.15)	--	1	1	--
		E-091	1.31	ND(0.15)	1	1	--
		E-094	ND(0.15)	--	1	1	--
		E-105	ND(0.15)	--	1	1	--
		E-118	**39**	ND(0.15)	Captured	3	--
		E-122	ND(0.15)	--	1	1	--
		E-132	ND(0.15)	--	1	1	--
		E-141	**46.8**	--	Captured	3	--
		E-150	**30.1**	ND(0.15)	Captured	3	--
		E-151	ND(0.15)	--	1	1	--
		E-152	ND(0.15)	--	1	1	--
		E-162	ND(0.15)	--	1	3	--
	*	E-168	2.22	ND(0.15)	1	1	Adequate WQ
		E-171	**13**	ND(0.15)	Captured	3	--
		E-190A	NS****	--	--	--	--
		E-203	ND(0.15)	--	1	1	--
		E-208	ND(0.15)	--	1	1	--
		E-229R	ND(0.15)	--	1	1	--
		E-231	NS***	--	--	--	--
		E-244	ND(0.15)	--	1	1	--
		MW-12	ND(0.15)	--	1	1	--
		MW-92	0.82	--	1	1	--
		MW-93A	ND(0.15)	--	1	1	--

TABLE 7. SUMMARY OF PERFORMANCE DEMONSTRATIONS

Area	Well	Indicator Parameter Concentrations *(ug/L)*		Effectiveness Demonstration [A]	Adequate Progress Demonstration [B]	Adequate Downgradient WQ Demonstration [C]
	TGPS	*Benzene (4.6)*	*TCE (2.8)*			
B-Aq						
	E-146	**1,240**	ND(01.5)	Captured	SS Negative Trend	--
	E-160	**9.77**	ND(0.15)	Not Captured	SS Positive Trend [E]	--
*	E-163	ND(0.12)	ND(0.15)	1	1	Adequate WQ
	E-177B	**110**	**ND (3)**	Captured	SS Negative Trend	--
	E-179	**88.3**	--	Captured	SS Negative Trend	--
	E-187B	ND(0.15)	--	1	1	--
*	E-196R	ND(0.12)	ND(0.15)	1	1	Adequate WQ
	E-197	**22.8**	--	Captured	SS Negative Trend	--
	E-206	ND(0.15)	--	1	1	--
	E-207	**48**	--	Captured	SS Negative Trend	--
	E-209	3.25	--	1	1	--
	E-215	**1,080**	ND (1.5)	Captured	SS Negative Trend	--
	E-216	ND(0.15)	--	1	1	--
	E-217B	ND(0.15)	--	1	1	--
	E-224	ND(0.15)	--	1	1	--
	E-233	**124**	--	Captured	SS Positive Trend [E]	--
	E-234B-R	**1440**	--	Captured	SS Positive Trend [E]	--
	E-245B	**307**	--	Captured	SS Positive Trend [E]	--
	E-251B	ND(0.15)	--	1	1	--
UCA						
	E-109	**36.3**	ND (0.15)	NA Sufficient [G]	SS Negative Trend	--
	E-110	ND(0.15)	--	1	1	--
	E-125	ND(0.15)	--	1	1	--
	E-127	ND(0.12)	ND (0.15)	1	1	--
	E-145	ND(0.15)	--	1	1	--
*	E-147	**10.8**	ND (0.15)	NA [I]	SS Positive Trend	Inadequate WQ
	E-148	ND(0.15)	--	1	1	--
	E-153	ND(0.15)	--	1	1	--
	E-198	ND(0.12)	ND (0.31)	1	1	--
	E-199	ND(0.15)	--	1	1	--
	TW-2B	2.42	--	1	1	--

NA Natural attenuation
NS Not sampled
NSS Not statistically significant because the no-trend hypothesis cannot be eliminated.
SS Statistically significant

TCE Trichloroethene
TGPS Target groundwater protection standard
WQ Water quality

* Compliance Well
NS** Not sampled; LNAPL
NS*** Not sampled; Decommissioned in 2019
NS**** Not sampled; Dry, inaccessible, or destroyed

[A] Flow paths for each well that contained one or more indicator parameters in a concentration above the TGPS are shown on the groundwater contour maps in Figure 2.

[B] Trend analysis for each well that has 13 data points and contained one or more indicator parameters in a concentration above the TGPS this quarter are provided in Table 8.

[C] Water quality data for downgradient wells are provided on Table 2A.

[D] This demonstration failure is being addressed by the 2017 SI Area Remedy Enhancement Pilot Study.

[E] This demonstration failure is being addressed by 2017 BUA CAMP Modification.

[G] Monitored Natural Attenuation parameters and assimilative capacity calculations provided in Table 9.

[H] This demonstartion failure is being addressed by the 2019 PRM Air Sparge Expansion.

[I] Monitored Natural Attenuation parameter sampling

BOLD Concentration exceeds the TGPS.

-- Not applicable.

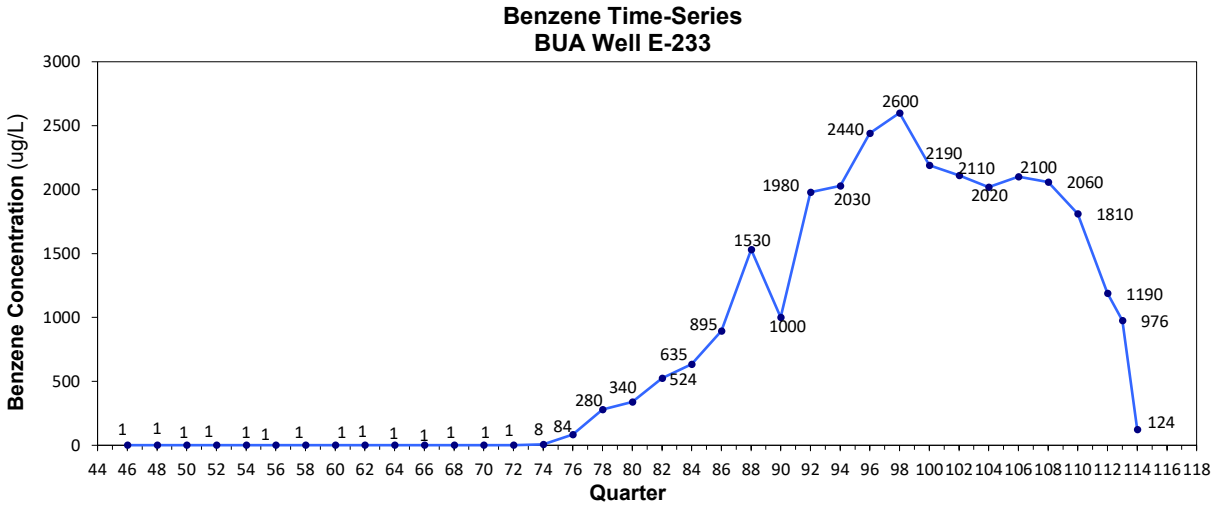
1 Demonstration not required because indicator parameter concentration(s) are below the TGPS or trend is NSS.

2 Demonstration not required because 13 quarterly data points are not available.

3 Demonstration not required because LNAPL recovery is not complete in the PM and PRM units

4 Demonstration not required because no data collected due to lack of accessibility (per Permit condition III.D.3.a.iv)

TABLE 8N. SEMI-ANNUAL ADEQUATE PROGRESS ASSESSMENT - BUA WELL E-233



Tied concentration values

S	n	g	p	value	t_p	VAR(S)	$Z_{0.95}$	Z
395	36	1	1	1	14	5056	+/- 1.691	5.541

Mann-Kendall Calculations

S = **Mann-Kendall trend statistic**
= number of (+ Qs) + number of (- Qs)
= 467 + (-72)
= 395

n = **number of sampling events**
= 36

g = **number of tied concentration values in data set**
= 1 (see table above)

p = **set of tied concentration values** (see table above)

t_p = **number of data points in the the p^{th} group** (see table above)

VAR(S) = **variance of the Mann-Kendall trend statistic (S)**
= $1/18 \{n (n - 1) (2n + 5) - SUM_{(p=1 \text{ to } g)} [t_p (t_p - 1) (2t_p + 5)]\}$
= 1/18 {(36) (35) (77) - [(14*13*33)]}
= 5056

Z-Test for No Trend Scenario

$Z_{0.95}$ = **confidence interval of Z at 95% significance at 35 degrees of freedom**
= +/- 1.691

Z = **test for no trend scenario where S > 0**
= (S-1) / SQRT (Var(S))
= (395-1) / SQRT(5056)
= 5.541

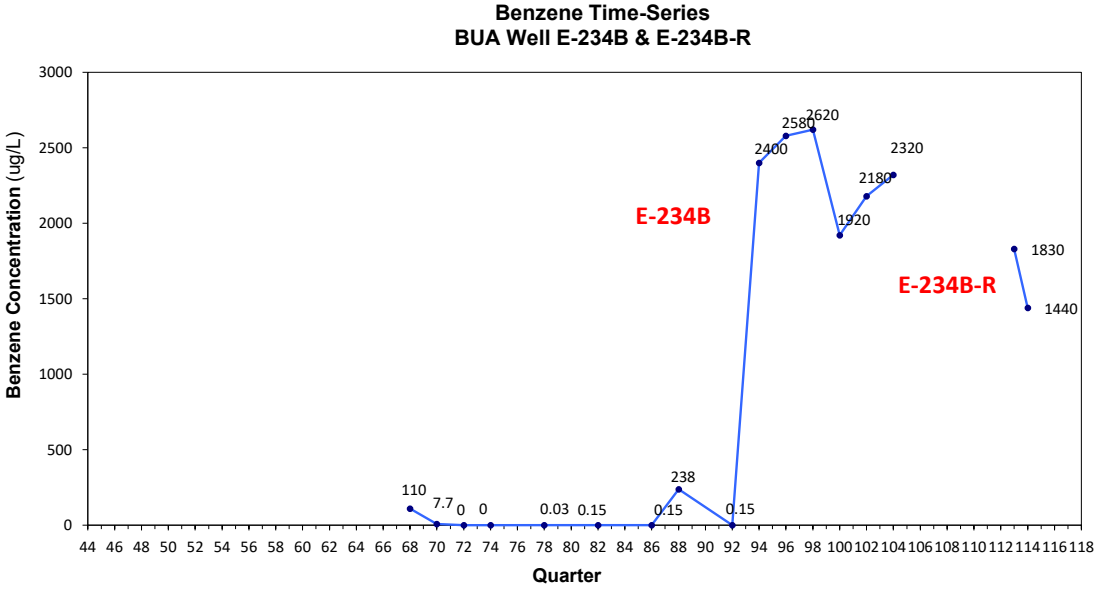
Conclusions

S > 0 suggests a positive trend, and since $|Z| > |Z0.95|$, the null hypothesis of no trend can be rejected. Analyte concentrations in the well have a statistically significant positive trend.

Sen's Slope Estimator

Benzene concentrations in the well are increasing at a rate of ~27 ug/Lsemiannually.

TABLE 8O. SEMI-ANNUAL ADEQUATE PROGRESS ASSESSMENT - BUA WELL E-234B / E-234B-R



S			*Tied concentration values*			VAR(S)	$Z_{0.95}$	Z
	n	g	p	value	t_p			
60	21	2	1	0	2	1095	+/- 1.725	1.783
			2	0.15	2			

Mann-Kendall Calculations

S = **Mann-Kendall trend statistic**
= number of (+ Qs) + number of (- Qs)
= 96 + (-36)
= 60

n = **number of sampling events**
= 21

g = **number of tied concentration values in data set**
= 2 (see table above)

p = **set of tied concentration values** (see table above)

t_p = **number of data points in the the p^{th} group** (see table above)

VAR(S) = **variance of the Mann-Kendall trend statistic (S)**
= $1/18 \{n (n - 1) (2n + 5) - SUM_{(p=1 \text{ to } g)} [t_p (t_p - 1) (2t_p + 5)]\}$
= 1/18 {(21) (20) (47) - [(2*1*9)+(2*1*9)]}
= 1095

Z-Test for No Trend Scenario

$Z_{0.95}$ = **confidence interval of Z at 95% significance at 20 degrees of freedom**
= +/- 1.725

Z = **test for no trend scenario where S > 0**
= (S-1) / SQRT (Var(S))
= (60-1) / SQRT(1095)
= 1.783

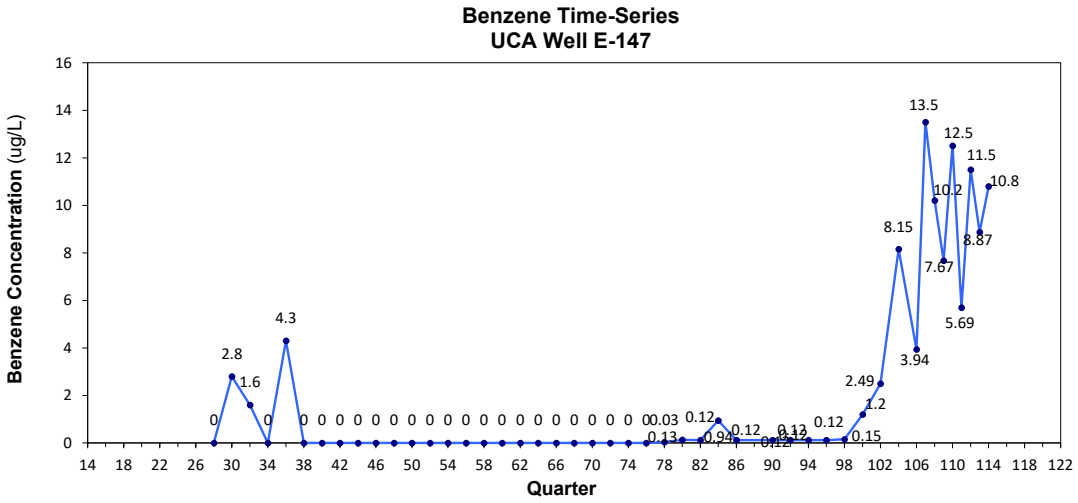
Conclusions

S > 0 suggests a positive trend, and since $|Z| > |Z0.95|$, the null hypothesis of no trend can be rejected. Analyte concentrations in the well have a statistically significant positive trend.

Sen's Slope Estimator

Benzene concentrations in the well are increasing at a rate of ~63 ug/Lsemiannually.

TABLE 8R. SEMI-ANNUAL ADEQUATE PROGRESS ASSESSMENT - UCA WELL E-147



Tied concentration values

S	n	g	p	value	t_p	VAR(S)	$Z_{0.95}$	Z
561	47	2	1	0	22	10605	+/- 1.684	5.438
			2	0.12	6			

Mann-Kendall Calculations

S = **Mann-Kendall trend statistic**
= number of (+ Qs) + number of (- Qs)
= 692 + (-131)
= 561

n = **number of sampling events**
= 47

g = **number of tied concentration values in data set**
= 2 (see table above)

p = **set of tied concentration values** (see table above)

t_p = **number of data points in the the p^{th} group** (see table above)

VAR(S) = **variance of the Mann-Kendall trend statistic (S)**
= 1/18 {n (n - 1) (2n + 5) - $SUM_{(p=1\ to\ g)}$ [t_p (t_p - 1) (2t_p + 5)]}
= 1/18 {(47) (46) (99) - [(22*21*49) + (6*5*17)]}
= 10605

Z-Test for No Trend Scenario

$Z_{0.95}$ = **confidence interval of Z at 95% significance at 46 degrees of freedom**
= +/- 1.684

Z = **test for no trend scenario where S > 0**
= (S-1) / SQRT (Var(S))
= (561-1) / SQRT(10605)
= 5.438

Conclusions

S > 0 suggests a positive trend, and since |Z| > |Z0.95|, the null hypothesis of no trend can be rejected. Analyte concentrations in the well have a statistically significant positive trend.

Sen's Slope Estimator

Benzene concentrations in the well are increasing at a rate of ~1 ug/L semiannually.

TABLE 9. ASSIMILATIVE CAPACITY CALCULATIONS FOR UCA WELLS

	Well	Concentration						Assimilative Capacity Calculations				Total Assimilative Capacity µg/L	Ratio of Assimilative Capacity to Benzene Concentration
		Benzene	GRO	Fe^{+2}	Mn	CH_4	SO_4	Fe^{+2}	Mn	CH_4	SO_4		
North Plume													
Upgradient Well	E-154*	--	--	10,000	100	385	1,500						
Plume Well	E-109	36.3	150	8,080	1,450	9,250	200	-100	130	11,500	290	11,800	325
South Plume													
Upgradient Well	E-153	ND	--	11,100	1,420	179	25,500						
Plume Well	E-125	ND	--	1,400	1,760	227	72,300	-490	30	100	-10,300	-10,700	Benzene below TGPS
Plume Well	E-127	ND	ND	8,630	1,900	1,950	16,700	-120	50	2,300	1,940	4,200	Benzene below TGPS
Plume Well	E-198	0.12	ND	--	--	--	--	--	--	--	--	--	Benzene below TGPS
Plume Well	E-147	10.8	ND	22,200	889	2,250	1,010	560	-50	2,700	5,390	8,600	796

Data are reported in µg/L.

* This upgradient well is no longer sampled, historical average of MNA parameters used for calculation

ND = Non detect

Assimilative capacity (in ug benzene) calculated as follows:

For iron, manganese, and methane:

$$AC_{EA} = MR_{EA} * [C_{EA(Well)} - C_{EA(Average\ Upgradient\ Well)}]$$

For sulfate:

$$AC_{EA} = MR_{EA} * [C_{EA(Average\ Upgradient\ Well)} - C_{EA(Well)}]$$

Where:

AC = Assimilative capacity (rounded to two significant digits)

C = Concentration in ug/L

EA = Electron acceptor

MR_{EA} = Stoichiometric ratio of benzene degraded to electron receptor depleted (SO_4) or produced (Fe, Mn, CH4)

$MR_{Fe+2} = 0.05$ $MR_{CH4} = 1.3$

$MR_{Mn} = 0.095$ $MR_{SO4} = 0.22$

FIGURES

SITE LOCATION

ALASKA

QUADRANGLE LOCATION

N

0 2,000'

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FIGURE 1

SITE LOCATION MAP

TESORO KENAI REFINERY
KENAI, ALASKA

Drawn By: RJ	Checked By: SP	Scale: 1" = 2,000'	Date: 3/12/2019	File: 36C-KENAI-SITELOCATIONMAP

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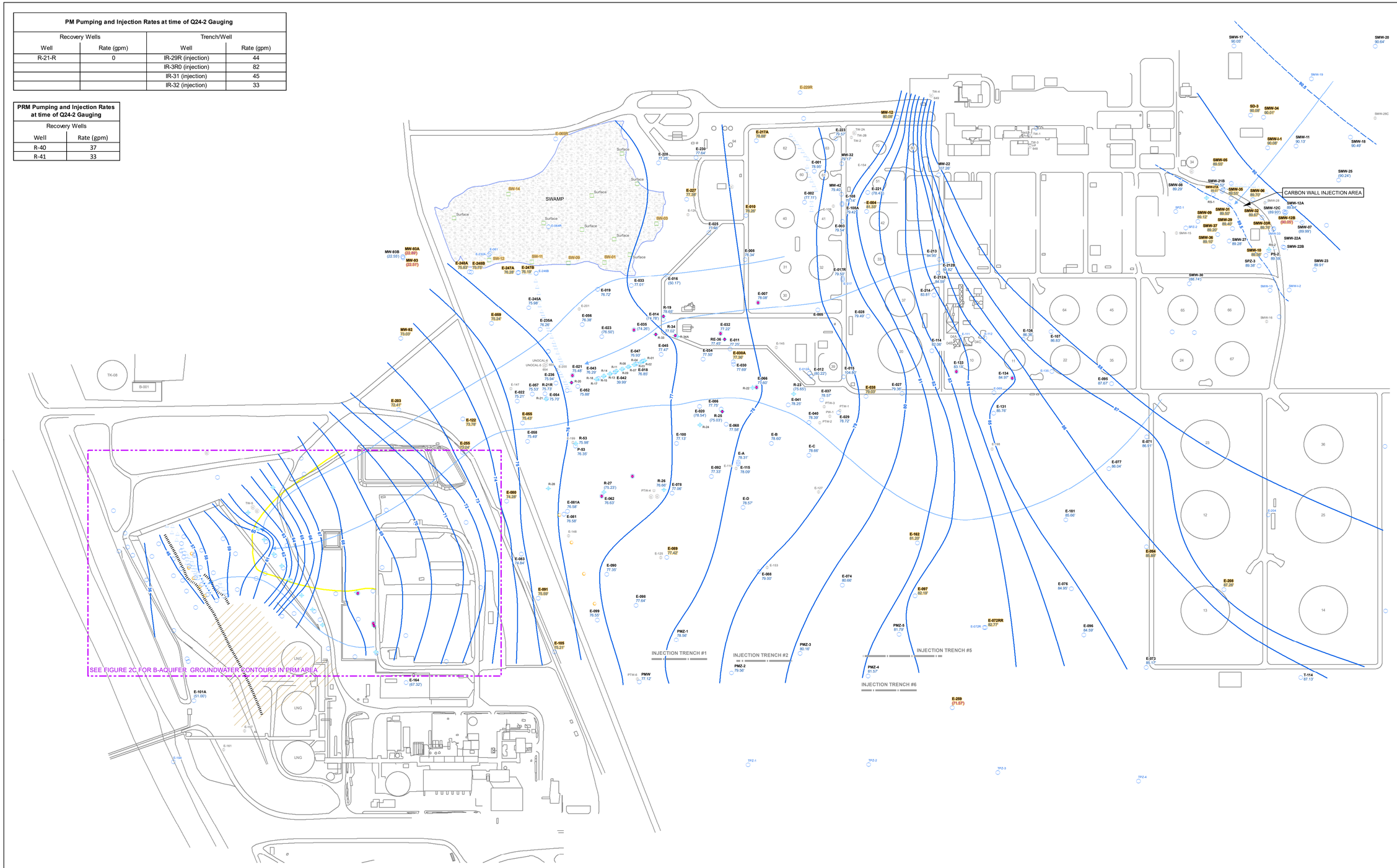
PM Pumping and Injection Rates at time of Q24-2 Gauging			
Recovery Wells		Trench/Well	
Well	Rate (gpm)	Well	Rate (gpm)
R-21-R	0	IR-29R (injection)	44
		IR-3R0 (injection)	82
		IR-31 (injection)	45
		IR-32 (injection)	33

PRM Pumping and Injection Rates at time of Q24-2 Gauging	
Recovery Wells	
Well	Rate (gpm)
R-40	37
R-41	33



EXPLANATION

- A-UNCONFINED AQUIFER MONITORING WELL LOCATION
- RECOVERY WELL LOCATION
- UPPER CONFINED AQUIFER MONITORING WELL LOCATION
- AIR SPARGE WELL
- SURFACE WATER SAMPLE
- WELL CONTAINING LNAPL > 0.02 FT THICK
- INJECTION TRENCH
- GROUNDWATER FLOW DIRECTION
- APPROXIMATE EXTENT OF GROUNDWATER RECOVERY CAPTURE ZONE
- HYDRAULIC BARRIER
- ESTIMATED EXTENT OF SPARGE-TREATED GROUNDWATER FROM HIGHWAY AS/SVE SYSTEM
- DRY ZONE

NOTES:

1. MLLW = MEAN LOWER LOW WATER
2. µg/L = MICROGRAMS PER LITER

E-099 76.55' A-AQUIFER WELL ID AND POTENTIOMETRIC SURFACE ELEVATION MEASURED IN FEBRUARY 2024 (IN FEET MLLW), IN PARENTHESES IF NOT USED TO CONTOUR, WELLS HIGHLIGHTED IN ORANGE WERE SAMPLED AND ANALYZED FOR VOLATILE ORGANIC COMPOUNDS (VOCs)

E-259 71.57' B-AQUIFER WELL ID AND POTENTIOMETRIC SURFACE ELEVATION MEASURED IN FEBRUARY 2024 (IN FEET MLLW), IN PARENTHESES IF NOT USED TO CONTOUR, WELLS HIGHLIGHTED IN ORANGE WERE SAMPLED AND ANALYZED FOR VOLATILE ORGANIC COMPOUNDS (VOCs)

N

0 200 400'

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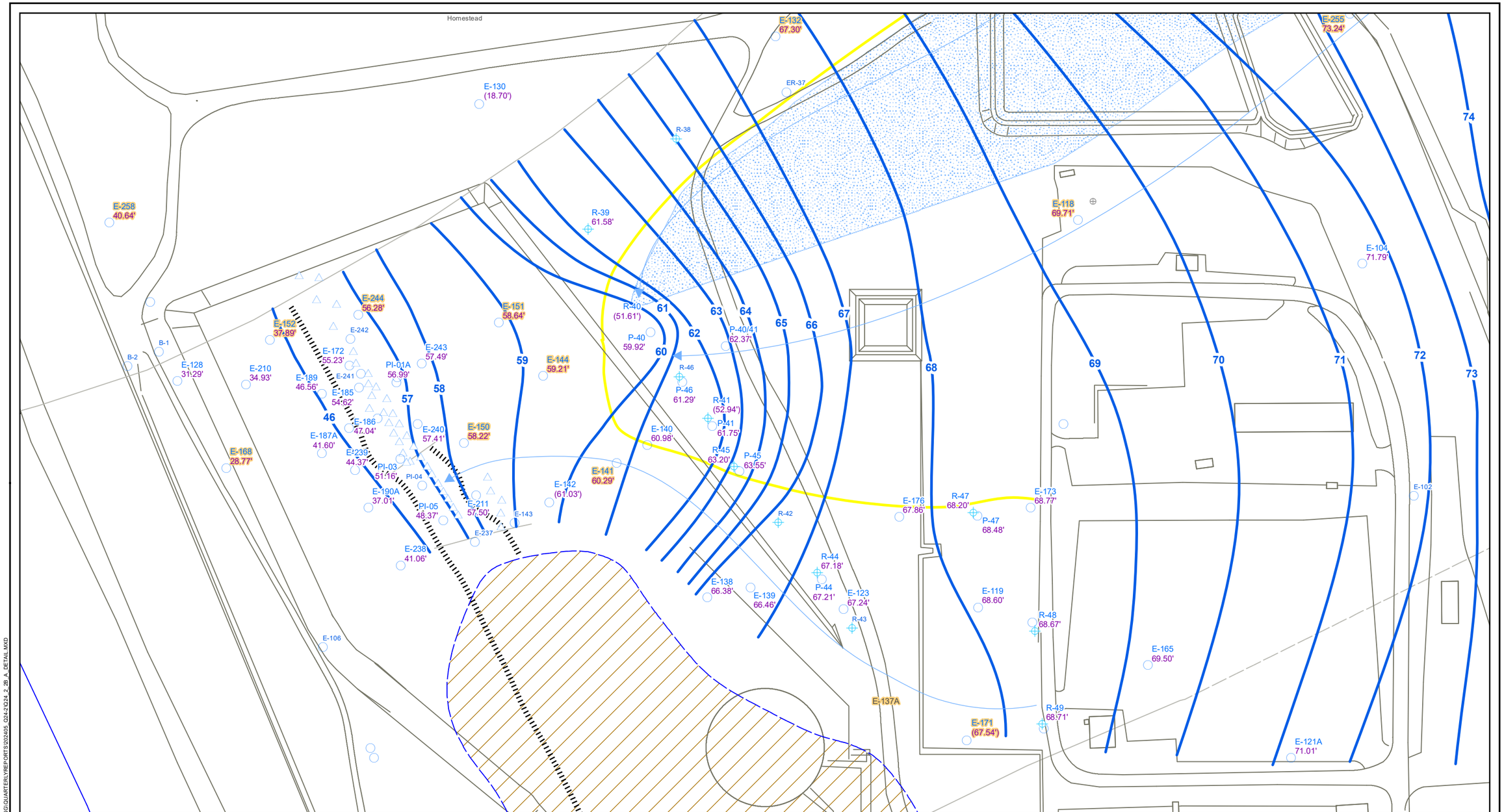
FIGURE 2A

SEMI-ANNUAL POTENTIOMETRIC SURFACE MAP, ENTIRE A-AQUIFER AND B-AQUIFER OUTSIDE OF PRM AREA

Q24-2 REPORT
TESORO KENAI REFINERY
KENAI, ALASKA

Drawn By: DH	Checked By: BF	Scale: 1 " = 200 '	Date: 5/14/24	File: Q24_2_2A_AB-AquiferPotSurf.mxd



NOTES:

1. MLLW = MEAN LOWER LOW WATER
2. µg/L = MICROGRAMS PER LITER
3. SEE FIGURE 2A FOR EXPLANATION

E-210
34.93'
WELL ID AND POTENTIOMETRIC SURFACE ELEVATION MEASURED IN FEBRUARY 2024 (IN FEET MLLW), IN PARENTHESES IF NOT USED TO CONTOUR

N

0 125'

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FIGURE 2B

SEMI-ANNUAL POTENTIOMETRIC SURFACE MAP DETAIL, A-AQUIFER

Q24-2 REPORT
TESORO KENAI REFINERY
KENAI, ALASKA

Drawn By: DH	Checked By: BF	Scale: 1 " = 125 '	Date: 5/14/24	File: Q24_2_2B_A_Detail.mxd

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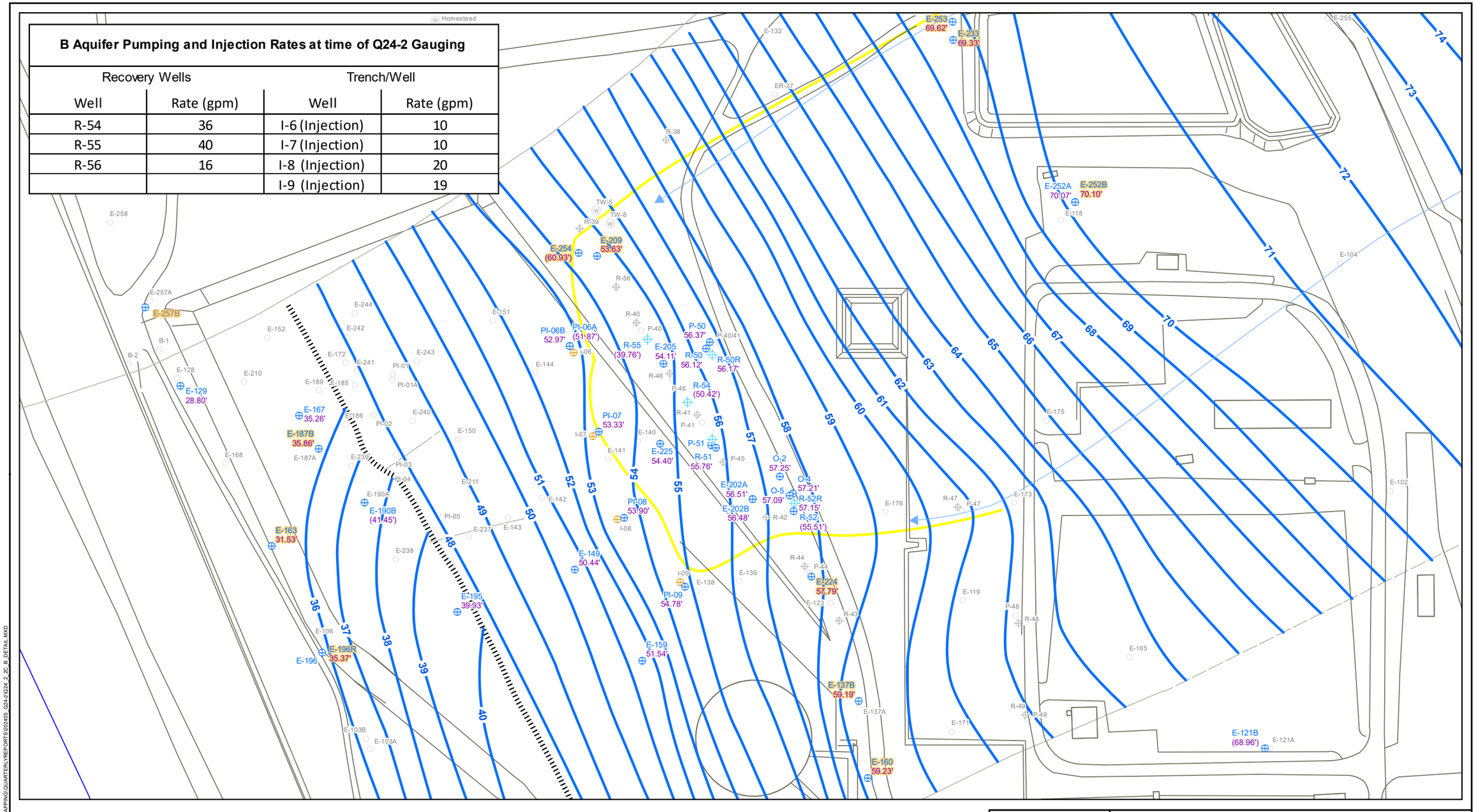
B Aquifer Pumping and Injection Rates at time of Q24-2 Gauging

Recovery Wells		Trench/Well	
Well	Rate (gpm)	Well	Rate (gpm)
R-54	36	I-6 (Injection)	10
R-55	40	I-7 (Injection)	10
R-56	16	I-8 (Injection)	20
		I-9 (Injection)	19



NOTES:

1. MLLW = MEAN LOWER LOW WATER
2. µg/L = MICROGRAMS PER LITER
3. SEE FIGURE 2B FOR EXPLANATION

E-190B 41.45' WELL ID AND POTENTIOMETRIC SURFACE ELEVATION MEASURED IN FEBRUARY 2024 (IN FEET MLLW), IN PARENTHESES IF NOT USED TO CONTOUR

N

0 125'

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FIGURE 2C

SEMI-ANNUAL POTENTIOMETRIC SURFACE MAP DETAIL, B-AQUIFER

Q24-2 REPORT
TESORO KENAI REFINERY
KENAI, ALASKA

Drawn By: DH	Checked By: BF	Scale: 1 " = 125 '	Date: 5/14/24	File: Q24_2_2C_B_Detail.mxd

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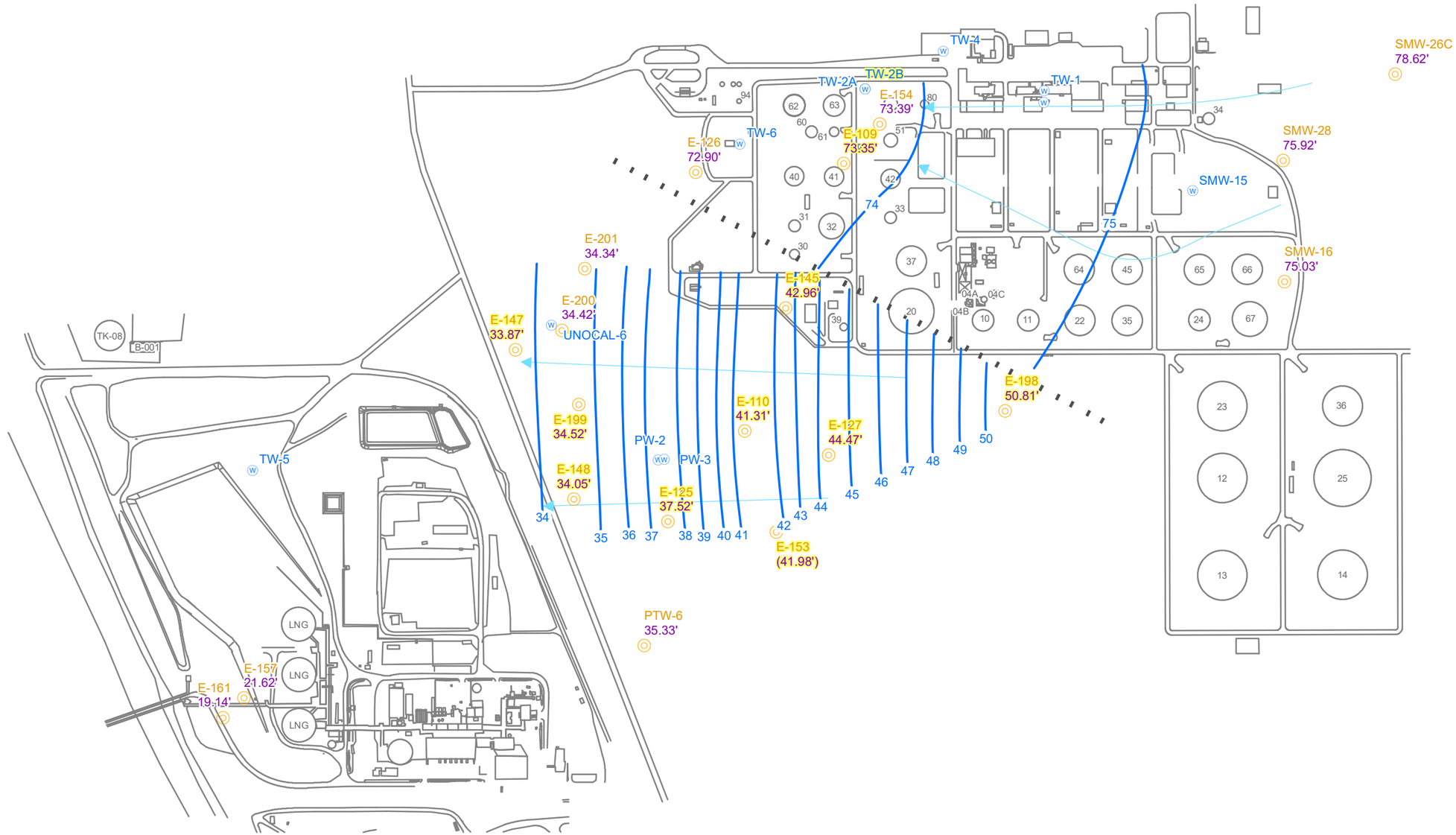

EXPLANATION

- UPPER CONFINED AQUIFER PRODUCTION WELL LOCATION
- UPPER CONFINED AQUIFER MONITORING WELL LOCATION
- WATER LEVEL CONTOUR
- APPROXIMATE LOCATION OF STEEP GRADIENT ZONE
- GROUNDWATER STREAMLINE FOR CAPTURE DEMONSTRATION

NOTES:

1. MLLW = MEAN LOWER LOW WATER
2. µg/L = MICROGRAMS PER LITER

E-157 / 21.62' WELL ID AND POTENTIOMETRIC SURFACE ELEVATION MEASURED IN FEBRUARY 2024 (IN FEET MLLW), IN PARENTHESES IF NOT USED TO CONTOUR, WELLS HIGHLIGHTED IN YELLOW WERE SAMPLED AND ANALYZED FOR VOLATILE ORGANIC COMPOUNDS (VOCs)

N

0 500'

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FIGURE 2D

SEMI-ANNUAL POTENTIOMETRIC SURFACE MAP UPPER CONFINED AQUIFER

Q24-2 REPORT
TESORO KENAI REFINERY
KENAI, ALASKA

Drawn By: DH	Checked By: BF	Scale: 1 " = 500 '	Date: 5/14/24	File: Q24_2_2D_UCAPotSurf.mxd

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EXPLANATION

- PERMIT CORRECTIVE ACTION MONITORING WELL
- COMPLIANCE MONITORING WELL
- SUPPLEMENTAL SAMPLING WELL
- SUPPLEMENTAL SURFACE WATER SAMPLING LOCATION
- UNCONFINED AQUIFER MONITORING WELL LOCATION
- RECOVERY WELL LOCATION
- ADDITIONAL INJECTION WELLS (A-AQUIFER)
- B-UNCONFINED AQUIFER MONITORING WELL LOCATION
- UPPER CONFINED AQUIFER MONITORING WELL LOCATION
- AIR SPARGE WELL
- CAPTURE ZONE
- A/B WATER LEVEL CONTOUR (1 FT INTERVAL)
- A/B WATER LEVEL CONTOUR (IRREGULAR INTERVAL)
- GROUNDWATER FLOW DIRECTION - A-AQUIFER
- GROUNDWATER FLOW DIRECTION - B-AQUIFER
- HYDRAULIC BARRIER
- AREA WHERE B-AQUIFER BENZENE PLUME DOES NOT OVERLAP WITH A-AQUIFER PLUME FOOTPRINT

A-AQUIFER BENZENE PLUME AND A/B BENZENE PLUME WHERE AQUIFERS ARE MERGED

- BENZENE CONCENTRATION > 4.6 μg/L
- BENZENE CONCENTRATION > 100 μg/L
- BENZENE CONCENTRATION > 1,000 μg/L
- ESTIMATED EXTENT OF TCE CONCENTRATIONS GREATER THAN 2.8 μg/L

NOTES:

1. B = BENZENE
2. TCE = TRICHLOROETHENE
3. μg/L = MICROGRAMS PER LITER
4. ND(x) = EVALUATED TO BE UNDETECTED AT THE REPORTING LIMIT (x)

E-055 B: 276 TCE: ND(0.15) — A-AQUIFER WELL ID WITH BENZENE AND TCE CONCENTRATION IN μg/L

E-177B B: 266 TCE: ND(3) — B-AQUIFER WELL ID WITH BENZENE AND TCE CONCENTRATION IN μg/L

N

0 200 400'

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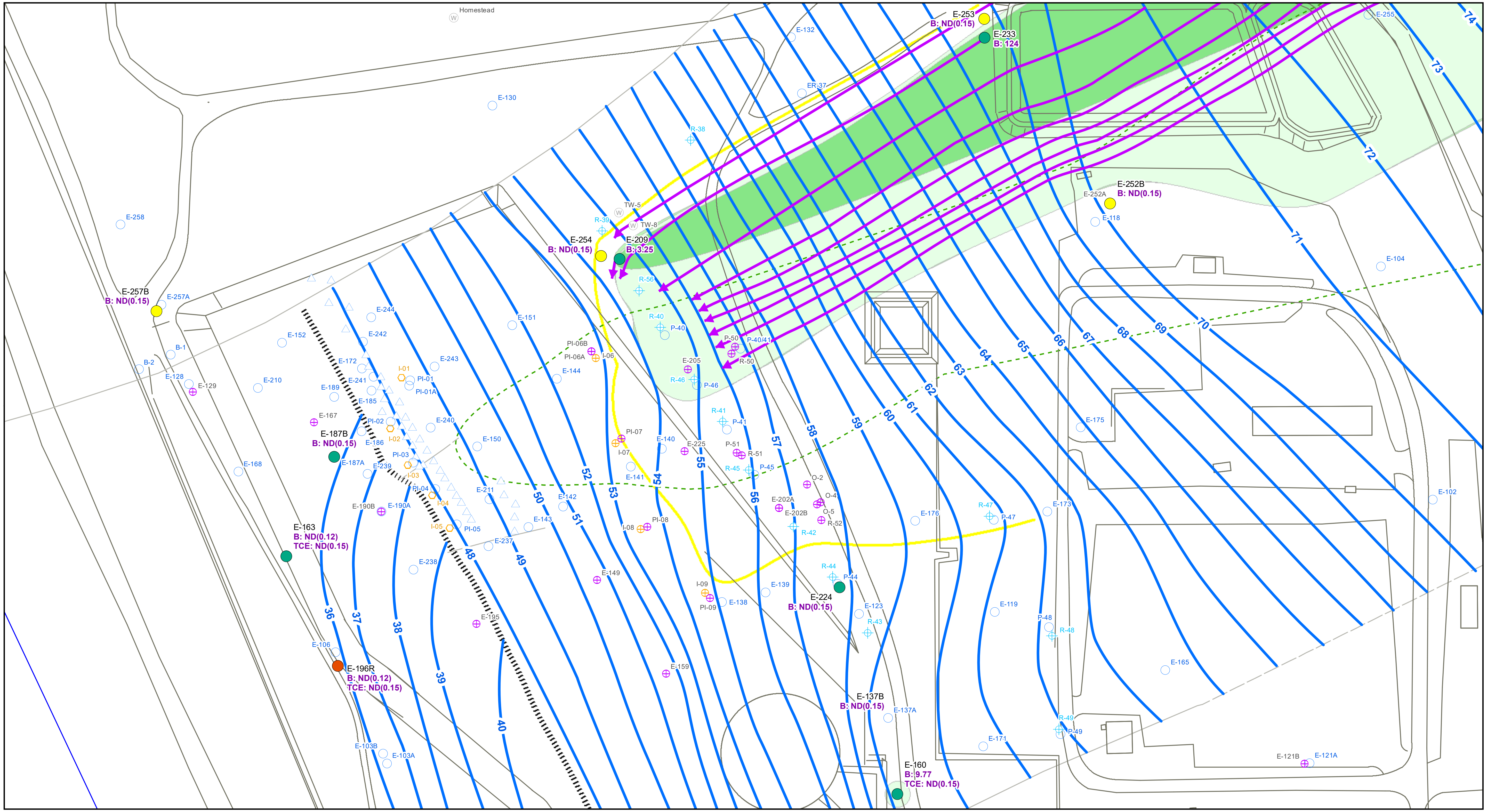
FIGURE 3A

SEMI-ANNUAL INDICATOR PARAMETER CONCENTRATION MAP, ENTIRE A-AQUIFER AND B-AQUIFER OUTSIDE OF PRM AREA

Q24-2 REPORT TESORO KENAI REFINERY KENAI, ALASKA

Drawn By: DH	Checked By: BF	Scale: 1 " = 200 '	Date: 5/15/24	File: Q24_2_3A_AB-AquiferCompl.mxd



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NOTES:

1. µg/L = MICROGRAMS PER LITER
2. SEE FIGURE 3A FOR EXPLANATION

N

0 125'

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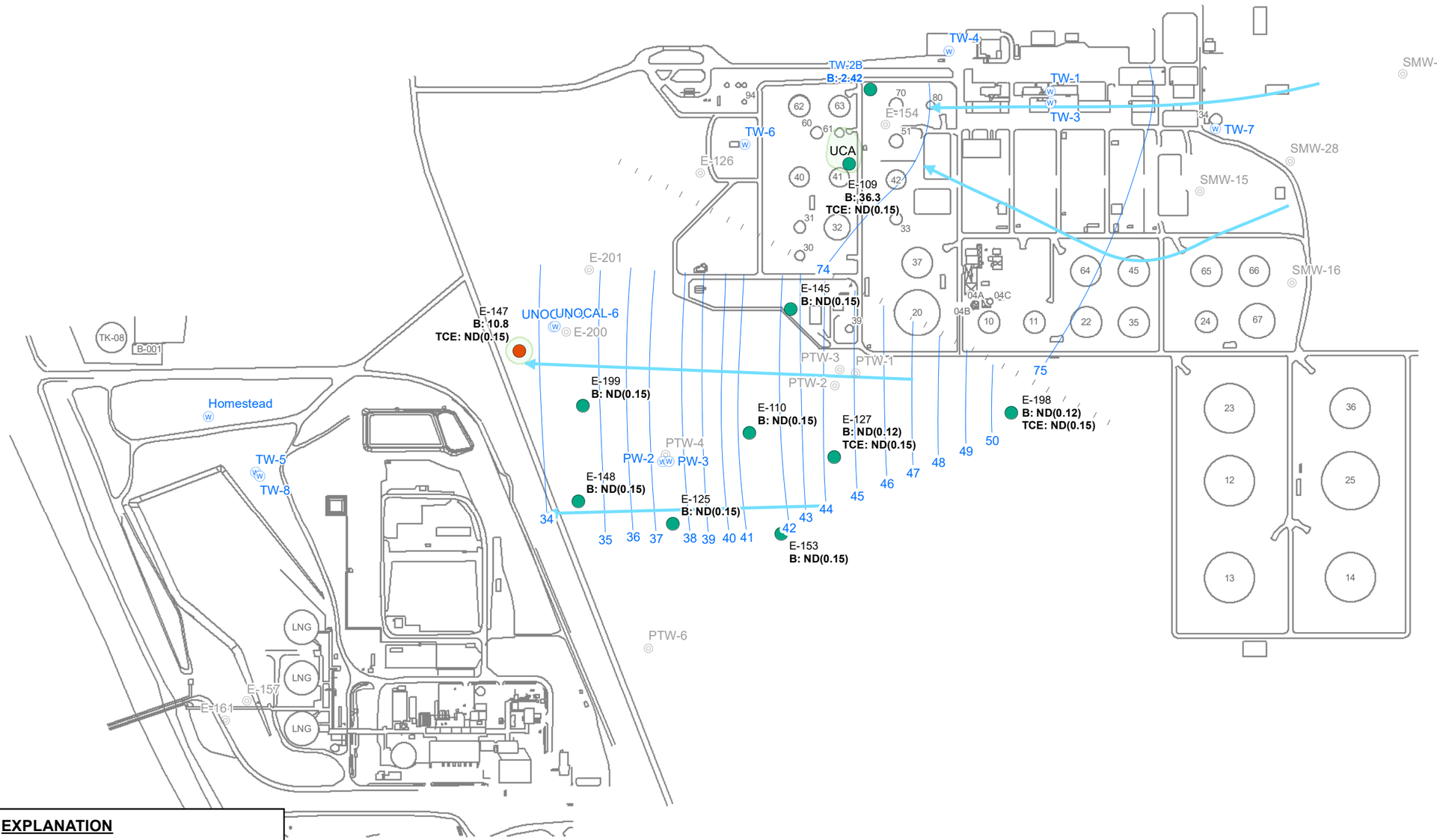
FIGURE 3B

SEMI-ANNUAL INDICATOR PARAMETER CONCENTRATION MAP, B-AQUIFER INSIDE OF PRM AREA

Q24-2 REPORT
TESORO KENAI REFINERY
KENAI, ALASKA

Drawn By: DH	Checked By: BF	Scale: 1 " = 125 '	Date: 5/15/24	File: Q24_2_3B_B_ComplDetail.mxd



EXPLANATION

- UPPER CONFINED AQUIFER MONITORING WELL LOCATION
- UPPER CONFINED AQUIFER PRODUCTION WELL LOCATION
- CORRECTIVE ACTION MONITORING WELL
- COMPLIANCE MONITORING WELL
- SUPPLEMENTAL SAMPLING WELL
- WATER LEVEL CONTOUR
- APPROXIMATE LOCATION OF STEEP GRADIENT ZONE
- ESTIMATED EXTENT OF BENZENE CONCENTRATIONS GREATER THAN 4.6 µg/L

NOTES:

1. B = BENZENE
2. TCE = TRICHLOROETHENE
3. µg/L = MICROGRAMS PER LITER
4. ND(x) = EVALUATED TO BE UNDETECTED AT THE REPORTING LIMIT (x)

E-147
B: 10.8
TCE: ND(0.15)
WELL ID WITH BENZENE AND TCE CONCENTRATION IN µg/L

N

0 500'

Trihydro CORPORATION
1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

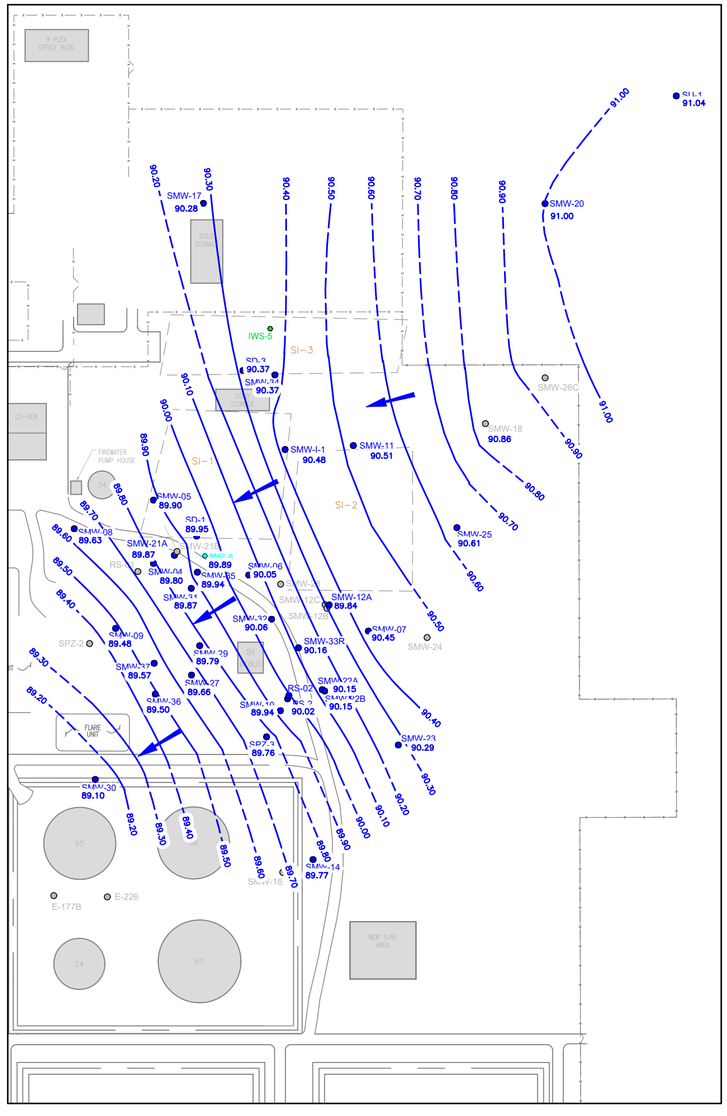
FIGURE 3C

SEMI-ANNUAL INDICATOR PARAMETER CONCENTRATION MAP, UPPER CONFINED AQUIFER

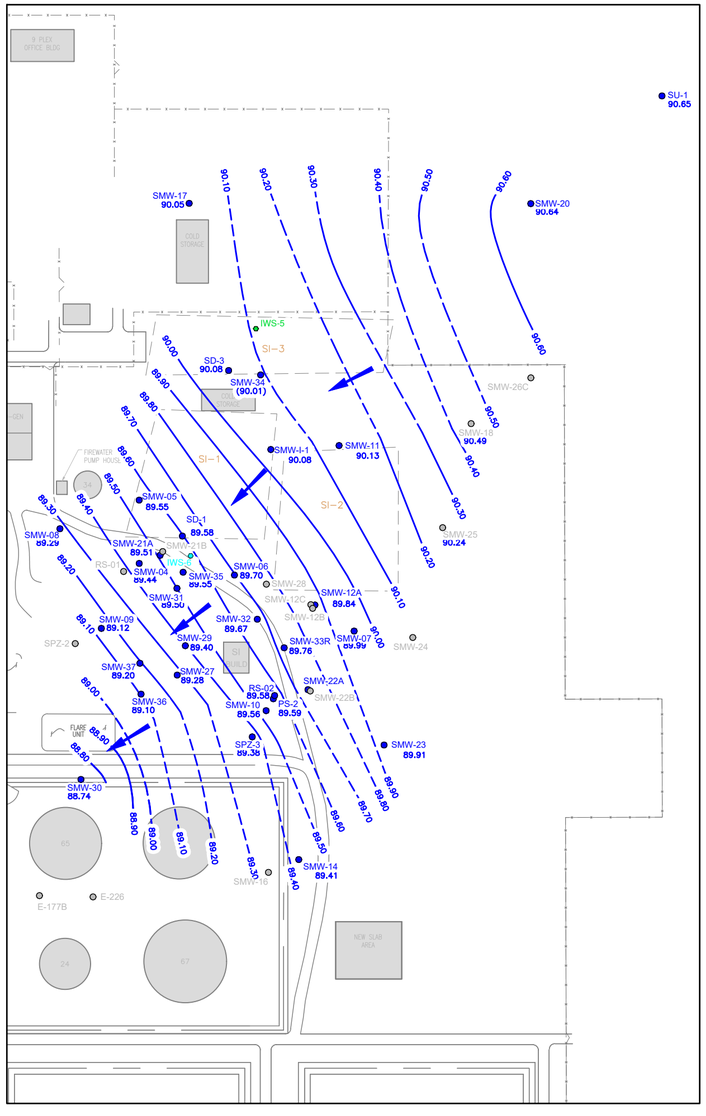
Q24-2 REPORT
TESORO KENAI REFINERY
KENAI, ALASKA

Drawn By: DH	Checked By: BF	Scale: 1 " = 500 '	Date: 5/15/24	File: Q24_2_3C_UCACompl.mxd

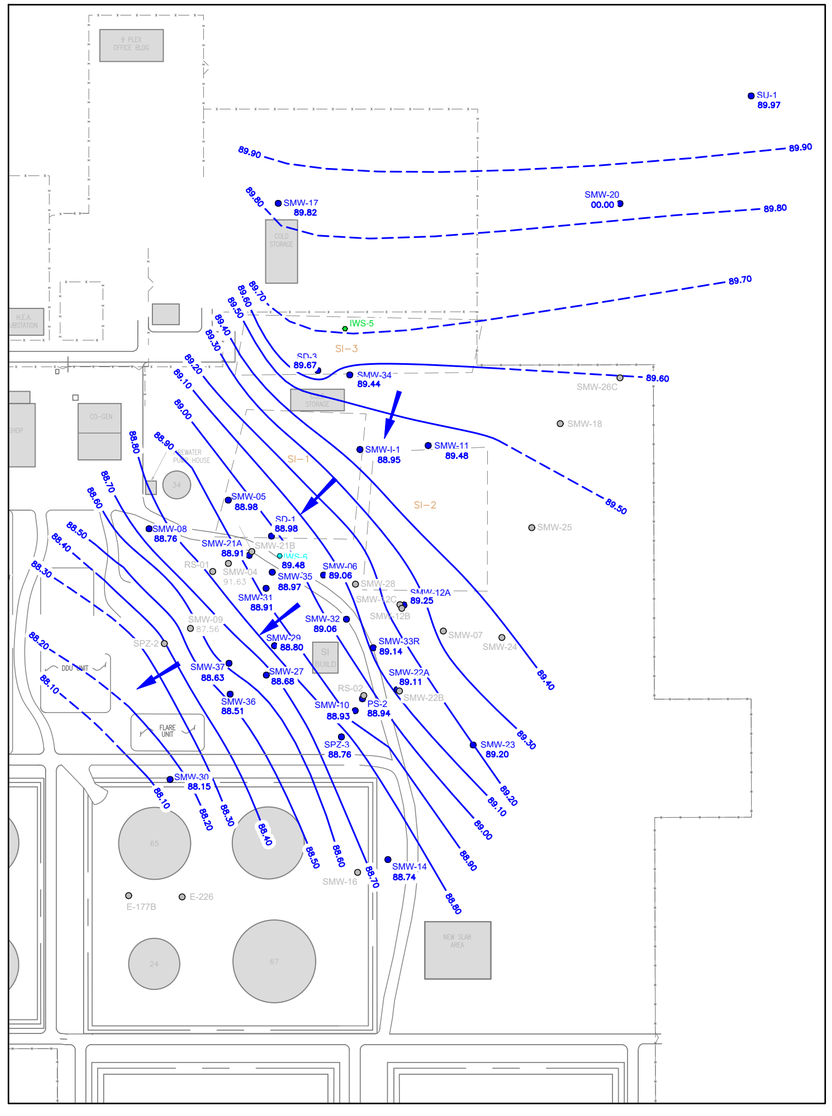
M:\STDV\TESORO\GIS\PROJECTS\TESOROKENAI\MAPPING\QUARTERLYREPORTS\202405_Q24-2\Q24_2_3C_UCACOMPL.MXD



DECEMBER, 2023



FEBRUARY, 2024



APRIL, 2024

EXPLANATION

- SMW-30 88.15 — MONITORING WELL AND DESIGNATION SHOWING GROUNDWATER ELEVATION IN FT AMSL
- SMW-22B — MONITORING WELL AND DESIGNATION (NOT GAUGED)
- IWS-5 89.48 — EXTRACTION WELL AND DESIGNATION SHOWING GROUNDWATER ELEVATION IN FT AMSL
- IWS-5 — INJECTION WELL AND DESIGNATION (NOT GAUGED)
- GENERALIZED GROUNDWATER FLOW DIRECTION
- 88.10 — LINE OF EQUAL ELEVATION OF POTENTIOMETRIC SURFACE (FT AMSL, CONTOUR INTERVAL 0.1 FT.) (DASHED WHERE INFERRED)
- FENCE
- 34 — BUILDING, TANK OR OTHER STRUCTURE
- FT AMSL — FEET ABOVE MEAN SEA LEVEL

N

0 200' 400'

Trihydro CORPORATION
1252 Commerce Drive
Laramie, Wyoming 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 4

SI AREA POTENTIOMETRIC SURFACE DETAIL

Q24-2 REPORT
TESORO KENAI REFINERY
KENAI, ALASKA

Drawn By: JLP	Checked By: PB	Scale: 1" = 200'	Date: 12/20/2023	File: TESAL-KR-Q24-2-PS-202405

M:\STOV\TESORO\CAD\KENAIREFINERY\KCRA_PERMIT\QUARTERLYREPORTS\Q24-2\TESAL-KR-Q24-2-PS-202405

APPENDIX A

(PLEASE SEE ATTACHED USB)

ADEC CHECKLISTS AND LABORATORY REPORTS

A-1. ADEC CHECKLISTS

A-2. LABORATORY REPORTS (SEPARATE SUBMITTAL)

APPENDIX A-1

ADEC CHECKLISTS

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	Kyle Power	**CS Site Name:**	Tesoro Alaska Refinery (Marathon)	**Lab Name:**	SGS North American
Title:	Environmental Chemist	**ADEC File No.:**	232.38.057	**Lab Report No.:**	1240753
Consulting Firm:	Trihydro Corp.	**Hazard ID No.:**		**Lab Report Date:**	3/13/2024

Note: *Any N/A or No box checked must have an explanation in the comments box.*

1. **Laboratory**

   a. Did an ADEC Contaminated Sites Laboratory Approval Program (CS-LAP) approved laboratory receive and perform all of the submitted sample analyses?
   Yes ☒ No ☐ N/A ☐
   Comments: SGS, Anchorage, AK

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses CS-LAP approved?
   Yes ☒ No ☐ N/A ☐
   Comments: Sample E-125 was transferred to SGS-Orlando, FL for the analysis of methane by Method RSK-175.

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☒ No ☐ N/A ☐
   Comments: Click or tap here to enter text.

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Analyses requested: Methods 8021B, 6020B, 9056A, and RSK 175
   Comments: Click or tap here to enter text.

3. **Laboratory Sample Receipt Documentation**

   a. Is the sample/cooler temperature documented and within range at receipt (0° to 6° C)?
   Yes ☒ No ☐ N/A ☐
   Cooler temperature(s): 3.8°C and 5.6°C

Sample temperature(s): Click or tap here to enter text.
Comments: Click or tap here to enter text.

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, canister not holding a vacuum, etc.?
Yes ☒ No ☐ N/A ☐
Comments: Sample condition discrepancies were documented.

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: For Method 8021B, the method requirement for no headspace was not met for samples E-110 and E-206. The samples were analyzed within the reduced 7 day holding time and qualification was not required.

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☒ No ☐ N/A ☐
Comments: Recoveries of target analytes in MS and MSD were outside acceptance limits.

c. Were all the corrective actions documented?
Yes ☒ No ☐ N/A ☐
Comments: Post digestion spike performed.

d. What is the effect on data quality/usability according to the case narrative?
Comments: None

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

b. Are all applicable holding times met?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

c. Are all soils reported on a dry weight basis?
Yes ☐ No ☐ N/A ☒
Comments: Only aqueous samples in this data set.

d. Are the reported limits of quantitation (LoQ) or limits of detections (LOD), or reporting limits (RL) less than the Cleanup Level or the action level for the project?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

e. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all method blank results less than LOQ (or RL)?
Yes ☒ No ☐
Comments: Click or tap here to enter text.

iii. If above LoQ or RL, what samples are affected?
Comments: Click or tap here to enter text.

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

v. Data quality or usability affected?
Yes ☐ No ☒ N/A ☐

Comments: Click or tap here to enter text.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the RPD reported from LCS/LCSD, and or sample/sample duplicate? (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: Click or tap here to enter text.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

vii. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

i. Organics – Are one MS/MSD reported per matrix, analysis and 20 samples?

Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?
Yes ☐ No ☒ N/A ☐
Comments: The matrix spike recovery for methane in Method RSK-175 batch GLL3055 was outside the acceptance limits of 62-139% at 32%. However, the MS was prepared from a sample not associated with this project and the similarity to the project samples could not be guaranteed. In addition, the concentration of methane in the unspiked sample was greater than 4 times the spike added. These MS results were not used for evaluating the project samples.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: Click or tap here to enter text.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC, and laboratory samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

e. Trip Blanks

i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all results less than LoQ or RL?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. If above LoQ or RL, what samples are affected?
Comments: NA

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
Yes ☐ No ☒ N/A ☐
Comments: Dup-8 was collected as a duplicate of MW-92.

ii. Was the duplicate submitted blind to lab?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water or air, 50% soil)

$$RPD\ (\%) = \left| \frac{R_1 - R_2}{\left(\frac{R_1 + R_2}{2}\right)} \right| X\ 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Is the data quality or usability affected? (Explain)

Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iv. Is the data quality or usability affected? (Explain)
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all results less than LoQ or RL?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

iii. If above LoQ or RL, specify what samples are affected.
Comments: NA

iv. Are data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Are they defined and appropriate?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

QUALITY CONTROL SUMMARY- 1240753

Trihydro completed a data validation of the analytical results in accordance with the following references.

- Data for organic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Organic Superfund Methods Data Review, document number EPA-540-R-20-005, November 2020
- Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Inorganic Superfund Methods Data Review, document number EPA-540-R-20-006, November 2020
- Review of field duplicates was conducted according to the USEPA Region I - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020
- Trihydro Data Validation Variance Documentation, March 2024

Results of the QA/QC review for data are summarized below and are presented in the ADEC Laboratory Data Review Checklist. The sample results are reported under SGS North America project number 1240753. From February 20-23, 2024, sixteen groundwater samples, one field duplicate sample, and one trip blank sample were submitted in one batch to the laboratory. Dup-8 was collected as a duplicate of MW-92. The samples were received at the lab in good condition, preserved and at a temperature of 3.8°C and 5.6°C.

For Method 8021B, the method requirement for no headspace was not met for samples E-110 and E-206. The samples were analyzed within the reduced 7 day holding time and qualification was not required.

Sample results were reviewed to determine overall precision of sampling and analysis as well as matrix homogeneity for all analytes. All percent recoveries (%R) from laboratory control sample/duplicate (LCS/LCSD) were within range.

All duplicate sample RPDs were below the recommended percentage (30% water). The following summary highlights the data evaluation findings for this sampling event:

- Data points were not rejected.
- The completeness objectives (greater than 85 percent complete) for this project are met with 100% completeness.
- The precision and accuracy of the laboratory data, as measured by laboratory quality control indicators, demonstrate that the data are useable as qualified for the purposes of this project.
- The precision measurements for result comparisons between primary and duplicate field samples are acceptable for the purpose of this project.

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	Kyle Power	**CS Site Name:**	Tesoro Alaska Refinery (Marathon)	**Lab Name:**	SGS North American
Title:	Environmental Chemist	**ADEC File No.:**	232.38.057	**Lab Report No.:**	1240848
Consulting Firm:	Trihydro Corp.	**Hazard ID No.:**		**Lab Report Date:**	4/4/2024

Note: *Any N/A or No box checked must have an explanation in the comments box.*

1. **Laboratory**

   a. Did an ADEC Contaminated Sites Laboratory Approval Program (CS-LAP) approved laboratory receive and perform all of the submitted sample analyses?
   Yes ☒ No ☐ N/A ☐
   Comments: SGS, Anchorage, AK

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses CS-LAP approved?
   Yes ☒ No ☐ N/A ☐
   Comments: Analyses by Method RSK-175 for samples Dup-11 and E-153 were performed at SGS-Orlando, Florida.

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☒ No ☐ N/A ☐
   Comments: Click or tap here to enter text.

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Analyses requested: Methods 8021B, 6020B, 9056A, and RSK 175
   Comments: Click or tap here to enter text.

3. **Laboratory Sample Receipt Documentation**

   a. Is the sample/cooler temperature documented and within range at receipt (0° to 6° C)?
   Yes ☒ No ☐ N/A ☐
   Cooler temperature(s): 3.4°C and 5.8°C

Sample temperature(s): Click or tap here to enter text.
Comments: Click or tap here to enter text.

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, canister not holding a vacuum, etc.?
Yes ☒ No ☐ N/A ☐
Comments: Sample condition discrepancies were documented. Headspace was noted in 2 of 3 sample vials for each of the following samples: E-059, E-229, E-234A-R, TW-2B, E-153.

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☒ No ☐ N/A ☐
Comments: MS and MSD recoveries outside limits were noted for analytes in Method 300.0 and Method 6020B analyses.

c. Were all the corrective actions documented?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

d. What is the effect on data quality/usability according to the case narrative?
Comments: None

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

b. Are all applicable holding times met?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

c. Are all soils reported on a dry weight basis?
Yes ☐ No ☐ N/A ☒
Comments: Only aqueous samples in this data set.

d. Are the reported limits of quantitation (LoQ) or limits of detections (LOD), or reporting limits (RL) less than the Cleanup Level or the action level for the project?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all method blank results less than LOQ (or RL)?
Yes ☒ No ☐
Comments: Click or tap here to enter text.

iii. If above LoQ or RL, what samples are affected?
Comments: Click or tap here to enter text.

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

v. Data quality or usability affected?
Yes ☐ No ☒ N/A ☐

Comments: Click or tap here to enter text.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the RPD reported from LCS/LCSD, and or sample/sample duplicate? (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: Click or tap here to enter text.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

vii. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

i. Organics – Are one MS/MSD reported per matrix, analysis and 20 samples?

Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?
Yes ☐ No ☒ N/A ☐
Comments: MS and MSD recoveries for sulfate were outside acceptance limits. However, the MS/MSD were prepared from a sample not associated with this project and similarity to project samples could not be guaranteed.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: Click or tap here to enter text.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Project samples were not qualified based on non-associated MS/MSD results for sulfate.

d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC, and laboratory samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK

Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

iv. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

e. Trip Blanks

i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all results less than LoQ or RL?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. If above LoQ or RL, what samples are affected?
Comments: NA

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
Yes ☒ No ☐ N/A ☐
Comments: Dup-9 was collected as a duplicate of E-217B and Dup-11 was collected as a duplicate of E-153.

ii. Was the duplicate submitted blind to lab?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water or air, 50% soil)

$$RPD\ (\%) = \left| \frac{R_1 - R_2}{\left(\frac{R_1 + R_2}{2}\right)} \right| X\ 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Is the data quality or usability affected? (Explain)

Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iv. Is the data quality or usability affected? (Explain)
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all results less than LoQ or RL?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

iii. If above LoQ or RL, specify what samples are affected.
Comments: NA

iv. Are data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Are they defined and appropriate?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

QUALITY CONTROL SUMMARY- 1240848

Trihydro completed a data validation of the analytical results in accordance with the following references.

- Data for organic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Organic Superfund Methods Data Review, document number EPA-540-R-20-005, November 2020
- Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Inorganic Superfund Methods Data Review, document number EPA-540-R-20-006, November 2020
- Review of field duplicates was conducted according to the USEPA Region I - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020
- Trihydro Data Validation Variance Documentation, March 2024

Results of the QA/QC review for data are summarized below and are presented in the ADEC Laboratory Data Review Checklist. The sample results are reported under SGS North America project number 1240848. From February 20 to March 1, 2024, sixteen groundwater samples, two field duplicate samples, and one trip blank sample were submitted in one batch to the laboratory. Dup-9 was collected as a duplicate of E-217B and Dup-11 was collected as a duplicate of E-153. The samples were received at the lab in good condition, preserved and at a temperature of 3.4°C and 5.8°C.

Samples containers received by the laboratory did contain headspace; however, there was sufficient volume in properly preserved containers to perform the requested analyses. Qualification of data was not necessary.

Sample results were reviewed to determine overall precision of sampling and analysis as well as matrix homogeneity for all analytes. All percent recoveries (%R) from laboratory control sample/duplicate (LCS/LCSD) were within range.

All duplicated sample RPDs were below the recommended percentage (30% water). The following summary highlights the data evaluation findings for this sampling event:

- Data points were not rejected.
- The completeness objectives (greater than 85 percent complete) for this project are met with 100% completeness.
- The precision and accuracy of the laboratory data, as measured by laboratory quality control indicators, demonstrate that the data are useable as qualified for the purposes of this project.
- The precision measurements for result comparisons between primary and duplicate field samples are acceptable for the purpose of this project.

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	Kyle Power	**CS Site Name:**	Tesoro Alaska Refinery (Marathon)	**Lab Name:**	SGS North American
Title:	Environmental Chemist	**ADEC File No.:**	232.38.057	**Lab Report No.:**	1240966
Consulting Firm:	Trihydro Corp.	**Hazard ID No.:**		**Lab Report Date:**	4/29/2024

Note: *Any N/A or No box checked must have an explanation in the comments box.*

1. **Laboratory**

   a. Did an ADEC Contaminated Sites Laboratory Approval Program (CS-LAP) approved laboratory receive and perform all of the submitted sample analyses?
   Yes ☒ No ☐ N/A ☐
   Comments: SGS, Anchorage, AK

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses CS-LAP approved?
   Yes ☒ No ☐ N/A ☐
   Comments: Analyses by Method RSK-175 for samples Dup-11 and E-153 were performed at SGS-Orlando, Florida.

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☒ No ☐ N/A ☐
   Comments: Click or tap here to enter text.

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Analyses requested: Methods 8260D, 8260D SIM, 8021B, AK101, AK102, 8270E, 8270E SIM, 6020B, 9056A, 4500-CN C/E, 4500S D, and RSK 175
   Comments: Click or tap here to enter text.

3. **Laboratory Sample Receipt Documentation**

   a. Is the sample/cooler temperature documented and within range at receipt (0° to 6° C)?
   Yes ☒ No ☐ N/A ☐

Cooler temperature(s): 2.7°C and 4.0°C
Sample temperature(s): Click or tap here to enter text.
Comments: Click or tap here to enter text.

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, canister not holding a vacuum, etc.?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☒ No ☐ N/A ☐
Comments: LCS, LCSD, MS, and/or MSD recoveries outside limits were noted for analytes in Methods 4500S-D, 300.0, 8270E, 8260D, 6020B, and 8260D SIM analyses.

c. Were all the corrective actions documented?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

d. What is the effect on data quality/usability according to the case narrative?
Comments: None

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

b. Are all applicable holding times met?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

c. Are all soils reported on a dry weight basis?
Yes ☐ No ☐ N/A ☒
Comments: Only aqueous samples in this data set.

d. Are the reported limits of quantitation (LoQ) or limits of detections (LOD), or reporting limits (RL) less than the Cleanup Level or the action level for the project?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all method blank results less than LOQ (or RL)?
Yes ☐ No ☒
Comments: The method blank for Method 8270E SIM batch XMS14189 detected 2-methylnaphthalene at a concentration less than the reporting limit, but greater than the method detection limit.

iii. If above LoQ or RL, what samples are affected?
Comments: 2-Methylnaphthalene was detected in sample E-163 at a concentration greater than the method blank detection but less than 10 times that level.

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☒ No ☐ N/A ☐

Comments: Click or tap here to enter text.

v. Data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: Sample E-163 was qualified as JB to indicate an estimated concentration due to possible blank contamination.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
Yes ☐ No ☒ N/A ☐
Comments: The LCS and/or LCSD recoveries from Method 8270E batch XMS14188 for 2,4-dimethylphenol, naphthalene, N-nitroso-di-n-propylamine, and pyridine were less than laboratory QC limits, and the analytes were qualified a J- if detected and UJ if not detected in the associated sample.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the RPD reported from LCS/LCSD, and or sample/sample duplicate? (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
Yes ☐ No ☒ N/A ☐
Comments: The LCS/LCSD RPD value for pyridine from the same batch exceeded the laboratory QC limit and was qualified as UJ to indicate an estimated reporting limit due to poor precision.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: Sample E-055

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

vii. Is the data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: See description above.

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

i. Organics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?
Yes ☐ No ☒ N/A ☐
Comments: MS and MSD recoveries for iron and manganese were outside acceptance limits. However, the MS/MSD were prepared from a sample not associated with this project and similarity to project samples could not be guaranteed. MS and MSD recoveries for sulfide were outside acceptance limits. The sulfide result in the associated samples was qualified as UJ to indicate an estimated reporting limit due to potential low bias.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: Sample E-055

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

vii. Is the data quality or usability affected?

Yes ☒ No ☐ N/A ☐
Comments: See description above.

d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC, and laboratory samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☒ No ☐ N/A ☐
Comments: Surrogate recoveries for quality control samples were outside laboratory QC limits; however, these are not evaluated as each samples have designated surrogate recoveries and these are within laboratory QC limits.

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

iv. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

e. Trip Blanks

i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all results less than LoQ or RL?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. If above LoQ or RL, what samples are affected?
Comments: NA

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
Yes ☒ No ☐ N/A ☐
Comments: Dup-6 was collected as a duplicate of E-168.

ii. Was the duplicate submitted blind to lab?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water or air, 50% soil)

$$RPD\ (\%) = \left| \frac{R_1 - R_2}{\left(\frac{R_1 + R_2}{2}\right)} \right| X\ 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Is the data quality or usability affected? (Explain)

Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iv. Is the data quality or usability affected? (Explain)
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all results less than LoQ or RL?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. If above LoQ or RL, specify what samples are affected.
Comments: NA

iv. Are data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Are they defined and appropriate?

Yes ☒ No ☐ N/A ☐

Comments: Data were qualified with J data flags by the laboratory if the result was greater than or equal to the method detection limit (MDL) but less than the reporting limit (RL). These laboratory-applied J flags were preserved.

QUALITY CONTROL SUMMARY- 1240966

Trihydro completed a data validation of the analytical results in accordance with the following references.

- Data for organic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Organic Superfund Methods Data Review, document number EPA-540-R-20-005, November 2020
- Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Inorganic Superfund Methods Data Review, document number EPA-540-R-20-006, November 2020
- Review of field duplicates was conducted according to the USEPA Region I - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020
- Trihydro Data Validation Variance Documentation, March 2024

Results of the QA/QC review for data are summarized below and are presented in the ADEC Laboratory Data Review Checklist. The sample results are reported under SGS North America project number 1240966. From March 6-8, 2024, fourteen groundwater samples, one field duplicate sample, two equipment blank samples, and one trip blank sample were submitted in one batch to the laboratory. Dup-6 was collected as a duplicate of E-168. The samples were received at the lab in good condition, preserved and at temperatures of 2.7°C and 4.0°C.

Sample results were reviewed to determine overall precision of sampling and analysis as well as matrix homogeneity for all analytes. The percent recoveries (%R) from laboratory control sample/duplicate (LCS/LCSD) were within range, except for recoveries from Method 8270E batch XMS14188 for 2,4-dimethylphenol, naphthalene, N-nitroso-di-n-propylamine, and pyridine. The LCS and/or LCSD recoveries were less than laboratory QC limits and the analytes were qualified J- if detected and UJ if not detected in the associated sample. Also, the LCS/LCSD RPD value for pyridine from the same batch exceeded the laboratory QC limit and the associated sample result was qualified as UJ to indicate an estimated reporting limit due to poor precision.

The method blank for Method 8270E SIM batch XMS14189 detected 2-methylnaphthalene at a concentration less than the reporting limit, but greater than the method detection limit. 2-Methylnaphthalene was detected in associated sample E-163 less than 10 times the blank concentration and was qualified as JB to indicate an estimated concentration due to possible blank contamination.

The MS and MSD recoveries for sulfide from Method 4500S D batch WAT12197 were less than laboratory QC limits. Sulfide was not detected in the associated sample and that result was qualified as UJ to indicate an estimated reporting limit due to potential low bias.

All duplicated sample RPDs were less than the recommended limit (30% for water matrices). The following summary highlights the data evaluation findings for this sampling event:

- Data points were not rejected.
- The completeness objectives (greater than 85 percent complete) for this project are met with 100% completeness.
- The precision and accuracy of the laboratory data, as measured by laboratory quality control indicators, demonstrate that the data are useable as qualified for the purposes of this project.
- The precision measurements for result comparisons between primary and duplicate field samples are acceptable for the purpose of this project and are marked with applicable qualifiers.

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	Kyle Power	**CS Site Name:**	Tesoro Alaska Refinery (Marathon)	**Lab Name:**	SGS North American
Title:	Environmental Chemist	**ADEC File No.:**	232.38.057	**Lab Report No.:**	1241020
Consulting Firm:	Trihydro Corp.	**Hazard ID No.:**		**Lab Report Date:**	4/29/2024

Note: *Any N/A or No box checked must have an explanation in the comments box.*

1. **Laboratory**

   a. Did an ADEC Contaminated Sites Laboratory Approval Program (CS-LAP) approved laboratory receive and perform all of the submitted sample analyses?
   Yes ☒ No ☐ N/A ☐
   Comments: SGS, Anchorage, AK

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses CS-LAP approved?
   Yes ☒ No ☐ N/A ☐
   Comments: Analyses by Method RSK-175 for sample E-109 were performed at SGS-Orlando, Florida.

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☒ No ☐ N/A ☐
   Comments: Click or tap here to enter text.

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Analyses requested: Methods 8260D, 8260D SIM, 8021B, AK101, AK102, 8270E, 8270E SIM, 6020B, 9056A, 4500-CN C/E, 4500S D, and RSK 175
   Comments: Click or tap here to enter text.

3. **Laboratory Sample Receipt Documentation**

   a. Is the sample/cooler temperature documented and within range at receipt (0° to 6° C)?
   Yes ☒ No ☐ N/A ☐

Cooler temperature(s): 3.4°C and 3.7°C
Sample temperature(s): Click or tap here to enter text.
Comments: Click or tap here to enter text.

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, canister not holding a vacuum, etc.?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☒ No ☐ N/A ☐
Comments: LCS, LCSD, MS, and MSD recoveries outside limits were noted for analytes in Methods 8270E, 8270E SIM, 8260D, 6020B, and 8260D SIM analyses.

c. Were all the corrective actions documented?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

d. What is the effect on data quality/usability according to the case narrative?
Comments: Sample E-245B was qualified as J to indicate an estimated concentration due to exceeding the calibration as stated by the laboratory.

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

b. Are all applicable holding times met?
Yes ☐ No ☒ N/A ☐
Comments: The Method 8021B analysis for benzene in sample E-249B was performed one day after the expiration of the defined holding time. This benzene result was assigned a J- qualifier due to the holding time exceedance.

c. Are all soils reported on a dry weight basis?
Yes ☐ No ☐ N/A ☒
Comments: Only aqueous samples in this data set.

d. Are the reported limits of quantitation (LoQ) or limits of detections (LOD), or reporting limits (RL) less than the Cleanup Level or the action level for the project?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all method blank results less than LOQ (or RL)?
Yes ☒ No ☐
Comments: Click or tap here to enter text.

iii. If above LoQ or RL, what samples are affected?
Comments: Click or tap here to enter text.

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

v. Data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
Yes ☐ No ☒ N/A ☐
Comments: The LCS and/or LCSD recoveries from Method 8270E batch XMS14196 for 2,4-dimethylphenol, naphthalene, and N-nitroso-di-n-propylamine were less than laboratory QC limits, and the analytes were qualified a J- if detected and UJ if not detected in the associated samples. The LCS recovery for trichlorofluoromethane was greater than laboratory QC limits; however, trichlorofluoromethane was not detected in the associated samples and did not require qualification.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the RPD reported from LCS/LCSD, and or sample/sample duplicate? (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
Yes ☐ No ☒ N/A ☐
Comments: The LCS/LCSD RPD values for pyridine from batch XMS14196 and for 2-methylnaphthalene from batch XMS14191 exceeded the laboratory QC limit and were qualified as UJ to indicate estimated reporting limits due to poor precision.
The LCS/LCSD RPD value for trichlorofluoromethane from batch VMS23148 exceeded the laboratory QC limit and was qualified as UJ to indicate estimated reporting limits in the associated samples due to poor precision

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments: Samples Dup-4, E-038, Trip Blank, E-109, and E-177B

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

vii. Is the data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: See description above.

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

i. Organics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?
Yes ☐ No ☒ N/A ☐
Comments: MS and MSD recoveries for iron and manganese were outside acceptance limits. However, the MS/MSD were prepared from a sample not associated with this project and similarity to project samples could not be guaranteed. MS and MSD recoveries for sulfide were outside acceptance limits.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: Click or tap here to enter text.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: See description above.

d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC, and laboratory samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☐ No ☒ N/A ☐
Comments: The surrogate 4-bromofluorobenzene for samples Dup-4 and E-038 failed outside the limits of recovery. The detected associated analyte, 1,4-dioxane, was qualified in sample E-038 as UJ due to a potential low bias. Sample Dup-4 did not require qualification as the surrogate recovery was greater than laboratory QC limits and 1,4-dioxane was not detected in sample Dup-4.
Surrogate recoveries for quality control samples were outside laboratory QC limits; however, these are not evaluated as each samples have designated surrogate recoveries and these are within laboratory QC limits.

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

iv. Is the data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: See description above.

e. Trip Blanks

i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all results less than LoQ or RL?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. If above LoQ or RL, what samples are affected?
Comments: NA

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
Yes ☒ No ☐ N/A ☐
Comments: Dup-4 was collected as a duplicate of E-038 and Dup-10 was collected as a duplicate of E-247B.

ii. Was the duplicate submitted blind to lab?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water or air, 50% soil)

$$RPD\ (\%) = \left| \frac{R_1 - R_2}{\left(\frac{R_1 + R_2}{2}\right)} \right| X\ 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Is the data quality or usability affected? (Explain)

Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iv. Is the data quality or usability affected? (Explain)
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all results less than LoQ or RL?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. If above LoQ or RL, specify what samples are affected.
Comments: NA

iv. Are data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Are they defined and appropriate?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

QUALITY CONTROL SUMMARY- 1241020

Trihydro completed a data validation of the analytical results in accordance with the following references.

- Data for organic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Organic Superfund Methods Data Review, document number EPA-540-R-20-005, November 2020
- Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Inorganic Superfund Methods Data Review, document number EPA-540-R-20-006, November 2020
- Review of field duplicates was conducted according to the USEPA Region I - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020
- Trihydro Data Validation Variance Documentation, March 2024

Results of the QA/QC review for data are summarized below and are presented in the ADEC Laboratory Data Review Checklist. The sample results are reported under SGS North America project number 1241020. From March 11-13, 2024, seventeen groundwater samples, two field duplicate samples, one equipment blank sample, and one trip blank sample were submitted in one batch to the laboratory. Dup-4 was collected as a duplicate of E-038 and Dup-10 was collected as a duplicate of E-247B. The samples were received at the lab in good condition, preserved and at temperatures of 3.4°C and 3.7°C.

The Method 8021B analysis for benzene in sample E-249B was performed one day after the expiration of the defined holding time. This benzene result was assigned a J- qualifier due to the holding time exceedance. Sample E-245B was qualified as J to indicate an estimated concentration due to exceeding the calibration as stated by the laboratory.

Sample results were reviewed to determine overall precision of sampling and analysis as well as matrix homogeneity for all analytes. All percent recoveries (%R) from laboratory control sample/duplicate (LCS/LCSD) were within range, except for recoveries from Method 8260D batch VMS23148 for trichlorofluoromethane and from Method 8270E batch XMS14196 for 2,4-dimethylphenol, naphthalene, and N-nitroso-di-n-propylamine; and batch XMS14191 for 2-methylnaphthalene. The LCS recoveries for 2,4-dimethylphenol, naphthalene, N-nitroso-di-n-propylamine, and 2-methylnaphthalene were less than laboratory QC limits and the analytes were qualified as J- if detected and UJ if not detected in the associated samples. Also, the LCS/LCSD RPD values for pyridine from batch XMS14196 and for 2-methylnaphthalene from batch XMS14191 exceeded the laboratory QC limit and were qualified as UJ to indicate estimated reporting limits due to poor precision. The LCS recovery for trichlorofluoromethane was greater than

laboratory QC limits; however, trichlorofluoromethane was not detected in the associated samples and did not require qualification. The LCS/LCSD RPD value for trichlorofluoromethane from batch VMS23148 exceeded the laboratory QC limit and was qualified as UJ to indicate estimated reporting limits in the associated samples due to poor precision.

Method 8260D SIM: The surrogate 4-bromofluorobenzene for samples Dup-4 and E-038 failed outside the limits of recovery. The detected associated analyte, 1,4-dioxane, was qualified in sample E-038 as UJ due to a potential low bias. Sample Dup-4 did not require qualification as the surrogate recovery was greater than laboratory QC limits and 1,4-dioxane was not detected in sample Dup-4.

All duplicated sample RPDs were below the recommended percentage (30% water). The following summary highlights the data evaluation findings for this sampling event:

- Data points were not rejected.
- The completeness objectives (greater than 85 percent complete) for this project are met with 100% completeness.
- The precision and accuracy of the laboratory data, as measured by laboratory quality control indicators, demonstrate that the data are useable as qualified for the purposes of this project.
- The precision measurements for result comparisons between primary and duplicate field samples are acceptable for the purpose of this project and are marked with applicable qualifiers.

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	Kyle Power	**CS Site Name:**	Tesoro Alaska Refinery (Marathon)	**Lab Name:**	SGS North American
Title:	Environmental Chemist	**ADEC File No.:**	232.38.057	**Lab Report No.:**	1241132
Consulting Firm:	Trihydro Corp.	**Hazard ID No.:**		**Lab Report Date:**	4/29/2024

Note: *Any N/A or No box checked must have an explanation in the comments box.*

1. **Laboratory**

   a. Did an ADEC Contaminated Sites Laboratory Approval Program (CS-LAP) approved laboratory receive and perform all of the submitted sample analyses?
   Yes ☒ No ☐ N/A ☐
   Comments: SGS, Anchorage, AK

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses CS-LAP approved?
   Yes ☐ No ☐ N/A ☒
   Comments: Click or tap here to enter text.

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☒ No ☐ N/A ☐
   Comments: Click or tap here to enter text.

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Analyses requested: Methods 8260D, 8260D SIM, 8021B, 624, AK101, AK102, 8270E, 8270E SIM, 200.8, 6020B, 300.0, 2320B, 2340B, 4500-CN C/E, 4500S D, 4500-NO2, and 5310B.
   Comments: Click or tap here to enter text.

3. **Laboratory Sample Receipt Documentation**

   a. Is the sample/cooler temperature documented and within range at receipt (0° to 6° C)?
   Yes ☒ No ☐ N/A ☐

Cooler temperature(s): 3.1°C
Sample temperature(s): Click or tap here to enter text.
Comments: Click or tap here to enter text.

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, canister not holding a vacuum, etc.?
Yes ☒ No ☐ N/A ☐
Comments: Headspace was noted in one vial for sample Trip Blank.

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Samples containers received by the laboratory did contain headspace; however, there was sufficient volume in properly preserved containers to perform the requested analyses. Qualification of data was not necessary.

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☒ No ☐ N/A ☐
Comments: LCS, LCSD, MS, and/or MSD recoveries outside limits were noted for analytes in Methods 4500-NO3, 8270E, 8260D, 200.8, and 300.0 analyses.

c. Were all the corrective actions documented?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

d. What is the effect on data quality/usability according to the case narrative?
Comments: None

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

b. Are all applicable holding times met?
Yes ☐ No ☒ N/A ☐
Comments: Sample SMW-I-1 was analyzed for 1,4-dioxane by Method 8260D-SIM one day after the expiration of the defined holding time.

c. Are all soils reported on a dry weight basis?
Yes ☐ No ☐ N/A ☒
Comments: Only aqueous samples in this data set.

d. Are the reported limits of quantitation (LoQ) or limits of detections (LOD), or reporting limits (RL) less than the Cleanup Level or the action level for the project?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

e. Is the data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: 1,4-Dioxane was not detected in sample SMW-I-1 and the result was assigned an R qualifier and rejected.

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all method blank results less than LOQ (or RL)?
Yes ☐ No ☒
Comments: The method blank for Method 4500-NO3 batch WFI3098 detected nitrate as nitrogen and nitrate/nitrate as nitrogen at a concentration less than the reporting limits, but greater than the method detection limits. Qualification was not required as the analytes were not detected in the associated samples. The method blank for Method 2320B batch WTI6395 detected alkalinity at a concentration less than the reporting limits, but greater than the method detection limits. Qualification was not required as alkalinity was detected in the associated samples greater than 10 times the blank concentration.

iii. If above LoQ or RL, what samples are affected?
Comments: Click or tap here to enter text.

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

v. Data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: See description above.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the RPD reported from LCS/LCSD, and or sample/sample duplicate? (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
Yes ☐ No ☒ N/A ☐
Comments: The LCS/LCSD RPD value for trichlorofluoromethane from batch VMS23155 exceeded the laboratory QC limit and the results were qualified as UJ to indicate estimated reporting limits in the associated samples due to poor precision.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: Samples SMW-I-1 and Trip Blank

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

vii. Is the data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: See description above.

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

i. Organics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?
Yes ☐ No ☒ N/A ☐
Comments: The MS recovery for calcium from Method 200.8 batch MMS12257 was greater than laboratory QC limits. Qualification was not required as the concentration of calcium in the unspiked sample was greater than 4 times the spike added. These MS results were not used for evaluating the project samples. The MS recovery for nitrate/nitrate as nitrogen from Method 4500-NO3 batch WFI3098 was less than laboratory QC limits. Nitrate/nitrate as nitrogen was not detected in the associated samples and was qualified as UJ to indicate estimated reporting limits due to possible low bias.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: Samples associated with batch WFI3098

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

vii. Is the data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: See description above.

d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC, and laboratory samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☒ No ☐ N/A ☐
Comments: The surrogate 4-bromofluorobenzene for samples SD-3 failed outside the limits of recovery. The detected associated analyte, GRO, was qualified in sample SD-3 as J+ due to a potential high bias. Surrogate recoveries for quality control samples were outside laboratory QC limits; however, these are not evaluated as each samples have designated surrogate recoveries and these are within laboratory QC limits.

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

iv. Is the data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: See description above.

e. Trip Blanks

i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all results less than LoQ or RL?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. If above LoQ or RL, what samples are affected?
Comments: NA

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
Yes ☐ No ☒ N/A ☐
Comments: Dup-1 was collected as a duplicate of SMW-32 and Dup-2 was collected as a duplicate of SMW-21A.

ii. Was the duplicate submitted blind to lab?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water or air, 50% soil)

$$RPD\ (\%) = \left| \frac{R_1 - R_2}{\left(\frac{R_1 + R_2}{2}\right)} \right| X\ 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Is the data quality or usability affected? (Explain)

Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iv. Is the data quality or usability affected? (Explain)
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all results less than LoQ or RL?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. If above LoQ or RL, specify what samples are affected.
Comments: NA

iv. Are data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Are they defined and appropriate?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

QUALITY CONTROL SUMMARY- 1241132

Trihydro completed a data validation of the analytical results in accordance with the following references.

- Data for organic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Organic Superfund Methods Data Review, document number EPA-540-R-20-005, November 2020
- Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Inorganic Superfund Methods Data Review, document number EPA-540-R-20-006, November 2020
- Review of field duplicates was conducted according to the USEPA Region I - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020
- Trihydro Data Validation Variance Documentation, March 2024

Results of the QA/QC review for data are summarized below and are presented in the ADEC Laboratory Data Review Checklist. The sample results are reported under SGS North America project number 1241132. From March 14-21, 2024, thirty-four groundwater samples, two field duplicate samples, one equipment blank sample, and one trip blank sample were submitted in one batch to the laboratory. Dup-1 was collected as a duplicate of SMW-32 and Dup-2 was collected as a duplicate of SMW-21A. The samples were received at the lab in good condition, preserved, and at a temperature of 3.1°C.

Samples containers received by the laboratory did contain headspace; however, there was sufficient volume in unaffected containers to perform the requested analyses. Qualification of data was not necessary.

The analysis of sample SMW-I-1 by Method 8260D-SIM for the determination of 1,4-dioxane was performed one day after the expiration of the defined 14 day holding time. 1,4-Dioxane was not detected in this sample and the result was assigned an R qualifier and rejected.

Sample results were reviewed to determine overall precision of sampling and analysis as well as matrix homogeneity for all analytes. The percent recoveries (%R) from laboratory control sample/duplicate (LCS/LCSD) were within range. The LCS/LCSD RPD value for trichlorofluoromethane from batch VMS23155 exceeded the laboratory QC limit and was qualified as UJ to indicate estimated reporting limits in the associated samples due to poor precision.

The method blank for Method 4500-NO3 batch WFI3098 detected nitrate as nitrogen and nitrate/nitrate as nitrogen at a concentration less than the reporting limits, but greater than the method detection limits. Qualification was not required as the analytes were not detected in the associated samples. The method blank for Method 2320B batch WTI6395 detected alkalinity at a concentration less than the reporting limits, but greater than the method detection limits. Qualification was not required as alkalinity was detected in the associated samples greater than 10 times the blank concentration.

Method AK101: The surrogate 4-bromofluorobenzene for samples SD-3 failed outside the limits of recovery. The detected associated analyte, GRO, was qualified in sample SD-3 as J+ due to a potential high bias.

The MS recovery for calcium from Method 200.8 batch MMS12257 was greater than laboratory QC limits. Qualification was not required as the concentration of calcium in the unspiked sample was greater than 4 times the spike added. These MS results were not used for evaluating the project samples. The MS recovery for nitrate/nitrate as nitrogen from Method 4500-NO3 batch WFI3098 was less than laboratory QC limits. Nitrate/nitrate as nitrogen was not detected in the associated samples and was qualified as UJ to indicate estimated reporting limits due to possible low bias.

All duplicated sample RPDs were less than the recommended limit (30% for water matrices). The following summary highlights the data evaluation findings for this sampling event:

- One data point was rejected based on holding time exceedance for 1,4-dioxane in sample SMW-I-1.
- The completeness objectives (greater than 85 percent complete) for this project are met with 99.78% completeness.
- The precision and accuracy of the laboratory data, as measured by laboratory quality control indicators, demonstrate that the data are useable as qualified for the purposes of this project.
- The precision measurements for result comparisons between primary and duplicate field samples are acceptable for the purpose of this project and are marked with applicable qualifiers.

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	Kyle Power	**CS Site Name:**	Tesoro Alaska Refinery (Marathon)	**Lab Name:**	SGS North American
Title:	Environmental Chemist	**ADEC File No.:**	232.38.057	**Lab Report No.:**	1241239
Consulting Firm:	Trihydro Corp.	**Hazard ID No.:**		**Lab Report Date:**	4/29/2024

Note: *Any N/A or No box checked must have an explanation in the comments box.*

1. **Laboratory**

   a. Did an ADEC Contaminated Sites Laboratory Approval Program (CS-LAP) approved laboratory receive and perform all of the submitted sample analyses?
   Yes ☒ No ☐ N/A ☐
   Comments: SGS, Anchorage, AK

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses CS-LAP approved?
   Yes ☐ No ☐ N/A ☒
   Comments: Click or tap here to enter text.

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☒ No ☐ N/A ☐
   Comments: Click or tap here to enter text.

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Analyses requested: Methods 8260D, 8260D SIM, 8021B, AK101, AK102, 8270E, 8270E SIM, 6020B, 4500-CN C/E, and 4500S D.
   Comments: Click or tap here to enter text.

3. **Laboratory Sample Receipt Documentation**

   a. Is the sample/cooler temperature documented and within range at receipt (0° to 6° C)?
   Yes ☒ No ☐ N/A ☐
   Cooler temperature(s): 1.3°C and 1.9°C

Sample temperature(s): Click or tap here to enter text.
Comments: Click or tap here to enter text.

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, canister not holding a vacuum, etc.?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Samples containers received by the laboratory did contain headspace; however, there was sufficient volume in properly preserved containers to perform the requested analyses. Qualification of data was not necessary.

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☒ No ☐ N/A ☐
Comments: LCS, LCSD, MS, and/or MSD recoveries outside limits were noted for analytes in Methods 8270E and 8260D analyses.

c. Were all the corrective actions documented?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

d. What is the effect on data quality/usability according to the case narrative?
Comments: None

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

b. Are all applicable holding times met?
Yes ☐ No ☒ N/A ☐
Comments: Sample Trip Blank was analyzed outside of hold time and results were qualified as R to indicate rejected data.

c. Are all soils reported on a dry weight basis?
Yes ☐ No ☐ N/A ☒
Comments: Only aqueous samples in this data set.

d. Are the reported limits of quantitation (LoQ) or limits of detections (LOD), or reporting limits (RL) less than the Cleanup Level or the action level for the project?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

e. Is the data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: See description above.

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all method blank results less than LOQ (or RL)?
Yes ☐ No ☒
Comments: The leaching blank for Method 8260D batch VMS23168 detected benzene at a concentration greater than the reporting limit. Qualification was not required as the analyte was not detected in the associated sample. The method blank for Method AK101 batch VFC16776 detected GRO at a concentration less than the reporting limits, but greater than the method detection limits. Sample E-118 detected GRO at a concentration less than 10 times the blank concentration and was qualified as JB to indicate an estimated concentration due to possible blank contamination. Qualification was not required for results in the associated samples that had concentrations greater than 10 times the blank concentration.

iii. If above LoQ or RL, what samples are affected?
Comments: Click or tap here to enter text.

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

v. Data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: See description above.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
Yes ☐ No ☒ N/A ☐
Comments: The percent recoveries (%R) from laboratory control sample/duplicate (LCS/LCSD) were within range, except for 2-chlorotoluene from Method 8260D batch VMS23170, o-xylene from Method 8021B batch VFC16776, and 2,4-dimethylphenol, N-nitroso-di-n-propylamine, and pyridine from Method 8270E batch XMS14204. These analytes were not detected in the associated samples and were qualified as UJ to indicate estimated reporting limits due to potential low bias. Pyridine has an LCS recovery less than 10% and was qualified as R to indicate rejected data. Qualification was not required as the LCS percent recovery was greater than laboratory QC limits and 2-chlorotoluene was not detected in the associated sample.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the RPD reported from LCS/LCSD, and or

sample/sample duplicate? (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
Yes ☐ No ☒ N/A ☐
Comments: The LCS/LCSD RPD value for trichlorofluoromethane from batch VMS23170 exceeded the laboratory QC limit and was qualified as UJ to indicate estimated reporting limits in the associated samples due to poor precision. The LCS/LCSD RPD values for dimethylphthalate and pyridine from batch XMS14204 exceeded the laboratory QC limit and was qualified as UJ to indicate estimated reporting limits in the associated sample due to poor precision.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: Samples associated with batches VMS23170, VFC16776, and XMS14204.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

vii. Is the data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: See description above.

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

i. Organics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.
Yes ☒ No ☐ N/A ☐

Comments: Click or tap here to enter text.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: Click or tap here to enter text.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC, and laboratory samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☐ No ☒ N/A ☐
Comments: Method AK101: The surrogate 4-bromofluorobenzene for samples E-030A, E-080, E-118, E-150, E-171, and E-146 failed outside the limits of recovery. The detected associated analyte, GRO, was qualified in samples E-030A, E-080, E-118, E-150, E-171, and E-146 as J+ due to a potential high bias.

Method 8260D: The surrogate 4-bromofluorobenzene for samples E-150 and E-171 failed outside the limits of recovery. The detected associated analytes were qualified in samples E-150 and E-171 as J+ due to a potential high bias.

Method 8270E SIM: The surrogate fluoranthene-d10 for sample E-198 failed outside the limits of recovery. The analyte associated with the surrogate, 2-methylnaphthalene, was not detected in sample E-198 and was qualified as UJ to indicate an estimated reporting limit due to potential low bias.

Surrogate recoveries for quality control samples were outside laboratory QC limits; however, these are not evaluated as each samples have

designated surrogate recoveries and these are within laboratory QC limits.

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: See description above.

e. Trip Blanks

i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all results less than LoQ or RL?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. If above LoQ or RL, what samples are affected?
Comments: NA

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
Yes ☒ No ☐ N/A ☐
Comments: Dup-3 was collected as a duplicate of E-010, Dup-5 was collected as a duplicate of E-097, Dup-7 was collected as a duplicate of E-227, Dup-12 was collected as a duplicate of E-256, Dup-13 was collected as a duplicate of E-072RR, and Dup-14 was collected as a duplicate of E-215.

ii. Was the duplicate submitted blind to lab?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water or air, 50% soil)

$$RPD\ (\%) = \left| \frac{R_1 - R_2}{\left(\frac{R_1 + R_2}{2}\right)} \right| X\ 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Is the data quality or usability affected? (Explain)

Yes ☐ No ☒ N/A ☐
Comments: All duplicated sample RPDs were less than the recommended limit (30% for water matrices), except for benzene in duplicate pair E-097/Dup-5 and 2-methylnaphthalene in duplicate pair E-215/Dup-14. These results were qualified as J to indicate estimated concentrations due to poor precision

iv. Is the data quality or usability affected? (Explain)
Yes ☒ No ☐ N/A ☐
Comments: See description above.

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all results less than LoQ or RL?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. If above LoQ or RL, specify what samples are affected.
Comments: NA

iv. Are data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Click or tap here to enter text.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Are they defined and appropriate?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

QUALITY CONTROL SUMMARY- 1241239

Trihydro completed a data validation of the analytical results in accordance with the following references.

- Data for organic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Organic Superfund Methods Data Review, document number EPA-540-R-20-005, November 2020
- Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Inorganic Superfund Methods Data Review, document number EPA-540-R-20-006, November 2020
- Review of field duplicates was conducted according to the USEPA Region I - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020
- Trihydro Data Validation Variance Documentation, March 2024

Results of the QA/QC review for data are summarized below and are presented in the ADEC Laboratory Data Review Checklist. The sample results are reported under SGS North America project number 1241239. From March 13-27, 2024, twenty-three groundwater samples, six field duplicate samples, two equipment blank samples, and one trip blank sample were submitted in one batch to the laboratory. Dup-3 was collected as a duplicate of E-010, Dup-5 was collected as a duplicate of E-097, Dup-7 was collected as a duplicate of E-227, Dup-12 was collected as a duplicate of E-256, Dup-13 was collected as a duplicate of E-072RR, and Dup-14 was collected as a duplicate of E-215. The samples were received at the lab in good condition, preserved and at temperatures of 1.3°C and 1.9°C.

Samples containers received by the laboratory did contain headspace; however, there was sufficient volume in properly preserved containers to perform the requested analyses. Qualification of data was not necessary.

Sample Trip Blank was analyzed outside of hold time and results were qualified as R to indicate rejected data. These blank results were not factored into the completeness calculation.

Sample results were reviewed to determine overall precision of sampling and analysis as well as matrix homogeneity for all analytes. The percent recoveries (%R) from laboratory control sample/duplicate (LCS/LCSD) were within range, except for 2-chlorotoluene from Method 8260D batch VMS23170, o-xylene from Method 8021B batch VFC16776, and 2,4-dimethylphenol, N-nitroso-di-n-propylamine, and pyridine from Method 8270E batch XMS14204. These analytes were not detected in the associated samples and the results were qualified as UJ to indicate estimated reporting limits due to potential low bias. Pyridine has an LCS recovery less than 10% and was qualified as R to

indicate rejected data. Qualification was not required as the LCS percent recovery was greater than laboratory QC limits and 2-chlorotoluene was not detected in the associated sample. The LCS/LCSD RPD value for trichlorofluoromethane from batch VMS23170 exceeded the laboratory QC limit and was qualified as UJ to indicate estimated reporting limits in the associated samples due to poor precision. The LCS/LCSD RPD values for dimethylphthalate and pyridine from batch XMS14204 exceeded the laboratory QC limit and was qualified as UJ to indicate estimated reporting limits in the associated sample due to poor precision.

The leaching blank for Method 8260D batch VMS23168 detected benzene at a concentration greater than the reporting limit. Qualification was not required as the analyte was not detected in the associated sample. The method blank for Method AK101 batch VFC16776 detected GRO at a concentration less than the reporting limits, but greater than the method detection limits. Sample E-118 detected GRO at a concentration less than 10 times the blank concentration and was qualified as JB to indicate an estimated concentration due to possible blank contamination. Qualification was not required for results in the associated samples that had concentrations greater than 10 times the blank concentration.

Method AK101: The recoveries for the surrogate 4-bromofluorobenzene for samples E-030A, E-080, E-118, E-150, E-171, and E-146 were outside the acceptance limits. The associated analyte, GRO, was detected and qualified in samples E-030A, E-080, E-118, E-150, E-171, and E-146 as J+ due to a potential high bias.

Method 8260D: The surrogate 4-bromofluorobenzene for samples E-150 and E-171 failed outside the limits of recovery. The detected associated analytes were qualified in samples E-150 and E-171 as J+ due to a potential high bias.

Method 8270E SIM: The surrogate fluoranthene-d_{10} for sample E-198 failed outside the limits of recovery. The analyte associated with the surrogate, 2-methylnaphthalene, was not detected in sample E-198 and was qualified as UJ to indicate an estimated reporting limit due to potential low bias.

All duplicated sample RPDs were less than the recommended limit (30% for water matrices), except for benzene in duplicate pair E-097/Dup-5 and 2-methylnaphthalene in duplicate pair E-215/Dup-14. These results were qualified as J to indicate estimated concentrations due to poor precision.

The following summary highlights the data evaluation findings for this sampling event:

- One data point (pyridine in sample E-146) was rejected.
- The completeness objectives (greater than 85 percent complete) for this project are met with 99.71% completeness.
- The precision and accuracy of the laboratory data, as measured by laboratory quality control indicators, demonstrate that the data are useable as qualified for the purposes of this project.

- The precision measurements for result comparisons between primary and duplicate field samples are acceptable for the purpose of this project and are marked with applicable qualifiers.

APPENDIX A-2

(SEPARATE SUBMITTAL)

LABORATORY REPORTS

APPENDIX B

HISTORICAL DATA

B-1. HISTORICAL DATA FOR MONITORING WELL SAMPLED THIS QUARTER

B-2. HISTORICAL BENZENE CONCENTRATIONS (µg/L) IN PM SWAMP SURFACE WATER SAMPLES

APPENDIX B-1

HISTORICAL DATA FOR MONITORING WELL SAMPLED THIS QUARTER

APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
B-1	PRM	Q2002-1	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2022-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
B-2		Q2001-1	ND	ND	ND	ND
		Q2002-1	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
E-001	PM	Q2000-1	21000	13000	3100	12000
		Q2003-2	6900	4500	ND	7900
		Q2005-2	13000	1600	2500	9300
		Q2006-2	12000	2300	2100	9700
		Q2007-2	2000	ND	830	2300
		Q2008-2	24000	2300	2400	12600
		Q2008-3	11000	14000	2600	13600
		Q2009-2	360	120	190	890
		Q2010-2	14000	ND	1200	4600
		Q2011-2	12000	ND	1100	5100
		Q2012-2	8800	ND	1700	5800
		Q2017-3	1260	173	689	--
		Q2017-4	130	8.71	87.1	382
		Q2018-2	1090	10.5	332	1370
		Q2018-4	198	6.06	254	1100
		Q2019-2	68.9	5.94	222	728
E-002		Q2000-1	16000	23000	3300	15000
		Q2003-2	7000	23000	3000	15800
		Q2004-2	3900	15000	3000	12400
		Q2005-2	2000	8200	1800	8300
		Q2006-2	890	120	180	1240
		Q2007-2	1700	8700	1900	9600
		Q2008-2	3200	4300	5100	23500
		Q2009-2	1100	1800	1400	7600
		Q2010-2	98	18	170	748
		Q2011-2	360	540	1100	4520
		Q2017-3	342	2.71 J+	659	--
		Q2017-4	196	2.38	557	3770
		Q2018-2	77.9	ND(1.55)	449	1670
		Q2018-4	63.8	1.44	465	1360
		Q2019-2	55.9	4.03	1250	3260
E-003		Q1996-1	1400	5500	1100	6100
		Q1996-2	1200	1700	680	2630
		Q1996-3	300	440	91	680
		Q1996-4	1700	1500	200	930
		Q1997-1	850	1400	160	690
		Q1997-2	360	500	83	399
		Q1997-3	990	1500	190	750

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
* - The first result represents the laboratory reported concentration. The second result was evaluated to be undetected at the reported concentration by the data validator. The result was determined to be a false positive.
The method detection limit (MDL) was used as the reporting limit.

APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-003	PM	Q1997-4	1200	1200	140	610
		Q1998-1	1100	1000	74	357
		Q2000-3	3500	5900	2000	7600
		Q2000-4	710	1200	770	3300
		Q2001-1	1000	1400	570	2600
		Q2001-2	1000	990	230	990
E-004		Q1998-1	52	ND	ND	ND
		Q1998-2	36	ND	1.1	4.7
		Q1998-3	150	ND	4.1	11
		Q1998-4	150	1.5	4.5	11
		Q1999-1	100	2.8	2.4	6.8
		Q1999-2	150	11	3.7	13
		Q1999-3	430	50	11	40
		Q1999-4	420	50	45	135
		Q2000-1	1700	51	31	108
		Q2000-2	460	32	23	88
		Q2001-4	76	ND	12	47
		Q2002-2	150	9.1	24	53
		Q2002-4	170	39	28	62
		Q2003-2	660	9	14	40
		Q2003-4	280	1.8	15	51
		Q2004-2	400	ND	32	93
		Q2004-4	150	ND	16	43
		Q2005-2	360	ND	25	44
		Q2005-4	260	ND	26	89
		Q2006-2	240	ND	20	75
		Q2006-4	380	ND	15	68
		Q2007-2	240	ND	14	71
		Q2007-4	110	ND	12	49
		Q2008-2	46	ND	4.2	16
		Q2008-4	540	ND	9.4	40
		Q2009-2	370	0.5	24	98
		Q2009-4	120	ND	16	87
		Q2010-2	42	ND	4.9	23
		Q2010-4	190	ND	5.6	30
		Q2011-2	210	ND	ND	35
		Q2011-4	160	ND	6.2	42
		Q2012-2	35	ND	ND	12
		Q2012-4	240	ND	14	100
		Q2013-2	140	ND	24	59
		Q2013-4	170	ND	18	63
		Q2014-2	7.6	ND	1.8	ND
		Q2014-4	18	ND	10	21
		Q2015-2	17	ND(0.2)	3.5	--
		Q2015-4	17	ND(0.2)	1.2	--
		Q2016-2	25.3	ND(0.31)	4.01	ND(1)
		Q2016-4	19.7	3.29	0.98 J	--
		Q2017-2	3.67 J	ND(0.31)	ND(0.31)	ND(1)

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
* - The first result represents the laboratory reported concentration. The second result was evaluated to be undetected at the reported concentration by the data validator. The result was determined to be a false positive.
The method detection limit (MDL) was used as the reporting limit.

APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-004	PM	Q2017-4	10.1	ND(0.31)	ND(0.31)	3.19
		Q2018-2	18.8	1.14	ND(0.31)	ND(1)
		Q2018-4	5.89	ND(0.31)	ND(0.31)	ND(1)
		Q2019-2	16.8	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	9.49	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	11.2	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	4.65	ND(0.31)	ND(0.31)	ND(1)
		Q2021-2	3.51	ND(0.31)	ND(0.31)	ND(1)
		Q2021-4	4.01	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	2.67	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	3.82	ND(0.31)	ND(0.31)	ND(1)
		Q2023-2	1.91	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	0.921	ND(0.31)	ND(0.31)	ND(1)
		Q2024-2	1.36	ND(0.31)	ND(0.31)	ND(1)
E-005		Q2000-1	2200	350	1400	4000
E-007		Q2000-1	200	85	320	1300
E-008		Q2000-1	3900	970	1300	4800
E-010		Q2000-1	4200	1300	230	840
		Q2017-3	4280	114 J+	174 J+	1660
		Q2017-4	3400	245	166	1320
		Q2018-2	3410	300	157	1440
		Q2018-4	3240	196	221	1290
		Q2019-2	3970	221	161	1340
		Q2019-3	3310	82.8	114	1140
		Q2019-4	3430	67.9	118	1180
		Q2020-3	3310	45.8	68.9	1100
		Q2020-4	3150	55.2	61.4	761
		Q2021-1	3000	82	81.6	949
		Q2021-3	2860	140	75	786
		Q2021-4	2730	97.6	71.2	826
		Q2022-1	2620	222	85.5	774
		Q2022-2	3330	178	82.8	925
		Q2022-3	2820	260	94	737
		Q2022-4	2810	185	86.8	748
		Q2023-1	2840	129	84.3	770
		Q2023-2	2680	72.1	72.9	730
		Q2023-3	1860	67.5	51.5	440
		Q2023-4	1720 J+	56.1 J+	38.9 J+	409 J+
		Q2024-1	2230 J-	ND(25) UJ	ND(25) UJ	465 J-
		Q2024-2	2150	22.2	27.8	298
E-012A		Q2000-2	841	ND	29	312
E-014		Q2000-1	3800	400	430	1500
E-016		Q1999-3	17000	ND	ND	ND
		Q2014-2	2300	ND	3.2	ND
		Q2014-3	463	ND	2.56	ND
E-017R		Q2000-1	130	22	200	660
E-019		Q1999-3	1600	ND	ND	ND
		Q1999-4	1200	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)

* - The first result represents the laboratory reported concentration. The second result was evaluated to be undetected at the reported concentration by the data validator. The result was determined to be a false positive.

The method detection limit (MDL) was used as the reporting limit.

APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-019	PM	Q2000-1	830	1.7	2.6	5.1
		Q2000-2	860	ND	1.5	1.1
		Q2000-3	160	ND	ND	ND
		Q2000-4	410	ND	ND	ND
		Q2001-2	1100	ND	2.8	4.9
		Q2014-2	3700	ND	1.5	87
		Q2014-3	3250	ND	1.73	36.5
E-020		Q1990-1	1700	1.2	5.9	20
E-022		Q1991-1	ND	0.53	ND	ND
		Q1994-1	ND	ND	ND	ND
		Q1994-2	ND	ND	ND	ND
		Q1994-3	ND	ND	ND	ND
		Q1994-4	2	ND	ND	ND
		Q1995-1	3	ND	ND	ND
		Q1995-2	5.4	ND	ND	ND
		Q1995-3	14	ND	ND	ND
		Q1995-4	39	ND	ND	ND
		Q1999-3	230	ND	2.6	ND
		Q2012-2	910	ND	ND	ND
		Q2012-4	210	ND	ND	ND
		Q2013-2	19	ND	ND	ND
		Q2013-4	17	ND	ND	ND
		Q2014-2	130	ND	ND	ND
E-025		Q1991-1	2600	82	ND	300
		Q1999-3	19000	ND	870	2000
		Q1999-4	20000	280	1000	2450
		Q2000-1	22000	53	ND	2200
		Q2000-2	15000	32	1100	2373
		Q2000-3	11000	68	650	1700
		Q2000-4	11000	10	650	1500
		Q2001-3	15000	3.6	980	2300
		Q2001-4	12000	4.7	810	2000
		Q2002-1	19000	2.6	880	2304
		Q2002-2	24000	18	1400	3300
		Q2002-3	20000	5.1	1000	2510
		Q2002-4	15000	2.5	1000	2610
		Q2003-1	16000	2.8	670	2002
		Q2003-2	14000	3	670	1900
		Q2003-3	18000	1.3	860	2200
		Q2003-4	18000	ND	960	2500
		Q2004-1	21000	3.1	830	2302
		Q2004-2	20000	ND	1100	2500
		Q2004-3	19000	ND	1100	3100
		Q2004-4	15000	ND	910	2400
		Q2005-1	15000	ND	640	2100
		Q2005-2	12000	ND	590	1800
		Q2005-3	12000	ND	510	1800
		Q2005-4	14000	ND	600	2000

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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The method detection limit (MDL) was used as the reporting limit.

APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-025	PM	Q2006-1	12000	ND	440	1700
		Q2006-2	12000	ND	320	1700
		Q2006-3	15000	ND	310	1600
		Q2006-4	8600	ND	120	780
		Q2007-1	8800	ND	ND	890
		Q2007-2	11000	ND	ND	1200
		Q2007-3	12000	ND	ND	1400
		Q2007-4	11000	ND	110	1600
		Q2008-1	9900	ND	ND	1500
		Q2008-2	15000	ND	140	3800
		Q2008-3	12000	ND	ND	1900
		Q2008-4	9600	1.3	60	1700
		Q2009-1	8600	ND	ND	2000
		Q2009-2	7200	ND	ND	2300
		Q2009-3	7000	ND	ND	2000
		Q2009-4	5100	ND	ND	1600
		Q2010-1	4800	ND	ND	1600
		Q2010-2	4500	ND	ND	1800
		Q2010-3	4400	ND	ND	2000
		Q2010-4	4100	ND	ND	1900
		Q2011-1	3600	ND	ND	1400
		Q2011-2	3500	ND	ND	1600
		Q2011-3	3300	ND	ND	1500
		Q2011-4	2900	ND	ND	740
		Q2012-1	2500	ND	ND	570
		Q2012-2	2800	ND	ND	680
		Q2012-3	2600	ND	ND	550
		Q2012-4	2700	ND	ND	540
		Q2013-1	2800	ND	ND	290
		Q2013-2	3100	ND	ND	ND
		Q2013-3	2300	12	11	66
		Q2013-4	2500	ND	ND	ND
		Q2014-1	1700	ND	ND	28
		Q2014-2	1600	ND	11	23
		Q2014-3	1300	ND	10	ND
		Q2014-4	1500	ND	ND	ND
		Q2015-1	950	ND	ND	ND
		Q2015-2	1100	ND(2)	ND(1.9)	--
		Q2015-3	740	ND(0.04)	5	--
		Q2015-4	700	ND(0.2)	5.5	--
		Q2016-1	960	ND(0.2)	6.7	--
		Q2016-2	931 J+	ND(0.31)	9.38 J+	--
		Q2016-3	997	ND(0.31)	7.05	--
		Q2016-4	912	ND(0.31) UJ	6.66	--
		Q2017-1	853 J+	ND(0.31)	6.03 J+	3.27 J+
		Q2017-2	1040 J+	ND(0.31)	5.73 J+	ND(0.93)
		Q2017-3	915	ND(0.31)	5.12 J+	ND(0.93)
		Q2017-4	805	1.42	6.27	ND(0.93)

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
* - The first result represents the laboratory reported concentration. The second result was evaluated to be undetected at the reported concentration by the data validator. The result was determined to be a false positive.
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-027	PM	Q1991-1	ND	ND	ND	ND
		Q1997-4	3600	ND	ND	170
		Q1998-1	3500	ND	8.4	150
		Q1998-2	4800	ND	ND	210
		Q1998-3	4200	ND	4.5	100
		Q1998-4	4800	ND	ND	220
		Q1999-1	2900	ND	ND	140
		Q1999-2	3800	1300	ND	400
		Q1999-3	3200	780	130	337
		Q1999-4	10000	3800	1100	3930
		Q2000-1	3300	720	49	166
		Q2000-2	660	250	96	251
		Q2000-3	ND	ND	ND	ND
		Q2000-4	2000	920	450	880
		Q2001-1	6600	1100	1200	4400
		Q2001-2	5200	83	1000	4000
E-028		Q2000-1	2700	1200	1200	4000
E-030		Q1991-1	500	2.7	120	240
E-030A		Q2001-4	2500	ND	44	1100
		Q2002-2	3200	ND	92	1300
		Q2002-4	3400	ND	110	1300
		Q2003-2	2800	ND	130	1400
		Q2003-4	2900	ND	140	1200
		Q2004-2	2500	ND	190	1500
		Q2004-4	2000	ND	120	920
		Q2005-2	2200	ND	110	780
		Q2005-4	1900	ND	180	1000
		Q2006-2	1700	ND	151	931
		Q2006-4	1600	ND	120	920
		Q2007-2	2000	ND	180	1300
		Q2007-4	1500	ND	120	1200
		Q2008-2	1600	ND	88	1200
		Q2008-4	1700	ND	130	1400
		Q2009-2	1700	ND	24	880
		Q2009-4	1600	ND	73	1100
		Q2010-2	1700	ND	25	1100
		Q2010-4	1500	ND	58	1200
		Q2011-2	1500	ND	ND	1200
		Q2011-4	1300	ND	ND	1100
		Q2012-2	1200	ND	ND	1200
		Q2012-4	1200	ND	ND	1200
		Q2013-2	540	ND	ND	1400
		Q2013-4	1400	ND	ND	540
		Q2014-2	1300	ND	ND	1400
		Q2014-4	1000	ND	ND	ND
		Q2015-2	1500	ND(0.8)	9.4	--
		Q2015-4	1100	ND(0.2)	7.6	--
		Q2016-2	1450	ND(0.31)	8.88	1650

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-030A	PM	Q2016-4	1330	0.44 J	8.23	--
		Q2017-2	866	ND(3.1)	ND(3.1)	897
		Q2017-4	918	ND(0.31)	6.89	713
		Q2018-2	941	1.03	6.66	667
		Q2018-4	858	ND(0.31)	5.69	425
		Q2019-2	944	ND(3.1)	ND(3.1)	383
		Q2019-4	1050	ND(0.31)	6.1	350
		Q2020-4	1290	ND(15.5)	ND(15.5)	209
		Q2021-2	1560	ND(3.1)	ND(3.1)	310
		Q2021-4	1580	ND(3.1)	ND(3.1)	255
		Q2022-2	1560	ND(3.1)	ND(3.1)	141
		Q2022-4	1780	ND(3.1)	ND(3.1)	131
		Q2023-2	1550	ND(6.2)	ND(6.2)	ND(20)
		Q2023-4	1550	ND(6.2)	ND(6.2)	ND(20)
		Q2024-2	923	ND(0.31)	2.83	ND(1)
E-032		Q2000-1	1700	890	310	1400
E-033		Q1991-1	ND	ND	ND	ND
		Q1999-3	1600	ND	11	ND
		Q2014-2	1600	ND	ND	ND
		Q2014-3	1570	ND	ND	ND
E-034		Q1991-1	ND	ND	ND	18
E-038		Q2001-4	3000	760	290	1080
		Q2002-2	4700	460	620	2300
		Q2002-4	3300	97	410	1280
		Q2003-2	1200	ND	50	220
		Q2003-4	2300	ND	130	550
		Q2004-2	4700	ND	470	1310
		Q2004-4	4600	ND	650	2170
		Q2005-2	2600	ND	290	794
		Q2005-4	ND	ND	ND	ND
		Q2006-2	3000	ND	430	1232
		Q2006-4	930	ND	61	280
		Q2007-2	2700	ND	250	810
		Q2007-4	5000	ND	820	2460
		Q2008-2	2900	ND	310	1100
		Q2008-4	4600	ND	640	2040
		Q2009-2	4100	0.6	560	1900
		Q2009-4	1800	ND	140	640
		Q2010-2	2800	ND	350	1200
		Q2010-4	3000	ND	290	1200
		Q2011-2	1800	ND	180	710
		Q2011-4	2600	ND	160	810
		Q2012-2	2300	ND	130	880
		Q2012-4	1100	ND	ND	420
		Q2013-2	620	ND	ND	ND
		Q2013-4	130	ND	ND	22
		Q2014-2	860	ND	ND	73
		Q2014-4	620	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-038	PM	Q2015-2	450 J-	ND(0.4)	ND(0.37)	--
		Q2015-4	560	ND(0.2)	ND(0.19)	--
		Q2016-2	447	ND(0.31)	ND(0.31)	6.96
		Q2016-4	12.6	ND(0.31)	ND(0.31)	--
		Q2017-2	336	ND(1.5)	ND(1.8)	13.1
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	214	ND(0.6)	ND(0.71)	ND(1.4)
		Q2018-4	16	ND(0.3)	ND(0.36)	ND(0.72)
		Q2019-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	367	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	171	ND(3.1)	ND(3.1)	ND(10)
		Q2021-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2021-4	3.78	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	41.4	ND(0.31)	ND(0.31)	ND(1)
		Q2024-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
E-045		Q2000-2	12	ND	8.4	13
E-053		Q2011-4	1600	ND	5.4	7.9
		Q2012-2	17	ND	ND	4.4
		Q2012-3	ND	ND	ND	ND
		Q2012-4	20	ND	ND	ND
		Q2013-2	1400	ND	ND	ND
		Q2013-4	2	ND	ND	ND
		Q2014-2	1700	ND	ND	ND
E-055		Q1991-1	180	ND	14	110
		Q1994-1	1200	ND	10	160
		Q1994-2	1300	ND	9	160
		Q1994-3	1600	ND	2.1	39
		Q1994-4	1420	1	5	150
		Q1995-1	1900	ND	6.6	180
		Q1995-2	2000	ND	5.2	150
		Q1995-3	1200	ND	4.4	110
		Q1995-4	1600	ND	3.9	120
		Q1996-1	1100	ND	4.1	130
		Q1996-2	1200	ND	3.4	98
		Q1996-3	1000	ND	3.6	120
		Q1996-4	1200	ND	ND	ND
		Q1997-1	1200	ND	2.6	69
		Q1997-2	980	ND	2.8	75
		Q1997-3	960	ND	ND	76
		Q1997-4	1100	ND	ND	100
		Q1998-1	870	ND	2	54
		Q1998-2	1100	ND	1.5	41
		Q1998-3	1200	ND	4.1	59
		Q1998-4	1600	ND	12	63

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-055	PM	Q1999-1	1900	ND	23	64
		Q1999-2	1400	ND	ND	ND
		Q1999-3	1700	1.7	42	93
		Q1999-4	1700	ND	48	113
		Q2000-1	2600	2.2	59	143
		Q2000-2	2300	ND	38	81
		Q2000-3	1900	ND	59	130
		Q2000-4	2100	ND	53	100
		Q2001-1	2100	ND	42	82
		Q2001-2	2400	ND	33	53
		Q2001-4	2500	ND	18	11
		Q2002-2	4800	ND	ND	ND
		Q2002-4	4000	ND	1.6	ND
		Q2003-2	3500	ND	ND	ND
		Q2003-4	2600	ND	ND	ND
		Q2004-2	1900	ND	ND	ND
		Q2004-4	1200	ND	ND	ND
		Q2005-2	1600	ND	ND	ND
		Q2005-4	830	ND	ND	ND
		Q2006-2	1700	ND	ND	ND
		Q2006-4	1700	ND	ND	ND
		Q2007-2	1100	ND	ND	ND
		Q2007-4	580	ND	ND	ND
		Q2008-2	1100	ND	ND	ND
		Q2008-4	340	ND	1.1	5
		Q2009-2	2100	ND	7.5	ND
		Q2009-4	480	ND	ND	ND
		Q2010-2	820	ND	ND	ND
		Q2010-4	1000	ND	ND	ND
		Q2011-2	450	ND	ND	ND
		Q2011-4	390	ND	ND	ND
		Q2012-2	820	ND	ND	ND
		Q2012-4	1900	ND	ND	ND
		Q2013-2	1400	ND	ND	ND
		Q2013-3	970	ND	ND	ND
		Q2013-4	1700	ND	ND	ND
		Q2014-2	2600	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-2	2600 J-	ND(2)	ND(1.9)	--
		Q2015-4	1900	ND(2)	ND(1.9)	--
		Q2016-2	2370	ND(0.31)	1.74	ND(1)
		Q2016-4	1050	ND(0.31)	1.2	--
		Q2017-2	1590	ND(6)	ND(7.1)	ND(14)
		Q2017-4	1260	ND(0.31)	1.98	ND(0.93)
		Q2018-2	1390	ND(6)	ND(7.1)	ND(14)
		Q2018-4	1160	ND(6)	ND(7.1)	ND(14)
		Q2019-2	1080	ND(1.55)	ND(1.55)	ND(5)
		Q2019-4	1150	ND(0.31)	ND(3.1)	ND(10)

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-055	PM	Q2020-2	790	ND(3.1)	ND(3.1)	ND(10)
		Q2020-4	624	ND(3.1)	ND(3.1)	ND(10)
		Q2021-2	608	ND(3.1)	ND(3.1)	ND(10)
		Q2021-4	566	ND(1.55)	ND(1.55)	ND(5)
		Q2022-2	513	ND(1.55)	ND(1.55)	ND(5)
		Q2022-4	501	ND(1.55)	ND(1.55)	ND(5)
		Q2023-2	449	ND(1.55)	ND(1.55)	ND(5)
		Q2023-4	462	ND(1.55)	ND(1.55)	ND(5)
		Q2024-2	276	ND(0.31)	ND(0.31)	ND(1)
E-056		Q1999-3	1600	ND	ND	ND
		Q2014-2	160	ND	ND	ND
		Q2014-3	103	ND	ND	ND
E-057		Q1999-3	820	ND	ND	ND
E-058		Q1991-1	ND	ND	ND	ND
		Q2012-2	12	ND	8.3	15
E-059		Q1991-1	ND	ND	ND	ND
		Q1994-1	ND	ND	ND	ND
		Q1994-2	ND	ND	ND	ND
		Q1994-3	ND	ND	ND	ND
		Q1994-4	ND	ND	ND	ND
		Q1995-1	ND	ND	ND	ND
		Q1995-2	ND	ND	ND	ND
		Q1995-3	ND	ND	ND	ND
		Q1995-4	ND	ND	ND	ND
		Q1996-1	ND	ND	ND	ND
		Q1996-2	ND	ND	ND	ND
		Q1996-4	ND	ND	ND	ND
		Q1997-1	ND	ND	ND	ND
		Q1997-2	ND	ND	ND	ND
		Q1997-3	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-1	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-1	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
		Q2001-3	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-1	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-059	PM	Q2002-2	ND	ND	ND	ND
		Q2002-3	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-1	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-3	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-1	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-3	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-1	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-3	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-1	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-3	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-1	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-3	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-1	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-3	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-1	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-3	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-1	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-3	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-1	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-3	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-1	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-3	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-1	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-3	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-1	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-059	PM	Q2014-2	ND	ND	ND	ND
		Q2014-3	1.1	ND	ND	ND
		Q2014-4	1.1	ND	ND	ND
		Q2015-1	1.2	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-3	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-1	1	ND(0.2)	ND(0.19)	--
		Q2016-2	2.85 JB	ND(0.31)	0.82J/ND(0.82)U*	--
		Q2016-3	2.16	ND(0.31)	ND(0.31)	--
		Q2016-4	1.13	ND(0.31)	ND(0.31)	--
		Q2017-1	1.46	ND(0.31)	ND(0.31)	ND(0.62)
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-061		Q1991-1	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2014-3	130	5.4	ND	ND
		Q2014-4	160	ND	ND	ND
		Q2015-1	110	ND	ND	ND
		Q2015-2	280	ND(0.2)	ND(0.19)	--
		Q2015-3	320	ND(0.04)	1.1	--
E-064		Q1991-1	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-1	ND	ND	ND	ND
		Q2002-2	1.6	ND	ND	ND
		Q2002-3	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	1
		Q2003-4	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-064	PM	Q2005-4	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2014-3	247	1.31	1.77	5.03
		Q2014-4	260	ND	1.8	6.2
		Q2015-1	280	ND	ND	ND
		Q2015-2	920	2	7.6	--
		Q2015-3	520	1.6	6.3	--
E-064R		Q2016-3	141	5.09	ND(0.31)	--
		Q2016-4	28.8	0.99 J	ND(0.31)	--
		Q2017-4	3.25	ND(0.31)	ND(0.31)	ND(0.93)
E-065		Q1991-1	0.6	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
		Q2002-1	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-3	ND	ND	ND	ND
		Q2003-1	ND	ND	ND	ND
		Q2014-3	ND	ND	ND	ND
E-071		Q1997-3	100	1400	3300	11000
		Q1999-4	460	9000	3200	10900
		Q2000-1	260	13000	4800	16900
		Q2000-2	160	6600	2800	9700
		Q2000-3	170	6100	3000	10600
		Q2009-3	43	7.8	950	2840
		Q2019-1	4.7	ND(3.1)	900	1860
E-072RR		Q2014-2	ND	ND	ND	ND
		Q2015-2	ND(0.03) UJ	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	0.34J/ND(0.34)U*	ND(0.31)	0.49J/ND(0.5)U*	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	180	4.6	47.9	66.8
		Q2018-1	550	189	162	305
		Q2018-2	452	174	112	200
		Q2018-4	1650	1230	347	922
		Q2019-1	2140	1850	468	1340
		Q2019-2	1530	817	267	644
		Q2019-3	1900	858	315	879

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-072RR PM	Q2019-4	980	273	153	383
	Q2020-1	1030	176	147	399
	Q2020-2	1690	290	252	676
	Q2020-3	1430	226	259	696
	Q2020-4	1580	60	285	789
	Q2021-1	1240	ND(0.31)	218	501
	Q2021-2	1550	ND(6.2)	284	695
	Q2021-3	1990	ND(15.5)	455	1180
	Q2021-4	2020	ND(6.2)	667	1740
	Q2022-1	1950	2.88	664	1750
	Q2022-2	961	ND(5)	325	873
	Q2022-3	2570	518	1120	3060
	Q2022-4	2200	169	817	2100
	Q2023-1	2210	250	950	2650
	Q2023-2	2030	1.14	783	1900
	Q2023-3	1960	ND(0.5)	646	1450
	Q2023-4	685 J+	ND(0.5)	213 J+	433 J+
	Q2024-1	1460	ND(5)	502	1000
	Q2024-2	1150	ND(2.5)	396	795
E-074	Q1991-1	ND	ND	ND	ND
	Q1994-1	ND	ND	ND	ND
	Q1994-2	ND	ND	ND	ND
	Q1994-3	ND	ND	ND	ND
	Q1994-4	ND	ND	ND	ND
	Q1995-1	ND	ND	ND	ND
	Q1995-2	ND	ND	ND	ND
	Q1995-3	ND	ND	ND	ND
	Q1995-4	ND	ND	ND	ND
	Q1996-1	ND	ND	ND	ND
	Q1996-2	ND	ND	ND	ND
	Q1996-4	ND	ND	ND	ND
	Q1997-1	ND	ND	ND	ND
	Q1997-2	ND	ND	ND	ND
	Q1997-3	ND	ND	ND	ND
	Q1997-4	ND	ND	ND	ND
	Q1998-1	ND	ND	ND	ND
	Q1998-2	ND	ND	ND	ND
	Q1998-3	ND	ND	ND	ND
	Q1998-4	ND	ND	ND	ND
	Q1999-1	ND	ND	ND	ND
	Q1999-2	ND	ND	ND	ND
	Q1999-3	ND	ND	ND	ND
	Q1999-4	ND	ND	ND	ND
	Q2000-1	ND	ND	ND	ND
	Q2000-2	ND	ND	ND	ND
	Q2000-3	ND	ND	ND	ND
	Q2000-4	ND	ND	ND	ND
	Q2001-1	ND	ND	ND	ND

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-074	PM	Q2001-2	ND	ND	ND	ND
		Q2018-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
E-076		Q1991-1	ND	0.68	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q2019-1	228	ND(0.31)	16.1	63.4
E-077		Q2000-2	13000	33000	4300	17000
		Q2009-3	3000	13000	3100	12000
		Q2019-1	335	2870	2500	8020
E-080	PRM	Q2002-4	130	ND	85	280
		Q2003-2	200	ND	93	320
		Q2003-4	270	ND	150	546
		Q2004-2	310	ND	200	750
		Q2004-4	260	ND	170	660
		Q2005-2	200	ND	110	470
		Q2005-4	150	1.2	98	260
		Q2006-2	260	ND	210	675
		Q2006-4	180	ND	150	430
		Q2007-2	210	ND	240	720
		Q2007-4	230	ND	280	830
		Q2008-2	140	ND	190	610
		Q2008-4	150	ND	240	750
		Q2009-2	160	ND	170	540
		Q2009-4	140	ND	200	440
		Q2010-2	120	ND	160	558
		Q2010-4	160	ND	230	610
		Q2011-2	98	ND	140	448
		Q2011-4	120	ND	200	483
		Q2012-2	93	ND	170	430
		Q2012-4	110	ND	170	360
		Q2013-2	82	ND	150	380
		Q2013-4	87	ND	150	420
		Q2014-2	80	ND	150	356
		Q2014-4	76	ND	140	350
		Q2015-2	72	ND(0.2)	120	--
		Q2015-4	74	ND(0.2)	100	--
		Q2016-2	81.6 J-	ND(0.31)	73.9 J-	281 J-
		Q2016-4	92.5	ND(0.31)	97.5	--
		Q2017-2	71.4	ND(3.1)	48.7	305
		Q2017-4	69.5	ND(0.31)	21	317
		Q2018-2	53.3	ND(0.31)	7.8	256
		Q2018-4	40.2	ND(0.31)	4.95	313
		Q2019-2	27.6	1.38	1.13	180
		Q2019-4	44.2	ND(0.31)	1.15	353
		Q2020-2	36.8	ND(0.31)	ND(0.31)	193
		Q2020-4	36	ND(3.1)	ND(3.1)	132
		Q2021-2	41.6	ND(3.1)	ND(3.1)	78.1
		Q2021-4	47.7	ND(0.31)	ND(0.31)	34.8
		Q2022-2	48	ND(0.31)	ND(0.31)	7.8

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-080	PRM	Q2022-4	45.4	ND(0.31)	ND(0.31)	15.7
		Q2023-2	55	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	44.8	ND(0.31)	ND(0.31)	ND(1)
		Q2024-2	25	ND(0.31)	ND(0.31)	ND(1)
E-081	PM	Q2004-3	1.1	ND	ND	ND
E-088		Q1991-1	ND	ND	ND	ND
		Q1994-1	ND	ND	ND	2
		Q1994-2	ND	ND	ND	ND
		Q1994-3	ND	ND	ND	ND
		Q1994-4	ND	ND	ND	ND
		Q1995-1	ND	ND	ND	ND
		Q1995-2	ND	ND	ND	ND
		Q1995-3	ND	ND	ND	ND
		Q1995-4	ND	ND	ND	ND
		Q2018-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
E-089		Q1991-1	ND	ND	ND	ND
		Q1996-1	ND	ND	ND	ND
		Q1996-2	ND	ND	ND	ND
		Q1996-4	ND	ND	ND	ND
		Q1997-1	ND	ND	ND	ND
		Q1997-2	ND	ND	ND	ND
		Q1997-3	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-1	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-1	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-1	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-3	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-1	ND	ND	ND	ND
		Q2004-3	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-089	PM	Q2005-4	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-2	ND(0.03) UJ	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	0.38J/ND(0.38)U*	ND(0.31)	0.79J/ND(0.79)U*	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	0.56	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-090		Q1991-1	330	28	160	690
E-091	PRM	Q1991-1	9.8	12	ND	660
		Q2001-4	ND	ND	1.4	2.5
		Q2002-4	ND	ND	1.8	ND
		Q2003-2	ND	ND	2.4	1.2
		Q2003-4	ND	ND	3	3.2
		Q2004-2	ND	ND	1.6	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	2.6	ND
		Q2005-4	ND	ND	ND	ND

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-091	PRM	Q2006-2	ND	ND	3.2	1.9
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	1.7	1.3
		Q2009-2	ND	ND	2.7	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-2	ND	ND	1.1	ND
		Q2010-4	0.8	ND	0.6	1
		Q2011-2	2.7	ND	ND	ND
		Q2011-3	2.5	ND	ND	ND
		Q2011-4	3	ND	ND	ND
		Q2012-1	2.6	ND	0.7	0.9
		Q2012-2	1.7	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-2	2.6	ND	1.2	ND
		Q2013-4	3.4	ND	ND	ND
		Q2014-2	1.8	ND	ND	ND
		Q2014-4	2.8	ND	ND	ND
		Q2015-2	1.1	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2016-2	0.95	ND(0.31)	ND(0.31)	ND(1)
		Q2016-4	0.67	ND(0.31)	ND(0.31)	--
		Q2017-2	2	ND(0.31)	ND(0.31)	ND(1)
		Q2017-4	3.67	ND(0.31)	1.1	4.65
		Q2018-2	2.52	ND(0.31)	ND(0.31)	3.11
		Q2018-4	3.91	ND(0.31)	ND(0.31)	5.72
		Q2019-2	2.62	ND(0.31)	ND(0.31)	6.46
		Q2019-4	2.13	ND(0.31)	ND(0.31)	5.12
		Q2020-2	1.18	ND(0.31)	ND(0.31)	4.74
		Q2020-4	1.34	ND(0.31)	ND(0.31)	7.14
		Q2021-2	1.31	ND(0.31)	ND(0.31)	6.31
		Q2021-4	1.18	ND(0.31)	ND(0.31)	6.69
		Q2022-2	1.56	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	1.18	ND(0.31)	ND(0.31)	ND(1)
		Q2023-2	0.897	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	0.56	ND(0.31)	ND(0.31)	ND(1)
		Q2024-2	1.31	ND(0.31)	ND(0.31)	ND(1)
E-092	PM	Q1991-1	98	19	ND	1200
E-094		Q1996-1	ND	ND	ND	ND
		Q1996-2	ND	ND	ND	ND
		Q1996-4	ND	ND	ND	ND
		Q1997-1	ND	ND	ND	ND
		Q1997-2	ND	ND	ND	ND
		Q1997-3	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
* - The first result represents the laboratory reported concentration. The second result was evaluated to be undetected at the reported concentration by the data validator. The result was determined to be a false positive.
The method detection limit (MDL) was used as the reporting limit.

APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-094	PM	Q1998-3	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-1	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-1	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
		Q2001-4	1.2	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-2	ND(0.03) UJ	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.15)	0.51J/ND(0.51)U*	0.59J/ND(0.59)U*	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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The method detection limit (MDL) was used as the reporting limit.

APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-094	PM	Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-096		Q1994-1	ND	ND	ND	ND
		Q1994-2	ND	ND	ND	ND
		Q1994-3	ND	ND	ND	ND
		Q1994-4	ND	ND	ND	ND
		Q1995-1	ND	ND	ND	ND
		Q1995-2	ND	ND	ND	ND
		Q1995-3	ND	ND	ND	ND
		Q1995-4	ND	ND	ND	ND
		Q2019-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
E-097		Q1994-1	2	ND	ND	ND
		Q1994-2	9	ND	ND	ND
		Q1994-3	ND	ND	ND	ND
		Q1994-4	ND	ND	ND	ND
		Q1995-1	5.2	ND	ND	ND
		Q1995-2	2.7	ND	ND	ND
		Q1995-3	4.5	ND	ND	ND
		Q1995-4	1.7	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2019-3	200	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	131	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	316	ND(3.1)	ND(3.1)	ND(10)
		Q2020-3	567	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	--	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-1	1260	ND(3.1)	ND(3.1)	ND(9.3)
		Q2021-2	1250	ND(3.1)	ND(3.1)	ND(9.3)
		Q2021-3	792	ND(3.1)	ND(3.1)	ND(9.3)
		Q2021-4	742	ND(0.5)	ND(0.5)	18.7
		Q2022-1	732	ND(0.5)	ND(0.5)	31.7
		Q2022-2	716	ND(0.5)	ND(0.5)	39.6
		Q2022-3	538	ND(2.5)	ND(2.5)	25.2
		Q2022-4	16.2	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-1	130	ND(2.5)	ND(2.5)	ND(7)
		Q2023-2	9.59	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-3	35.2	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-1	9.31	ND(0.5)	ND(0.5)	ND(1.4)

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-097	PM	Q2024-2	1.06 J	ND(2.5)	ND(2.5)	ND(2.5)
E-098		Q1994-1	ND	ND	ND	ND
		Q1994-2	ND	ND	ND	ND
		Q1994-3	ND	ND	ND	ND
		Q1994-4	ND	ND	ND	ND
		Q1995-1	ND	ND	ND	ND
		Q1995-2	ND	ND	ND	ND
		Q1995-3	ND	ND	ND	ND
		Q1995-4	ND	ND	ND	ND
E-099		Q1994-1	ND	ND	ND	ND
		Q1994-2	ND	ND	ND	ND
		Q1994-3	ND	ND	ND	ND
		Q1994-4	ND	ND	ND	ND
		Q1995-1	ND	ND	ND	ND
		Q1995-2	ND	ND	ND	ND
		Q1995-3	ND	ND	ND	ND
		Q1995-4	ND	ND	ND	ND
E-101A	PRM	Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
E-101B		Q1997-3	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
E-103A		Q1996-1	ND	ND	ND	ND
		Q1996-2	ND	ND	ND	ND
		Q1996-4	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-1	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
E-103B		Q1997-2	ND	ND	ND	ND
		Q1997-3	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-1	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
E-105		Q1996-1	ND	ND	ND	ND
		Q1996-2	ND	ND	ND	ND
		Q1996-4	ND	ND	ND	ND
		Q1997-1	ND	ND	ND	ND
		Q1997-2	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-105	PRM	Q1997-3	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-1	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-1	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2016-2	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-105	PRM	Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-106		Q2000-3	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2009-3	ND	ND	ND	ND
E-109	PM	Q1995-3	1300	ND	220	733
		Q1996-3	1100	ND	200	647
		Q1996-4	1400	1.8	200	694
		Q1997-2	1400	ND	240	760
		Q1997-3	1400	ND	250	820
		Q1997-4	1000	ND	270	910
		Q1998-2	1000	ND	240	830
		Q1998-4	1100	ND	320	1100
		Q1999-2	850	ND	250	890
		Q1999-4	680	ND	120	710
		Q2000-2	2000	ND	190	1402
		Q2000-4	1600	ND	230	910
		Q2001-2	1700	ND	200	780
		Q2001-4	920	ND	170	570
		Q2002-2	1600	ND	260	1300
		Q2002-4	760	ND	26	740
		Q2003-2	1300	ND	280	1400
		Q2003-4	880	ND	280	1200
		Q2004-2	1100	ND	330	1500
		Q2004-4	580	ND	180	960
		Q2005-2	800	ND	310	1200
		Q2005-4	540	ND	110	710
		Q2006-2	870	ND	400	1700
		Q2006-4	380	ND	140	630
		Q2007-2	700	ND	99	920
		Q2007-4	520	ND	40	580
		Q2008-2	724	ND	32	1100
		Q2008-4	690	ND	14	870
		Q2009-2	600	0.4	8	970
		Q2009-4	700	ND	ND	1200

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-109	PM	Q2010-2	510	ND	ND	820
		Q2010-4	400	ND	ND	520
		Q2011-2	600	ND	ND	380
		Q2011-4	1100	ND	ND	170
		Q2012-2	460	ND	ND	ND
		Q2012-4	500	ND	ND	ND
		Q2013-2	400	ND	ND	ND
		Q2013-4	370	ND	ND	ND
		Q2014-2	390	ND	ND	ND
		Q2014-4	310	ND	ND	ND
		Q2015-2	230 J-	ND(0.4)	ND(0.37)	--
		Q2015-4	180	ND(0.2)	ND(0.19)	--
		Q2016-2	223	ND(0.31)	ND(0.31)	ND(1)
		Q2016-4	243	0.67 J	ND(0.31)	--
		Q2017-2	231	ND(0.6)	ND(0.71)	ND(1.4)
		Q2017-4	217	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	115	ND(0.6)	ND(0.71)	ND(1.4)
		Q2018-4	117	ND(0.3)	ND(0.36)	ND(0.72)
		Q2019-2	69.5	1.18	ND(0.31)	ND(1)
		Q2020-2	124	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	139	ND(0.31)	ND(0.31)	ND(1)
		Q2021-2	103	ND(0.31)	ND(0.31)	ND(1)
		Q2021-4	163	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	88.6	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	74.1	ND(0.31)	ND(0.31)	ND(1)
		Q2023-2	60.8	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	18.1	ND(0.31)	ND(0.31)	ND(1)
		Q2024-2	36.3	ND(0.31)	ND(0.31)	ND(1)
E-110		Q1995-3	43	ND	ND	ND
		Q1996-3	62	ND	ND	ND
		Q1996-4	81	ND	ND	ND
		Q1997-2	70	ND	ND	ND
		Q1997-4	32	ND	ND	ND
		Q1998-2	35	ND	ND	ND
		Q1998-4	41	ND	ND	ND
		Q1999-2	22	ND	ND	ND
		Q1999-4	21	ND	ND	ND
		Q2000-2	16	ND	ND	ND
		Q2000-4	9.4	ND	ND	ND
		Q2001-2	4.6	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-4	1.3	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-110	PM	Q2005-4	1.9	ND	ND	ND
		Q2006-2	4.2	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-3	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.12) UJ	ND(0.31) UJ	ND(0.31) UJ	--
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-115		Q1999-1	ND	ND	ND	ND
E-118	PRM	Q2002-1	77	6.8	95	276
		Q2002-4	840	ND	11	8.6
		Q2003-1	820	ND	13	10
		Q2003-2	570	ND	14	7.8
		Q2003-3	770	ND	9.2	5.1
		Q2003-4	590	ND	11	ND
		Q2004-1	800	ND	8.2	4.8
		Q2004-2	640	ND	9.4	ND
		Q2004-3	710	ND	10	5.5
		Q2004-4	300	ND	9	6

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-118	PRM	Q2005-1	270	ND	13	ND
		Q2005-2	240	ND	7.6	ND
		Q2005-3	440	ND	8.6	5.9
		Q2005-4	480	ND	5.4	ND
		Q2006-1	400	ND	5.2	ND
		Q2006-2	88	ND	1.6	ND
		Q2006-3	610	ND	ND	ND
		Q2006-4	110	ND	16	1.1
		Q2007-1	300	ND	ND	ND
		Q2007-2	260	ND	3.2	ND
		Q2007-3	280	ND	3.3	ND
		Q2007-4	370	ND	ND	ND
		Q2008-1	360	ND	ND	ND
		Q2008-2	330	ND	6.7	4.7
		Q2008-3	370	ND	6.8	4.1
		Q2008-4	330	ND	4.5	3.8
		Q2009-1	410	ND	ND	ND
		Q2009-2	400	ND	4	ND
		Q2009-3	360	ND	2	ND
		Q2009-4	300	ND	ND	ND
		Q2010-1	290	ND	ND	ND
		Q2010-2	290	ND	ND	ND
		Q2010-3	300	ND	ND	ND
		Q2010-4	260	ND	ND	ND
		Q2011-1	180	ND	1.6	ND
		Q2011-2	150	ND	ND	ND
		Q2011-3	98	ND	ND	ND
		Q2011-4	56	ND	1.2	ND
		Q2012-1	21	ND	1	ND
		Q2012-2	67	ND	1.4	ND
		Q2012-3	61	ND	ND	ND
		Q2012-4	49	ND	ND	ND
		Q2013-1	45	ND	1	ND
		Q2013-2	53	ND	1.3	ND
		Q2013-3	68	ND	1.3	ND
		Q2013-4	100	ND	ND	ND
		Q2014-1	110	ND	ND	ND
		Q2014-2	77	ND	0.7	ND
		Q2014-3	75	ND	0.64	ND
		Q2014-4	89	ND	ND	ND
		Q2015-1	96	ND	ND	ND
		Q2015-2	87	ND(0.2)	ND(0.19)	--
		Q2015-3	130	ND(0.04)	ND(0.04)	--
		Q2016-1	290	ND(0.2)	ND(0.19)	--
		Q2016-2	376 J-	ND(0.31)	0.5 J	ND(1)
		Q2016-3	414	1.1	ND(0.31)	--
		Q2016-4	486	ND(0.31)	ND(0.31)	--
		Q2017-1	343	ND(1.55)	ND(1.55)	ND(3.1)

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-118	PRM	Q2017-2	478	ND(3.1)	ND(3.1)	ND(10)
		Q2017-3	870 J+	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	563	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	520	ND(0.31)	ND(0.31)	ND(1)
		Q2018-4	395	ND(0.31)	ND(0.31)	ND(1)
		Q2019-2	200	ND(1.55)	ND(1.55)	ND(5)
		Q2019-4	214	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	233	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	349	ND(3.1)	ND(3.1)	ND(10)
		Q2021-2	560	ND(3.1)	ND(3.1)	ND(10)
		Q2021-4	546	ND(1.55)	ND(1.55)	ND(5)
		Q2022-2	602	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	539	ND(1.55)	ND(1.55)	ND(5)
		Q2023-2	284	ND(1.55)	ND(1.55)	ND(5)
		Q2023-4	116	ND(0.31)	ND(0.31)	ND(1)
		Q2024-2	39	ND(0.31)	ND(0.31)	ND(1)
E-121A		Q1996-1	ND	ND	ND	ND
		Q1996-2	ND	ND	ND	ND
		Q1996-4	ND	ND	ND	ND
		Q1997-1	ND	ND	ND	ND
		Q1997-2	ND	ND	ND	ND
		Q1997-3	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-1	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-1	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
E-121B		Q1997-3	ND	ND	ND	ND
E-122	PM	Q1996-1	ND	ND	ND	ND
		Q1996-2	ND	ND	ND	ND
		Q1996-4	ND	ND	ND	ND
		Q1997-1	1.2	ND	ND	ND
		Q1997-2	1.5	ND	ND	ND
		Q1997-3	3	ND	ND	ND
		Q1997-4	4.4	ND	ND	ND
		Q1998-1	2.2	1	ND	ND
		Q1998-2	12	ND	ND	ND
		Q1998-3	22	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-122	PM	Q1998-4	38	ND	ND	ND
		Q1999-1	79	ND	ND	ND
		Q1999-2	95	ND	ND	ND
		Q1999-3	110	ND	ND	ND
		Q1999-4	130	ND	ND	ND
		Q2000-1	160	ND	ND	ND
		Q2000-2	150	ND	ND	ND
		Q2000-3	150	ND	ND	ND
		Q2000-4	120	ND	ND	ND
		Q2001-1	100	ND	ND	ND
		Q2001-2	90	ND	ND	ND
		Q2001-3	92	ND	ND	ND
		Q2001-4	110	ND	ND	ND
		Q2002-1	97	ND	ND	ND
		Q2002-2	130	ND	ND	ND
		Q2002-3	140	ND	ND	ND
		Q2002-4	120	ND	ND	ND
		Q2003-1	90	ND	ND	ND
		Q2003-2	72	ND	ND	ND
		Q2003-3	76	ND	ND	ND
		Q2003-4	44	ND	ND	ND
		Q2004-1	39	ND	ND	ND
		Q2004-2	28	ND	ND	ND
		Q2004-3	28	ND	ND	ND
		Q2004-4	16	ND	ND	ND
		Q2005-1	130	ND	ND	ND
		Q2005-2	320	ND	ND	ND
		Q2005-3	82	ND	ND	ND
		Q2005-4	150	ND	ND	ND
		Q2006-1	ND	ND	ND	ND
		Q2006-2	980	ND	ND	ND
		Q2006-3	ND	ND	ND	ND
		Q2006-4	380	ND	ND	ND
		Q2007-1	ND	ND	ND	ND
		Q2007-2	1800	ND	ND	ND
		Q2007-3	1500	ND	ND	ND
		Q2007-4	1700	ND	ND	ND
		Q2008-1	2100	ND	ND	ND
		Q2008-2	2200	ND	ND	ND
		Q2008-3	1900	ND	ND	ND
		Q2008-4	2100	ND	ND	ND
		Q2009-1	5.4	ND	ND	ND
		Q2009-2	3300	ND	ND	ND
		Q2009-3	1200	ND	ND	ND
		Q2009-4	3100	ND	ND	ND
		Q2010-1	3000	ND	ND	ND
		Q2010-2	3700	ND	ND	ND
		Q2010-3	3200	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-122	PM	Q2010-4	2900	ND	ND	ND
		Q2011-1	1900	ND	ND	ND
		Q2011-2	2200	ND	ND	ND
		Q2011-3	1500	ND	ND	ND
		Q2011-4	1700	ND	ND	ND
		Q2012-1	2400	ND	ND	ND
		Q2012-2	1600	ND	ND	ND
		Q2012-3	800	ND	ND	ND
		Q2012-4	1100	ND	ND	ND
		Q2013-1	300	ND	ND	ND
		Q2013-2	46	ND	ND	ND
		Q2013-3	42	ND	ND	ND
		Q2013-4	29	ND	ND	ND
		Q2014-1	18	ND	ND	ND
		Q2014-2	3.6	ND	ND	ND
		Q2014-3	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-1	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-3	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-3	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.62)
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	0.53	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	0.87	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	4.15	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	0.62	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-123	PRM	Q1994-1	120	2	20	120
E-125	PM	Q1995-3	ND	ND	ND	ND
		Q1996-3	ND	ND	ND	ND
		Q1996-4	ND	ND	ND	ND
		Q1997-2	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-125	PM	Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2013-3	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-126		Q1995-3	ND	ND	ND	ND
		Q1996-3	ND	ND	ND	ND
		Q1996-4	ND	ND	ND	ND
		Q1997-2	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
E-127		Q1995-3	49	ND	ND	ND
		Q1996-3	48	ND	ND	ND
		Q1996-4	47	ND	ND	ND
		Q1997-2	26	ND	ND	ND
		Q1997-4	17	ND	ND	ND
		Q1998-2	18	ND	ND	ND
		Q1998-4	22	ND	ND	ND
		Q1999-2	11	ND	ND	ND
		Q1999-4	11	ND	ND	ND
		Q2000-2	9.9	ND	ND	ND
		Q2000-4	11	ND	ND	ND
		Q2001-2	6	ND	ND	ND

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-127	PM	Q2001-4	4.4	ND	ND	ND
		Q2002-2	2	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-4	1.2	ND	ND	ND
		Q2010-1	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	5.7	ND	ND	ND
		Q2011-3	10	ND	ND	ND
		Q2011-4	15	ND	ND	ND
		Q2012-1	20	ND	ND	ND
		Q2012-2	24	ND	ND	ND
		Q2012-3	50	ND	ND	ND
		Q2012-4	100	ND	ND	ND
		Q2013-1	140	ND	ND	ND
		Q2013-2	220	ND	ND	ND
		Q2013-3	220	ND	ND	ND
		Q2013-4	190	ND	ND	3.2
		Q2014-1	220	ND	ND	4
		Q2014-2	200	ND	ND	ND
		Q2014-3	200	ND	ND	8.4
		Q2014-4	110	ND	ND	5.8
		Q2015-1	96	ND	ND	6.2
		Q2015-2	84	ND(0.08)	ND(0.07)	--
		Q2015-4	28	ND(0.2)	ND(0.19)	--
		Q2016-2	65.9 J-	ND(0.31) UJ	ND(0.31) UJ	--
		Q2016-4	24.8	ND(0.31)	ND(0.31)	--
		Q2017-2	8.22 J	ND(0.31)	ND(0.31)	3.21
		Q2017-4	4.64	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	2.16	1.3	ND(0.31)	ND(1)
		Q2018-4	0.49	ND(0.31)	ND(0.31)	ND(1)
		Q2019-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-127	PM	Q2020-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2021-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2021-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2024-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
E-128	PRM	Q1996-1	ND	ND	ND	ND
		Q1996-2	ND	ND	ND	ND
		Q1996-4	ND	ND	ND	ND
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2022-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
E-129		Q1995-3	ND	ND	ND	ND
		Q1996-3	ND	ND	ND	ND
		Q1996-4	ND	ND	ND	ND
		Q1997-2	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-1	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-1	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
		Q2019-4	29.8	ND(0.31)	ND(0.31)	ND(0.93)
		Q2022-1	161	ND(0.31)	ND(0.31)	ND(1)
E-130		Q1994-1	ND	ND	ND	2
		Q1994-2	ND	ND	ND	ND
		Q1994-3	ND	ND	ND	ND
		Q1994-4	ND	ND	ND	ND
		Q1995-1	ND	ND	ND	ND
		Q1995-2	ND	ND	ND	ND
		Q1995-3	ND	ND	ND	ND
		Q1995-4	ND	ND	ND	ND
		Q1996-1	ND	ND	ND	ND
		Q1996-2	ND	ND	ND	ND
		Q1996-4	ND	ND	ND	ND
		Q1997-1	ND	ND	ND	ND
		Q1997-2	ND	ND	ND	ND
		Q1997-3	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
* - The first result represents the laboratory reported concentration. The second result was evaluated to be undetected at the reported concentration by the data validator. The result was determined to be a false positive.
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-130	PRM	Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-1	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-1	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
E-131	PM	Q1996-1	900	11000	1200	4000
		Q1996-2	1300	12000	1000	3700
		Q1996-4	1300	20000	2300	8500
		Q1997-1	780	19000	2200	8900
		Q1997-2	340	18000	2700	9600
		Q1997-3	1800	20000	2500	8700
E-132	PRM	Q1994-1	ND	ND	ND	ND
		Q1994-2	ND	ND	ND	ND
		Q1994-3	ND	ND	ND	ND
		Q1994-4	ND	ND	ND	ND
		Q1995-1	ND	ND	ND	ND
		Q1995-2	ND	ND	ND	ND
		Q1995-3	ND	ND	ND	ND
		Q1995-4	ND	ND	ND	ND
		Q1996-1	ND	ND	ND	ND
		Q1996-2	ND	ND	ND	ND
		Q1996-3	ND	ND	ND	ND
		Q1996-4	ND	ND	ND	ND
		Q1997-1	ND	ND	ND	ND
		Q1997-2	ND	ND	ND	ND
		Q1997-3	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-1	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-132	PRM	Q2003-4	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2016-2	0.79 JB	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-137A		Q1996-1	ND	ND	ND	ND
		Q1996-2	ND	ND	ND	ND
		Q2003-1	ND	ND	ND	ND
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-1	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-137B	PRM	Q1997-3	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-1	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	6.6
		Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-1	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
		Q2001-3	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-1	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-3	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-1	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-3	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-1	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-3	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-1	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-3	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-1	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	1.1
		Q2006-3	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-1	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-3	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-1	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-3	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-1	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-137B	PRM	Q2009-3	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-1	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-1	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-138		Q2009-3	1.13	ND	ND	ND
E-139		Q2009-3	126	ND	39.6	237
E-141		Q1999-1	82	33.9	224	940
		Q2000-4	170	ND	120	300
		Q2001-1	25	ND	46	160
		Q2001-3	7.8	ND	33	85
		Q2002-1	220	ND	98	288
		Q2002-4	180	1	110	291
		Q2003-1	150	ND	1.1	504
		Q2003-2	160	ND	140	458
		Q2003-3	64	ND	72	245
		Q2003-4	150	ND	140	494
		Q2004-1	72	ND	200	650
		Q2004-2	30	ND	68	231
		Q2004-3	15	ND	69	218
		Q2004-4	63	ND	86	265
		Q2005-1	140	ND	200	650
		Q2005-2	75	ND	56	200
		Q2005-3	87	1.1	96	300
		Q2005-4	140	1.5	160	540
		Q2006-1	110	ND	230	780
		Q2006-2	150	ND	120	670
		Q2006-3	150	ND	250	920
		Q2006-4	120	3.5	270	940
		Q2007-1	140	ND	300	1130
		Q2007-2	98	5.6	340	1240
		Q2007-3	94	ND	300	1190
		Q2007-4	ND	ND	290	1130
		Q2008-1	89	5.2	310	1130
		Q2008-2	56	3.1	180	730
		Q2008-3	120	4.8	370	1320
		Q2008-4	98	5.2	380	1380
		Q2009-1	90	ND	330	1330
		Q2009-2	74	3.2	280	1170
		Q2009-3	69	ND	300	1100
		Q2009-4	60	ND	250	940
		Q2010-1	62	ND	270	1030
		Q2010-2	66	ND	240	860
		Q2010-3	64	ND	240	900
		Q2010-4	75	2.6	290	1000
		Q2011-1	68	ND	230	820

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-141	PRM	Q2011-2	70	ND	210	800
		Q2011-3	79	ND	240	840
		Q2011-4	84	ND	280	1000
		Q2012-1	93	ND	240	850
		Q2012-2	79	ND	190	752
		Q2012-3	63	ND	160	629
		Q2012-4	64	ND	160	577
		Q2013-1	56	ND	150	573
		Q2013-2	44	ND	120	481
		Q2013-3	44	ND	75	291
		Q2013-4	82	ND	290	852
		Q2014-1	67	ND	230	771
		Q2014-2	51	ND	230	749
		Q2014-3	54	ND	230	704
		Q2014-4	58	ND	290	817
		Q2015-1	51	ND	230	700
		Q2015-2	56	ND(0.2)	230	--
		Q2015-3	56	ND(0.4)	240	--
		Q2015-4	48	ND(0.2)	140	--
		Q2016-1	73	ND(0.2)	220	--
		Q2016-2	65.4	ND(0.31)	164	680
		Q2016-3	58.9	ND(0.31)	124	--
		Q2016-4	87.4	3.86	232	--
		Q2017-1	61.2	ND(1.55)	139	543.4
		Q2017-2	56.5	ND(3.1)	124	519
		Q2017-3	86	ND(0.31) UJ	181	619
		Q2017-4	74.2	ND(0.31)	115	453
		Q2018-2	69	ND(0.31)	72.2	429
		Q2018-4	87.6	2.15	57	427
		Q2019-2	70.9	ND(0.31)	31.4	349
		Q2019-4	85.6	ND(0.31)	20.2	398
		Q2020-2	75	3.03	16.2	355
		Q2020-4	56.5	ND(0.31)	10.7	332
		Q2021-2	60.7	3.07	10.6	237
		Q2021-4	79.3	ND(0.5)	8.43	379
		Q2022-2	80.2	ND(0.5)	5.33	387
		Q2022-4	78.7	6.04	4.73	421
		Q2023-2	72.2	5.92	3.88	466
		Q2023-4	48.7	ND(0.62)	ND(0.62)	324
		Q2024-2	46.8	ND(2.5)	ND(2.5)	265
E-142		Q1997-3	ND	ND	1.2	19
		Q2005-3	73	1	220	618
		Q2006-3	68	ND	180	550
		Q2010-2	85	ND	130	324
		Q2010-3	91	ND	130	300
		Q2010-4	82	ND	110	260
		Q2011-1	79	ND	140	343
		Q2011-2	82	ND	170	390

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-142	PRM	Q2011-3	77	ND	170	396
E-143		Q1997-3	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
		Q2006-3	2.6	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-1	ND	ND	ND	ND
		Q2009-3	1.2	ND	ND	ND
		Q2010-1	1.5	ND	ND	ND
		Q2010-2	3.7	ND	ND	11
		Q2010-3	12	ND	ND	42
		Q2010-4	0.6	ND	ND	ND
		Q2011-1	22	ND	2.2	39
		Q2011-2	7	ND	ND	ND
		Q2011-3	3.1	ND	ND	13
		Q2011-4	22	ND	ND	3.7
		Q2012-1	23	ND	0.7	12
		Q2012-2	46	ND	14	120
		Q2012-3	49	ND	32	140
		Q2012-4	31	ND	4.5	49
		Q2013-1	35	ND	11	75
		Q2013-2	18	ND	ND	7.5
		Q2014-1	14	ND	ND	9.9
		Q2014-2	6.2	ND	ND	5.1
E-144		Q2005-3	ND	ND	21	110
		Q2006-3	ND	ND	6.3	34
		Q2007-2	ND	ND	1	7
		Q2007-4	ND	ND	9.17	34.3
		Q2008-1	2.29	ND	8.49	35.5
		Q2008-4	26	ND	25	69
		Q2009-3	138	ND	4.84	48
		Q2010-1	91	ND	5.3	45
		Q2010-2	ND	ND	ND	86
		Q2010-3	19	ND	31	290
		Q2010-4	33	ND	31	300
		Q2011-1	43	ND	12	110
		Q2011-2	98	ND	ND	ND
		Q2011-3	ND	ND	24	200
		Q2014-1	150	ND	6.8	84
		Q2014-2	120	ND	9	120
		Q2014-4	40	ND	40	590
		Q2015-2	56	ND(0.2)	15	--
		Q2015-4	35	ND(0.2)	ND(0.19)	--
		Q2016-2	51.8	ND(0.31)	18.1	--
		Q2018-2	26	ND(0.31)	ND(0.31)	138
		Q2018-4	20.7	ND(0.31)	1.28	168
		Q2019-2	11.3	ND(0.31)	ND(0.31)	72.8

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-144	PRM	Q2019-4	74.9	ND(0.31)	ND(0.31)	236
		Q2020-2	38	ND(0.31)	ND(0.31)	109
		Q2020-4	25.4	ND(0.31)	ND(0.31)	89.2
		Q2021-2	20.9	ND(0.31)	ND(0.31)	32.6
		Q2021-4	26.5	1.32	ND(0.5)	166
		Q2022-2	24.2	1.47	ND(0.5)	219
		Q2022-4	25.2	2.15	1.01	208
		Q2023-2	25.7	1.42	ND(0.5)	203
		Q2023-4	19.8	ND(0.31)	ND(0.31)	140
		Q2024-2	17.9	ND(2.5)	ND(2.5)	111
E-145	PM	Q1995-3	1800	ND	ND	ND
		Q1997-4	1600	ND	ND	4.5
		Q1998-1	1800	ND	ND	ND
		Q1998-2	1500	ND	ND	ND
		Q1998-4	1600	ND	ND	5.5
		Q1999-2	1100	ND	ND	2.1
		Q1999-4	820	ND	ND	ND
		Q2000-2	740	ND	ND	ND
		Q2000-4	540	ND	ND	ND
		Q2001-2	320	ND	ND	1.3
		Q2001-4	130	ND	ND	ND
		Q2002-2	140	ND	ND	ND
		Q2002-4	110	ND	ND	ND
		Q2003-1	140	ND	ND	ND
		Q2003-2	120	ND	ND	ND
		Q2003-3	32	ND	ND	ND
		Q2003-4	99	ND	ND	ND
		Q2004-1	45	ND	ND	ND
		Q2004-2	110	ND	ND	ND
		Q2004-4	92	ND	ND	ND
		Q2005-2	94	ND	ND	ND
		Q2005-4	67	ND	ND	ND
		Q2006-2	71	ND	ND	ND
		Q2006-4	47	ND	ND	ND
		Q2007-2	43	ND	ND	ND
		Q2007-4	27	ND	ND	ND
		Q2008-2	22	ND	ND	ND
		Q2008-4	17	ND	ND	ND
		Q2009-2	15	ND	ND	ND
		Q2009-4	11	ND	ND	ND
		Q2010-2	7.5	ND	ND	ND
		Q2010-4	4.1	ND	ND	ND
		Q2011-2	4.4	ND	ND	ND
		Q2011-4	3	ND	ND	ND
		Q2012-2	2.7	ND	ND	ND
		Q2012-4	2.3	ND	ND	ND
		Q2013-2	1.6	ND	ND	ND
		Q2013-4	2.5	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-145	PM	Q2014-2	2.2	ND	ND	ND
		Q2014-4	2	ND	ND	ND
		Q2015-2	1.4	ND(0.04)	ND(0.04)	--
		Q2015-4	1	ND(0.2)	ND(0.19)	--
		Q2016-2	1.62	ND(0.31)	ND(0.31)	ND(1)
		Q2016-4	1.73	ND(0.31)	ND(0.31)	--
		Q2017-2	0.99	ND(0.31)	ND(0.31)	ND(1)
		Q2017-4	1.1	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	0.78	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	0.79	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	0.54	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-146		Q1995-3	ND	ND	ND	ND
		Q1997-4	4800	27	510	4000
		Q1998-1	3000	ND	330	2850
		Q1998-2	3400	ND	320	3200
		Q1999-1	3660	428	310	3443
		Q1999-4	2800	5.4	190	2300
		Q2000-1	7400	270	890	5200
		Q2000-2	3400	6	170	2700
		Q2000-3	3000	3.7	290	2450
		Q2001-4	3800	50	340	2020
		Q2002-2	4300	38	640	3400
		Q2002-4	2500	7.1	370	2070
		Q2003-2	4400	23	770	3470
		Q2003-4	3400	3.2	470	2540
		Q2004-2	3300	ND	560	2200
		Q2004-4	2200	ND	230	1500
		Q2005-2	2300	ND	360	1720
		Q2005-4	3400	ND	510	2700
		Q2006-2	4700	56	790	3620
		Q2006-4	2600	ND	280	2070
		Q2007-2	3400	ND	710	3300
		Q2007-4	3400	31	860	3740
		Q2008-2	3500	ND	740	3500
		Q2008-4	330	ND	67	356
		Q2009-2	3200	0.7	600	3780
		Q2009-3	2700	ND	540	2730
		Q2009-4	2700	ND	540	2830

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-146	PM	Q2010-2	2800	ND	580	3020
		Q2010-4	2700	ND	540	2900
		Q2011-2	2400	ND	450	2600
		Q2011-4	2100	ND	250	2300
		Q2012-2	2200	ND	400	2400
		Q2012-4	2200	ND	400	2500
		Q2013-2	1600	ND	330	1700
		Q2013-4	2500	ND	440	2800
		Q2014-2	2300	ND	410	2400
		Q2014-4	3400	ND	520	2600
		Q2015-2	3200 J-	ND(4)	570	--
		Q2015-4	1200	ND(0.2)	530	--
		Q2016-2	2920	ND(0.31)	381	2680
		Q2016-4	2650	ND(0.31)	353	--
		Q2017-2	2660	0.49 J	369	2950
		Q2017-4	874	ND(0.31)	65.9	1720
		Q2018-2	1840	ND(6)	181	2770
		Q2018-4	881	ND(7.5)	43.5	1370
		Q2019-2	911	ND(1.55)	66.5	1270
		Q2019-4	1170	ND(0.31)	119	1530
		Q2020-4	757	ND(6.2)	ND(6.2)	584
		Q2021-2	1360	ND(6.2)	70.6	1040
		Q2021-4	1190	ND(3.1)	54.3	727
		Q2022-2	1040	ND(1.55)	32.2	486
		Q2022-4	1090	ND(3.1)	27.5	323
		Q2023-2	1260	ND(1.55)	28.9	325
		Q2023-4	1140	ND(0.31)	30.1	254
		Q2024-2	1240	ND(3.1)	14.9	187
E-147		Q1995-3	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-2	1.6	ND	ND	ND
		Q2001-3	1.7	ND	ND	ND
		Q2001-4	2.2	ND	ND	ND
		Q2002-1	ND	ND	ND	ND
		Q2002-2	2.3	ND	ND	ND
		Q2002-3	2	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-1	3.1	ND	ND	ND
		Q2003-2	2.8	ND	ND	ND
		Q2003-3	ND	ND	ND	ND
		Q2003-4	1.6	ND	ND	ND
		Q2004-1	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-147	PM	Q2004-2	ND	ND	ND	ND
		Q2004-3	2.8	ND	ND	ND
		Q2004-4	4.3	ND	ND	ND
		Q2005-1	1.7	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-3	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-1	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-3	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-1	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-3	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-1	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-3	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-1	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-3	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-1	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-3	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-1	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-3	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-1	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-3	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-1	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-3	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-1	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-3	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-1	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2016-4	0.94	ND(0.31)	ND(0.31)	--

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-147	PM	Q2017-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2018-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2018-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	1.2	ND(0.31)	ND(0.31)	ND(1)
		Q2021-2	2.49	ND(0.31)	ND(0.31)	ND(1)
		Q2021-4	8.15	ND(0.31)	ND(0.31)	ND(1)
		Q2022-1	2.3	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	3.94	ND(0.31)	ND(0.31)	ND(1)
		Q2022-3	13.5	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	10.2	ND(0.31)	ND(0.31)	ND(1)
		Q2023-1	7.67	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	12.5	ND(0.31)	ND(0.31)	ND(1)
		Q2023-3	5.69	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	11.5	ND(0.31)	ND(0.31)	ND(1)
		Q2024-1	8.87	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	10.8	ND(0.31)	ND(0.31)	ND(1)
E-148		Q1995-3	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
		Q2001-3	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-1	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-3	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-1	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-3	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-1	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-3	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-1	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-3	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-1	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-3	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-148	PM	Q2006-4	ND	ND	ND	ND
		Q2013-3	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-1	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-3	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-1	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-149	PRM	Q1997-3	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-1	1.1	ND	ND	ND
		Q1998-2	1.8	ND	ND	ND
		Q1998-3	3	ND	ND	ND
		Q1998-4	12	ND	ND	ND
		Q1999-1	72	ND	ND	ND
		Q1999-2	140	ND	ND	ND
		Q1999-3	280	ND	ND	ND
		Q1999-4	300	ND	ND	ND
		Q2000-1	290	ND	ND	ND
		Q2000-2	360	ND	ND	ND
		Q2000-3	350	ND	ND	ND
		Q2000-4	380	ND	ND	ND
		Q2001-1	280	ND	ND	ND
		Q2001-2	670	ND	ND	ND
		Q2001-3	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-149	PRM	Q2004-2	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-4	2.6	ND	ND	ND
		Q2006-1	ND	ND	ND	ND
		Q2006-2	10	ND	ND	ND
		Q2006-3	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2008-3	300	ND	ND	ND
		Q2008-4	8.1	ND	ND	ND
		Q2009-1	5.3	ND	ND	ND
		Q2009-2	1.6	ND	ND	ND
		Q2009-3	2.1	ND	ND	ND
		Q2010-1	ND	ND	ND	ND
		Q2012-3	ND	ND	ND	ND
E-150		Q1999-1	92	1.71	74	274
		Q2000-1	90	8.15	ND	461
		Q2000-2	27.8	4.86	ND	173
		Q2005-3	57	1.5	78	193
		Q2006-3	35	ND	62	171
		Q2009-3	26.4	ND	32.2	76
		Q2018-2	38.5	22.6	17.1	119
		Q2018-4	35.7	9.42	7.42	135
		Q2019-2	34.4	1.22	4.1	189
		Q2019-4	19.5	13.3	1.77	166
		Q2020-2	29	ND(0.31)	ND(0.31)	141
		Q2020-4	25.6	ND(3.1)	ND(3.1)	91.7
		Q2021-2	39.2	ND(0.31)	ND(0.31)	76.4
		Q2021-4	24.1	ND(0.31)	ND(0.31)	99.3
		Q2022-2	26.2	ND(0.31)	ND(0.31)	128
		Q2022-4	26.6	ND(0.31)	ND(0.31)	108
		Q2023-2	39.2	ND(0.31)	ND(0.31)	120
		Q2023-4	33.8	ND(0.31)	ND(0.31)	68.7
		Q2024-2	30.1 J+	ND(0.31)	ND(0.31)	102 J+
E-151		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-1	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-1	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-151	PRM	Q2001-2	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-3	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	26	ND	ND	ND
		Q2013-2	430	ND	ND	ND
		Q2013-4	2.4	ND	ND	ND
		Q2014-1	ND	ND	ND	ND
		Q2014-2	94	ND	ND	ND
		Q2014-3	63	ND	ND	ND
		Q2014-4	54	ND	ND	ND
		Q2015-1	21	ND	ND	ND
		Q2015-2	2.2	ND(0.04)	ND(0.04)	--
		Q2015-3	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	11	ND(0.04)	ND(0.04)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	33.4	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	24.8	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	41.1	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	0.81	ND(0.5)	ND(0.5)	ND(1.4)

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* - The first result represents the laboratory reported concentration. The second result was evaluated to be undetected at the reported concentration by the data validator. The result was determined to be a false positive.
The method detection limit (MDL) was used as the reporting limit.

APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-151	PRM	Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-152		Q1997-3	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-1	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-1	ND	ND	2.2	ND
		Q2000-2	ND	ND	2.4	1.9
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-1	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-3	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-3	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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The method detection limit (MDL) was used as the reporting limit.

APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-152	PRM	Q2014-4	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2016-2	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	30.3	ND(0.31)	ND(0.31)	ND(1)
		Q2020-1	75.9	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	1.36	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-3	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-153	PM	Q1997-4	11	ND	ND	ND
		Q1998-1	8.8	ND	ND	ND
		Q1998-2	7.9	ND	ND	ND
		Q1998-4	5.1	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-154		Q1997-4	ND	ND	ND	ND

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-154	PM	Q1998-2	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
E-155	PRM	Q1997-3	ND	ND	140	230
		Q1997-4	1.5	1.4	3.3	6.6
		Q1999-4	ND	ND	ND	ND
		Q2000-3	1.3	ND	ND	ND
		Q2001-2	1.1	ND	ND	1
		Q2001-4	3.6	ND	2.4	3.2
		Q2002-1	6.6	ND	ND	5.7
		Q2002-2	7	ND	3.1	4.2
		Q2002-4	4.1	ND	1.7	1.6
		Q2003-2	11	ND	14	9.5
		Q2003-4	13	ND	28	22
		Q2004-2	14	ND	22	18
		Q2004-4	6.1	ND	14	9.8
		Q2005-2	7.5	ND	14	16
		Q2005-4	8.2	ND	31	31
		Q2006-2	1.7	ND	3.5	3.1
		Q2006-4	4.2	ND	11	8.4
		Q2007-2	3.6	ND	16	15
		Q2007-4	1.6	ND	7.1	6.9
		Q2008-2	2.6	ND	12	12
		Q2008-4	1.7	ND	8.2	9.4
		Q2009-2	3.9	ND	9.8	9
		Q2009-3	3.3	ND	8.9	7.8
		Q2009-4	4.1	ND	20	13
		Q2010-1	4.2	ND	23	17
		Q2010-2	4.8	ND	31	27
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2023-3	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-1	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-156		Q1997-3	11	ND	25	36
		Q1999-4	4.2	ND	6.6	4
		Q2000-3	7.6	ND	32	34
		Q2001-2	ND	ND	3.9	3.9
		Q2005-4	1.2	ND	5.1	4.2
		Q2006-2	ND	ND	ND	ND
		Q2019-2	2.57	ND(0.31)	ND(0.31)	13.5
		Q2023-3	4.62	ND(0.5)	ND(0.5)	16
		Q2023-4	5.54	ND(0.5)	ND(0.5)	17.7
		Q2024-1	4.64	ND(0.5)	ND(0.5)	18.9

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-156	PRM	Q2024-2	3.29	ND(2.5)	ND(2.5)	17.3
E-157		Q1997-3	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q2007-1	ND	ND	ND	ND
E-158		Q1997-3	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	1.4
		Q1999-4	ND	ND	ND	ND
		Q2006-1	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
E-159		Q1997-3	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-1	ND	ND	ND	ND
		Q1999-2	1	ND	ND	ND
		Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	1.3
		Q2000-1	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	1.4
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	1.9
		Q2001-1	ND	ND	ND	3.4
		Q2001-2	ND	ND	ND	3.3
E-160		Q1997-3	18	ND	110	280
		Q1997-4	3.5	ND	1.1	3.6
		Q1999-4	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2001-2	1.2	ND	ND	ND
		Q2001-3	1	ND	ND	ND
		Q2002-2	2.9	ND	8	13
		Q2002-4	1.7	ND	5.7	4.4
		Q2003-2	1.5	ND	1.6	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-2	ND	ND	1.4	1.7
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	1.1
		Q2005-4	ND	ND	1.1	1.1
		Q2006-2	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-160	PRM	Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-3	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-1	ND	ND	1.1	ND
		Q2010-2	ND	ND	4	2.4
		Q2010-3	ND	ND	ND	ND
		Q2010-4	ND	ND	5.5	4.1
		Q2011-1	ND	ND	1.9	4.6
		Q2011-2	1	ND	43	60
		Q2011-3	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-1	0.3	ND	ND	0.8
		Q2012-2	ND	ND	ND	ND
		Q2012-3	ND	ND	ND	ND
		Q2012-4	2.4	ND	9.5	14
		Q2013-1	ND	ND	ND	ND
		Q2013-2	3.8	ND	11	13
		Q2013-3	ND	ND	ND	ND
		Q2013-4	4	ND	19	22
		Q2014-1	ND	ND	7.7	12
		Q2014-2	4.8	ND	30	61
		Q2014-3	2.1	ND	9.1	27
		Q2014-4	4.8	ND	21	51
		Q2015-1	2	ND	10	32
		Q2015-2	4.7 J-	ND(0.04)	24	--
		Q2015-3	ND(0.03)	ND(0.04)	4.3	--
		Q2015-4	ND(0.13)	ND(0.2)	6.8	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	5.17	ND(0.31)	31.7	135 J-
		Q2016-3	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	2.13	ND(0.31)	13	--
		Q2017-1	5.46	ND(0.31)	21	140.09
		Q2017-2	2.73	ND(0.31)	20.6	122
		Q2017-3	0.81	ND(0.31)	ND(0.31)	3.48
		Q2017-4	0.78	ND(0.31)	ND(0.31)	3.8
		Q2018-2	2.41	ND(0.31)	8.09	68.6
		Q2018-4	1.28	ND(0.31)	1.39	17.6
		Q2019-2	3.68	ND(0.31)	4.18	98.1
		Q2019-4	2.74	ND(0.31)	1.73	96.4
		Q2020-2	4.06	ND(0.31)	2.5	76.7
		Q2020-4	1.63	ND(0.31)	ND(0.31)	32.7
		Q2021-2	1.76	ND(0.31)	ND(0.31)	15.4
		Q2021-4	2.93	ND(0.31)	ND(0.31)	32.5
		Q2022-2	1.41	ND(0.31)	ND(0.31)	9.52
		Q2022-4	2.67	ND(0.31)	ND(0.31)	15.1
		Q2023-2	8.47	ND(0.31)	ND(0.31)	52.6

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-160	PRM	Q2023-3	6.17	ND(0.5)	ND(0.5)	19.2
		Q2023-4	4	ND(0.31)	ND(0.31)	10.8
		Q2024-1	8.51	ND(0.5)	ND(0.5)	35.1
		Q2024-2	9.77	ND(0.31)	ND(0.31)	31
E-161		Q1997-3	ND	1.1	ND	1.5
		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-1	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-1	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-1	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-3	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-1	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
E-162	PM	Q1997-3	270	ND	17	12
		Q1999-4	1.6	ND	ND	2.1
		Q2000-1	1.3	ND	ND	2
		Q2000-2	1.6	ND	ND	1.4
		Q2000-3	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-162	PM	Q2002-4	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-4	13	ND	ND	ND
		Q2014-2	9.9	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	1530	1.53	4.21	95.7
		Q2018-1	903	ND(0.31)	2.21	79.8
		Q2018-2	440	ND(1.55)	ND(1.55)	115
		Q2018-4	244	ND(0.31)	ND(0.31)	81.7
		Q2019-1	163	ND(0.31)	ND(0.31)	50.6
		Q2019-2	43.7	ND(0.31)	ND(0.31)	5.51
		Q2019-3	35.4	ND(0.31)	ND(0.31)	10.3
		Q2019-4	5.31	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-1	2.29	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-3	6.99	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	2.58	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-1	11.7	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	33.5	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-3	38.2	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	39.9	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-1	54.5	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	75	ND(0.5)	ND(0.5)	ND(1.4)

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-162	PM	Q2022-3	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-1	4.7	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-3	2.45	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	1.94	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-1	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-163	PRM	Q1997-3	ND	ND	ND	ND
		Q1997-4	3.6	ND	ND	5.5
		Q1998-1	ND	ND	ND	2
		Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	1.4
		Q1999-1	ND	ND	ND	4.5
		Q1999-2	1.9	ND	5.7	11
		Q1999-3	6	ND	13	25
		Q1999-4	ND	ND	ND	ND
		Q2000-1	15	ND	62	104
		Q2000-2	16	ND	ND	191
		Q2000-3	7.6	ND	110	197
		Q2000-4	4.7	ND	ND	180
		Q2001-1	3.5	ND	91	130
		Q2001-2	3.6	ND	75	89
		Q2001-3	5.6	ND	52	78
		Q2001-4	4.8	ND	48	66
		Q2002-1	6.4	ND	43	54
		Q2002-2	6.1	ND	33	40
		Q2002-3	6	ND	20	25
		Q2002-4	7.8	ND	22	27
		Q2003-1	5.9	ND	15	22
		Q2003-2	8.8	ND	17	24
		Q2003-3	9.3	ND	14	22
		Q2003-4	6.6	ND	12	20
		Q2004-1	4.9	ND	12	23
		Q2004-2	1.2	ND	18	33
		Q2004-3	1.2	ND	9.7	20
		Q2004-4	1	ND	6.1	12
		Q2005-1	1.4	ND	ND	3
		Q2005-2	ND	ND	4.6	7.8
		Q2005-3	2	ND	5.5	8.8
		Q2005-4	1.3	ND	9.1	16
		Q2006-1	ND	ND	4	8.1
		Q2006-2	1	ND	3.2	6.2
		Q2006-3	2.1	ND	3.7	9.3
		Q2006-4	1.3	ND	1.9	3.6
		Q2007-1	3.8	ND	2.1	4.7
		Q2007-2	8.6	ND	2.3	6.9

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-163	PRM	Q2007-3	9.2	ND	3.1	11
		Q2007-4	11	1.5	7.4	15
		Q2008-1	5.8	ND	2.2	7.7
		Q2008-2	11	ND	1.3	5.4
		Q2008-3	73	ND	1	4.7
		Q2008-4	65	ND	5.3	15
		Q2009-1	120	ND	ND	ND
		Q2009-2	92	ND	ND	ND
		Q2009-3	49	ND	ND	ND
		Q2009-4	9.2	ND	ND	ND
		Q2010-1	3.6	ND	ND	ND
		Q2010-2	5.1	ND	ND	ND
		Q2010-3	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-1	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-3	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-1	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-3	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-1	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-3	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-1	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-3	3.9	ND	ND	ND
		Q2014-4	54	ND	ND	ND
		Q2015-1	150	ND	ND	ND
		Q2015-2	250	ND(0.2)	ND(0.19)	--
		Q2015-3	160	ND(0.04)	ND(0.04)	--
		Q2015-4	150	ND(0.2)	ND(0.19)	--
		Q2016-1	82	ND(0.2)	ND(0.19)	--
		Q2016-2	48.9	ND(0.31)	ND(0.31)	ND(1)
		Q2016-3	2.4	ND(0.31)	ND(0.31)	--
		Q2016-4	0.88	ND(0.31)	ND(0.31)	--
		Q2017-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.62)
		Q2017-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2017-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2018-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-163	PRM	Q2021-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2021-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2024-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
E-164		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-1	ND	ND	ND	ND
E-165		Q1997-3	ND	ND	ND	ND
		Q2000-3	14.9	ND	154	110
		Q2001-3	4.4	ND	120	92
E-167		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	1.1	ND	ND	ND
		Q1998-3	2	ND	ND	ND
		Q1998-4	3.6	ND	ND	ND
		Q1999-1	3.6	ND	ND	ND
		Q1999-2	6.9	ND	ND	ND
		Q1999-3	8.6	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-1	9.3	ND	ND	ND
		Q2000-2	14	ND	ND	ND
		Q2000-3	16	ND	ND	ND
		Q2000-4	19	ND	ND	ND
		Q2001-1	22	ND	ND	ND
		Q2001-2	19	ND	ND	ND
		Q2001-3	15	ND	ND	ND
		Q2001-4	15	ND	ND	ND
		Q2002-2	12	ND	ND	ND
		Q2002-4	9.2	ND	ND	ND
		Q2003-2	5.4	ND	ND	ND
		Q2003-4	5.7	ND	ND	ND
		Q2004-2	3.1	ND	ND	ND
		Q2004-3	3	ND	ND	ND
		Q2004-4	2.9	ND	ND	ND
		Q2005-2	2.4	ND	ND	ND
		Q2005-4	1.5	ND	ND	ND
		Q2006-2	2.6	ND	ND	ND
		Q2006-4	1.4	ND	ND	ND
		Q2008-3	6.3	ND	ND	ND
		Q2008-4	30	ND	ND	ND
		Q2009-1	46	ND	ND	ND
		Q2009-2	30	ND	ND	ND

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-167	PRM	Q2009-3	19	ND	ND	ND
		Q2009-4	14	ND	ND	ND
		Q2010-1	13	ND	ND	ND
		Q2010-2	11	ND	ND	ND
		Q2010-3	8.8	ND	ND	ND
		Q2010-4	7.2	ND	ND	ND
		Q2011-1	6.5	ND	ND	ND
		Q2011-2	4.6	ND	ND	ND
		Q2015-1	40	ND	ND	ND
		Q2015-2	58	ND(0.04)	ND(0.04)	--
		Q2015-3	30	ND(0.04)	ND(0.04)	--
		Q2015-4	43	ND(0.04)	ND(0.04)	--
		Q2016-1	44	ND(0.2)	ND(0.19)	--
		Q2016-2	37.5	ND(0.31)	ND(0.31)	--
		Q2017-2	27.1	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	2.28	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	2.53	ND(0.31)	ND(0.31)	ND(0.93)
E-168		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	1.1	ND	ND	ND
		Q1998-4	1.1	ND	ND	ND
		Q1999-1	2.1	ND	ND	ND
		Q1999-2	1.6	ND	1	ND
		Q1999-3	5.3	ND	24	5.9
		Q1999-4	6.7	ND	ND	ND
		Q2000-1	5.84	ND	9.08	ND
		Q2000-2	ND	ND	47	63
		Q2000-3	ND	ND	41	49
		Q2000-4	ND	ND	26	26
		Q2001-1	ND	ND	16	16
		Q2001-2	ND	ND	14	16
		Q2001-3	ND	ND	15	16
		Q2001-4	ND	ND	10	12
		Q2002-1	ND	ND	ND	ND
		Q2002-2	ND	ND	1.4	2.6
		Q2002-3	ND	ND	3.4	5.3
		Q2002-4	ND	ND	5.1	15
		Q2003-1	2.8	ND	3.2	4.1
		Q2003-2	3.2	ND	2	8.4
		Q2003-3	4.7	ND	7.2	23
		Q2003-4	2.6	1.2	2.6	37
		Q2004-1	5.8	ND	2.4	41
		Q2004-2	ND	ND	ND	4.8
		Q2004-3	ND	ND	ND	ND
		Q2004-4	1.2	ND	ND	14
		Q2005-1	ND	ND	6.3	12
		Q2005-2	3.4	ND	1.1	16

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-168	PRM	Q2005-3	3.6	ND	3.9	8
		Q2005-4	1.6	ND	5.2	27
		Q2006-1	1.5	ND	5.6	45
		Q2006-2	1.1	ND	ND	1
		Q2006-3	4.4	ND	5.4	4.7
		Q2006-4	ND	ND	ND	ND
		Q2007-1	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-3	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-1	ND	ND	ND	ND
		Q2008-2	0.3	ND	ND	ND
		Q2008-3	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-1	0.3	ND	ND	ND
		Q2009-2	1.6	ND	ND	ND
		Q2009-3	1.4	ND	ND	ND
		Q2009-4	1.2	ND	ND	ND
		Q2010-1	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-3	1.6	ND	ND	ND
		Q2010-4	2.3	ND	ND	ND
		Q2011-1	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-3	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-1	1.2	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-3	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-1	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-3	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-1	ND	ND	ND	ND
		Q2014-2	6.8	ND	ND	ND
		Q2014-3	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-1	ND	ND	ND	ND
		Q2015-2	ND(0.03) UJ	ND(0.04)	ND(0.04)	--
		Q2015-3	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	0.46	ND(0.31)	ND(0.31)	ND(1)
		Q2016-3	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	0.65	ND(0.31)	ND(0.31)	--
		Q2017-1	0.91	ND(0.31)	ND(0.31)	ND(0.62)
		Q2017-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-168	PRM	Q2017-3	10.9	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.12)	1.51	ND(0.31)	ND(1)
		Q2018-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	18.7	ND(0.31)	ND(0.31)	ND(1)
		Q2021-2	6.71	ND(0.31)	ND(0.31)	ND(1)
		Q2021-3	15.8	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	15.6	ND(0.31)	ND(0.31)	ND(1)
		Q2022-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-3	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2024-2	2.22	ND(0.31)	ND(0.31)	ND(1)
E-169		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-1	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	1.1
		Q2000-2	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-1	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
		Q2001-3	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
E-170		Q1997-4	2.2	ND	1.8	11
		Q1999-4	ND	ND	ND	ND
		Q2001-3	3.2	ND	1	ND
		Q2005-4	1.5	ND	2.4	2
		Q2006-3	1.1	ND	1.2	ND
E-171		Q1999-4	84	ND	130	450
		Q2000-3	21.6	ND	18.5	43
		Q2001-3	68	2.3	78	250
		Q2002-1	26	ND	150	466
		Q2002-4	4.5	2	180	602
		Q2003-1	8.9	1.7	190	406
		Q2003-2	4.5	ND	240	540

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
* - The first result represents the laboratory reported concentration. The second result was evaluated to be undetected at the reported concentration by the data validator. The result was determined to be a false positive.
The method detection limit (MDL) was used as the reporting limit.

APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-171	PRM	Q2003-3	6.2	2.2	230	528
		Q2004-1	4.2	ND	200	430
		Q2004-2	5.1	4.2	220	515
		Q2004-3	5.8	2.2	160	398
		Q2004-4	5.8	2.1	170	427
		Q2005-1	7.4	ND	130	296
		Q2005-2	9.6	3	120	254
		Q2005-3	13	5.9	92	221
		Q2005-4	12	5.1	150	375
		Q2006-1	15	3.2	160	396
		Q2006-2	12	4.2	170	420
		Q2006-3	20	2	97	252
		Q2006-4	28	5.3	110	280
		Q2007-1	29	ND	150	358
		Q2007-2	48	6.7	120	330
		Q2008-1	8.3	3.3	120	280
		Q2008-2	6.6	4.2	110	270
		Q2008-4	5	1.5	97	220
		Q2009-2	20	5.7	66	194
		Q2009-3	27	4.5	120	314
		Q2009-4	30	4.6	75	210
		Q2010-1	34	1.7	97	268
		Q2010-2	40	ND	100	273
		Q2010-3	39	ND	110	259
		Q2010-4	35	ND	140	370
		Q2011-1	28	ND	120	305
		Q2011-2	29	ND	120	295
		Q2011-3	27	ND	140	337
		Q2011-4	27	ND	140	330
		Q2012-2	22	ND	170	380
		Q2012-3	17	ND	140	335
		Q2012-4	18	ND	190	470
		Q2013-1	11	ND	220	520
		Q2013-2	14	ND	180	478
		Q2013-4	ND	ND	200	600
		Q2014-1	240	ND	7000	23140
		Q2014-2	12	ND	170	500
		Q2014-4	12	ND	140	428.8
		Q2015-1	10	ND	190	650
		Q2015-2	14	ND(0.4)	150	--
		Q2015-3	ND(0.27)	ND(0.4)	150	--
		Q2015-4	10	ND(0.2)	180	--
		Q2016-1	2.2	ND(0.2)	110	--
		Q2016-2	5.22	ND(0.31)	165	656
		Q2016-3	4.49	ND(0.31)	214	--
		Q2016-4	5.24	ND(0.31)	217	--
		Q2017-1	3.85	ND(1.55)	177	551
		Q2017-2	12.1	ND(3.1)	161	527

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-171	PRM	Q2017-3	8.19	ND(0.31)	205	594 J-
		Q2017-4	10.8	ND(0.31)	166	470
		Q2018-2	6.21	1.27	125	366
		Q2018-4	6.55	ND(0.31)	123	388
		Q2019-2	3.34	ND(0.31)	92.4	312
		Q2019-4	4.63	ND(0.31)	94.7	294
		Q2020-4	7.92	ND(1.55)	65	235
		Q2021-2	9.89	ND(0.31)	64.1	222
		Q2021-4	10.3	ND(0.31)	47	160
		Q2022-2	15	ND(0.31)	35	136
		Q2022-4	14	ND(0.31)	27.3	101
		Q2023-2	24.3	ND(0.31)	32.1	148
		Q2023-4	16.4	ND(0.31)	14.1	70.6
		Q2024-1	20.3 J+	ND(0.5)	12.8 J+	71 J+
		Q2024-2	13 J+	ND(0.31)	7.05 J+	46.8 J+
E-172		Q1997-4	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND
		Q1999-1	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2009-1	ND	ND	ND	ND
		Q2009-3	ND	ND	ND	ND
		Q2012-3	3.9	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
E-177B	PM	Q2000-2	47000	76000	4400	21300
		Q2002-2	4200	25000	4200	21000
		Q2002-4	3200	8400	2700	12900
		Q2003-2	10000	29000	2900	17200
		Q2003-4	14000	36000	4300	23400
		Q2004-2	6200	30000	4300	22900
		Q2004-4	7900	23000	3800	20900
		Q2005-2	6500	20000	4300	23400
		Q2005-4	12000	26000	4500	26800
		Q2006-2	9100	33000	5000	33600
		Q2006-4	3000	23000	3600	21400
		Q2009-3	3500	9600	3100	17700
		Q2010-4	1800	5800	2500	16900
		Q2011-2	2000	3400	2400	14500
		Q2011-4	2000	5700	2200	13200
		Q2012-2	1400	3400	1700	10100
		Q2012-4	1600	5300	1800	10600
		Q2013-2	2500	12000	2200	15300
		Q2013-4	1400	7500	1700	11600
		Q2014-2	810	1700	1700	11100
		Q2014-4	1400	4500	1800	10800
		Q2015-2	1900	6200	2000	--
		Q2015-4	270	1300	660	--
		Q2016-2	1830	7970	1320	9060
		Q2016-4	900	4010	1060	--

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-177B	PM	Q2017-2	534 J	2190	950	5890
		Q2017-4	262	1160	876	4480
		Q2018-2	202	861	703	4080
		Q2018-4	92.6	394	669	3920
		Q2019-2	167	693	573	3120
		Q2019-4	1140	5360	1390	8020
		Q2020-2	1460	5530	1190	6990
		Q2020-4	521	2520	636	3920
		Q2021-2	253	1910	775	4610
		Q2021-4	69.9	386	633	3500
		Q2022-2	41.1	123	574	3270
		Q2022-4	333	1910	689	3940
		Q2023-2	830	7520	1500	8700
		Q2023-4	266	3310	1420	7110
		Q2024-2	110	941	889	4330
E-178		Q1998-4	2000	11	41	1100
		Q2000-2	2600	ND	29	950
		Q2009-3	260	ND	ND	220
E-179		Q1998-4	1700	300	75	240
		Q2000-2	6600	ND	13	ND
		Q2001-4	6300	3	23	24
		Q2002-2	10000	3.2	62	28
		Q2002-4	4400	1.3	58	26
		Q2003-2	6700	1.5	100	77
		Q2003-4	5000	1	120	100
		Q2004-2	5100	1.1	130	120
		Q2004-4	3300	ND	130	120
		Q2005-2	2400	ND	150	170
		Q2005-4	2400	ND	320	470
		Q2006-2	1700	ND	280	470
		Q2006-4	1500	ND	200	360
		Q2007-2	2400	ND	360	720
		Q2007-4	2500	ND	320	580
		Q2008-2	2900	ND	310	550
		Q2008-4	4600	ND	300	1140
		Q2009-2	5000	ND	390	760
		Q2009-3	5000	ND	280	660
		Q2009-4	3000	ND	140	320
		Q2010-2	4100	ND	270	510
		Q2010-4	4500	ND	240	460
		Q2011-2	5300	ND	270	580
		Q2011-4	4200	ND	220	440
		Q2012-2	4100	ND	220	440
		Q2012-4	3800	ND	190	390
		Q2013-2	4400	ND	120	290
		Q2013-4	2900	ND	130	300
		Q2014-2	7700	ND	230	900
		Q2014-4	3300	ND	ND	450

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-179	PM	Q2015-2	3100	ND(4)	110	--
		Q2015-4	2900	1.2	120	--
		Q2016-2	2220	ND(0.31)	74.7	--
		Q2016-4	2350	ND(0.31)	43.8	--
		Q2017-2	1460 J+	ND(0.31)	34.6 J+	450 J+
		Q2017-4	1590	1.27	44.8	460
		Q2018-2	1170	ND(6.2)	54.4	375
		Q2018-4	772	ND(0.31)	18.5	332
		Q2019-1	966	ND(3.1)	ND(3.1)	265
		Q2019-2	752	ND(0.31)	5.59	220
		Q2019-4	957	ND(0.31)	2.5	262
		Q2020-2	797	ND(3.1)	ND(3.1)	185
		Q2020-4	590	ND(0.31)	ND(0.31)	193
		Q2021-2	300	ND(0.31)	ND(0.31)	51.2
		Q2021-4	176	ND(0.5)	ND(0.5)	4.07
		Q2022-2	112	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	123	ND(0.5)	ND(0.5)	6.1
		Q2023-2	63.7	ND(0.5)	ND(0.5)	11
		Q2023-3	104	ND(0.5)	ND(0.5)	7.91
		Q2023-4	89.6	ND(0.5)	ND(0.5)	8.57
		Q2024-1	82.1	ND(0.5)	ND(0.5)	6.77
		Q2024-2	88.3	ND(2.5)	ND(2.5)	10.2
E-180		Q1998-4	2100	ND	270	490
		Q2000-2	1200	ND	140	200
		Q2009-3	4.1	ND	ND	ND
E-181		Q1998-4	5000	300	420	1000
		Q1999-4	7300	210	620	1610
		Q2000-1	6000	1200	1100	3700
		Q2000-2	2200	660	560	1590
		Q2000-3	3500	1300	1000	3130
		Q2009-3	1700	1300	680	2300
		Q2019-1	1720	30.9	698	2030
E-182		Q1998-4	4500	750	200	560
		Q1999-1	15900	12400	4470	14600
		Q1999-4	5100	3000	2000	6000
		Q2000-1	13000	7000	2500	8100
		Q2000-2	4400	1700	900	4970
		Q2000-3	7800	4300	2200	6800
		Q2009-3	3400	6.4	1400	4200
E-183		Q1998-4	3000	ND	32	650
		Q2000-2	2900	ND	ND	530
E-185	PRM	Q1999-1	ND	1	2.74	6.7
		Q1999-4	ND	ND	ND	9.5
		Q2000-1	ND	8.21	ND	73
		Q2000-2	ND	ND	11.8	11
		Q2006-3	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-185	PRM	Q2009-3	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2012-3	12	ND	ND	ND
		Q2012-4	11	ND	ND	ND
		Q2013-1	12	ND	ND	ND
E-186		Q1999-1	70	15.1	296	104
		Q1999-4	8.4	ND	ND	990
		Q2000-1	ND	8.4	ND	612
		Q2000-2	ND	7.1	2.4	288
		Q2003-2	ND	ND	1.1	ND
		Q2006-3	ND	ND	6.2	5.3
		Q2008-1	ND	ND	ND	ND
		Q2008-4	ND	ND	2.6	2.1
		Q2009-3	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-1	ND	ND	ND	ND
		Q2011-3	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-3	ND	ND	ND	ND
		Q2013-1	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-3	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
E-187A		Q1999-4	62	ND	ND	601
		Q2000-1	13	3.63	ND	683
		Q2000-2	7.37	ND	ND	367
		Q2006-3	ND	ND	ND	1.7
		Q2007-2	2.8	ND	1.5	2.9
		Q2007-4	ND	ND	ND	ND
		Q2008-1	ND	ND	1.1	2.41
		Q2008-4	ND	ND	ND	ND
		Q2009-3	0.94	ND	ND	6.27
		Q2010-4	2.1	ND	ND	ND
		Q2011-1	20.7	ND	ND	ND
		Q2011-2	16.9	ND	ND	ND
		Q2011-3	23.8	ND	ND	3.36
		Q2012-1	3.4	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-3	2.1	ND	ND	ND
		Q2012-4	1.4	ND	ND	ND
		Q2013-1	1.6	ND	ND	ND
		Q2013-2	16	ND	ND	ND
		Q2013-3	11	ND	ND	ND
		Q2013-4	3.9	ND	ND	ND
		Q2014-1	2.8	ND	ND	ND
		Q2014-2	3.9	ND	ND	ND
E-187B		Q1999-1	9.89	ND	ND	ND
		Q1999-2	57	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-187B	PRM	Q1999-4	8	ND	ND	ND
		Q2000-4	110	ND	ND	ND
		Q2001-1	100	ND	ND	ND
		Q2001-2	90	ND	ND	ND
		Q2001-3	80	ND	ND	ND
		Q2001-4	56	ND	ND	ND
		Q2002-2	30	ND	ND	ND
		Q2002-3	26	ND	ND	ND
		Q2002-4	20	ND	ND	ND
		Q2003-1	15	ND	ND	ND
		Q2003-2	13	ND	ND	ND
		Q2003-3	9.4	ND	ND	ND
		Q2003-4	8.7	ND	ND	ND
		Q2004-1	8.6	ND	ND	ND
		Q2004-2	7.9	ND	ND	ND
		Q2004-3	6.4	ND	ND	ND
		Q2004-4	5.7	ND	ND	ND
		Q2005-1	5.2	ND	ND	ND
		Q2005-2	4.2	ND	ND	ND
		Q2005-3	6.2	ND	ND	ND
		Q2005-4	5.8	ND	ND	ND
		Q2006-1	5.8	ND	ND	ND
		Q2006-2	5.4	ND	ND	ND
		Q2006-3	4.9	ND	ND	ND
		Q2006-4	3.4	ND	ND	ND
		Q2007-1	9.1	ND	ND	ND
		Q2007-2	1.1	ND	ND	ND
		Q2007-3	3.3	ND	ND	ND
		Q2007-4	3.9	ND	ND	ND
		Q2008-1	5.3	ND	ND	ND
		Q2008-2	64	ND	9.4	12
		Q2008-3	99	ND	ND	ND
		Q2008-4	72	ND	ND	ND
		Q2009-1	100	ND	ND	ND
		Q2009-2	68	ND	ND	ND
		Q2009-3	44	ND	ND	ND
		Q2009-4	20	ND	ND	ND
		Q2010-1	20	ND	ND	ND
		Q2010-2	12	ND	ND	ND
		Q2010-3	12	ND	ND	ND
		Q2010-4	12	ND	ND	ND
		Q2011-1	7.1	ND	ND	ND
		Q2011-2	3.4	ND	ND	ND
		Q2011-3	9.8	ND	ND	ND
		Q2011-4	1.2	ND	ND	ND
		Q2012-1	1	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-3	ND	ND	ND	ND

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-187B	PRM	Q2012-4	ND	ND	ND	ND
		Q2013-1	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-3	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-1	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-3	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-1	1.4	ND	ND	ND
		Q2015-2	6	ND(0.04)	ND(0.04)	--
		Q2015-3	2.2	ND(0.04)	ND(0.04)	--
		Q2015-4	1.1	ND(0.04)	ND(0.04)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	0.96	ND(0.31)	ND(0.31)	--
		Q2016-3	3.67	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.62)
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	3.59	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	0.98	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	6.48	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-3	7.46	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	1.07	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-1	6.01	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-189		Q1999-1	2.64	1.02	19.5	15
		Q1999-4	8.5	ND	ND	89
		Q2000-1	5.4	8.3	ND	693
		Q2000-2	ND	4.24	ND	369
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-1	ND	ND	ND	ND
		Q2009-3	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-1	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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The method detection limit (MDL) was used as the reporting limit.

APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-189	PRM	Q2022-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
E-190A		Q2000-1	ND	2.9	ND	35
		Q2000-2	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2006-3	ND	ND	ND	ND
		Q2007-2	11	ND	26	48
		Q2009-3	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2012-3	ND	ND	ND	ND
		Q2012-4	1.1	ND	ND	ND
		Q2013-1	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-3	ND	ND	ND	ND
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	0.52	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2022-3	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-3	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
E-190B		Q1999-1	1.36	ND	3.72	12
		Q1999-2	2.17	ND	2.4	8.4
		Q1999-4	9.6	ND	ND	95
		Q2000-2	10.2	2.1	ND	190
		Q2000-4	4.1	ND	130	170
		Q2004-2	ND	ND	20	34
		Q2006-2	8.1	ND	2.9	4.8
		Q2006-3	1.6	ND	6	12
		Q2007-2	9.7	ND	24	45
		Q2007-4	18.8	ND	7	48.6
		Q2008-1	27.8	ND	14.4	13.8
		Q2008-2	37.2	0.593	13	13
		Q2008-3	450	ND	2.8	5.2
		Q2008-4	320	ND	3	4.9
		Q2009-1	40	ND	4.2	ND
		Q2009-2	2.8	ND	2.8	3.1
		Q2009-3	1.5	ND	2.6	4
		Q2010-1	ND	ND	2	3.4
		Q2012-3	ND	ND	ND	ND
		Q2015-1	66	ND	ND	ND
		Q2015-3	44	ND(0.04)	ND(0.04)	--
		Q2015-4	59	ND(0.2)	ND(0.19)	--
		Q2016-1	23	ND(0.2)	ND(0.19)	--
		Q2016-2	28.4	ND(0.31)	ND(0.31)	--
		Q2017-2	2.46	ND(0.31)	ND(0.31)	ND(0.93)
E-191	PM	Q1999-1	ND	ND	ND	1.26
		Q2000-2	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2015-1	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-191	PM	Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
E-192	PRM	Q1999-1	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-1	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-3	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-1	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
E-193		Q1999-1	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-1	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
		Q2001-3	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-1	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-3	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-1	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-193	PRM	Q2003-2	ND	ND	ND	ND
		Q2003-3	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-1	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-3	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-1	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-3	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-1	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-3	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-1	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-3	ND	ND	ND	ND
		Q2007-4	ND	1.4	ND	ND
		Q2008-1	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-3	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-1	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-3	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-1	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
E-194		Q1999-2	ND	ND	ND	ND
		Q2001-1	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-4	ND	1.5	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-3	ND	ND	ND	ND
		Q2010-1	ND	ND	ND	ND
E-195		Q1999-2	ND	ND	ND	ND
		Q1999-3	25	ND	ND	ND
		Q2000-3	320	ND	ND	ND

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-195	PRM	Q2000-4	440	ND	ND	ND
		Q2001-1	260	ND	ND	ND
		Q2001-2	39	ND	ND	ND
		Q2001-3	ND	ND	ND	ND
		Q2006-1	1.9	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-3	ND	ND	ND	ND
		Q2008-3	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2015-1	ND	ND	ND	ND
		Q2015-3	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.15)	ND(0.31)	ND(0.31)	--
E-196		Q1999-2	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-1	2.1	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
		Q2001-3	ND	ND	ND	ND
		Q2001-4	1.2	ND	ND	ND
		Q2002-1	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-3	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-1	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-3	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-1	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-3	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-1	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-3	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-1	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-3	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-1	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-3	ND	ND	ND	ND

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-196	PRM	Q2007-4	ND	1.5	ND	ND
		Q2008-1	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-3	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-1	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-3	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-1	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-3	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-1	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-3	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-1	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-3	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-1	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-3	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-1	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-3	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-1	ND	ND	ND	ND
		Q2015-2	ND(0.03) UJ	ND(0.04)	ND(0.04)	--
		Q2015-3	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
E-196R		Q2016-2	ND(0.12) UJ	ND(0.31) UJ	ND(0.31) UJ	ND(1) UJ
		Q2016-3	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.62)
		Q2017-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2017-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	1.42	ND(0.31)	ND(0.31)	ND(1)
		Q2018-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-2	0.87	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2021-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-196R	PRM	Q2021-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2024-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
E-197	PM	Q1999-2	3610	ND	ND	ND
		Q1999-3	2060	ND	ND	ND
		Q2000-1	860	ND	ND	ND
		Q2000-4	1800	ND	ND	ND
		Q2001-4	500	ND	ND	ND
		Q2002-2	3400	ND	ND	ND
		Q2002-4	3200	ND	ND	ND
		Q2003-2	3200	ND	ND	ND
		Q2003-4	3600	ND	ND	ND
		Q2004-2	3900	ND	ND	ND
		Q2004-4	3100	ND	ND	ND
		Q2005-2	2700	ND	ND	ND
		Q2005-4	2200	ND	ND	ND
		Q2006-2	110	ND	ND	ND
		Q2006-4	2400	ND	ND	ND
		Q2007-2	2600	ND	ND	ND
		Q2007-4	3200	ND	ND	ND
		Q2008-2	2300	ND	ND	ND
		Q2008-4	2000	ND	ND	ND
		Q2009-2	2200	ND	ND	ND
		Q2009-4	2000	ND	ND	ND
		Q2010-2	45	ND	ND	ND
		Q2010-4	2000	ND	ND	ND
		Q2011-2	350	ND	ND	ND
		Q2011-4	1900	ND	ND	ND
		Q2012-2	1700	ND	ND	ND
		Q2012-4	1700	ND	ND	ND
		Q2013-2	1400	ND	ND	ND
		Q2013-4	1400	ND	ND	ND
		Q2014-2	1200	ND	ND	ND
		Q2014-4	1700	ND	ND	ND
		Q2015-2	1800 J-	ND(2) UJ	ND(1.9) UJ	--
		Q2015-4	1400	ND(2)	ND(1.9)	--
		Q2016-2	1690	ND(0.31)	ND(0.31)	--
		Q2016-4	1540	ND(0.31)	ND(0.31)	--
		Q2017-2	1050 J+	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	22.5	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-3	97.1	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	386	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	624	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	218	ND(0.31)	ND(0.31)	ND(0.93)

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-197	PM	Q2020-2	1350	ND(3.1)	ND(3.1)	ND(9.3)
		Q2020-4	938	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	131	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	1020	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	1.22	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	376	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	587	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	15.4	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	22.8	ND(2.5)	ND(2.5)	ND(2.5)
E-198		Q1999-2	ND	ND	ND	ND
		Q1999-3	155	ND	ND	ND
		Q1999-4	4.8	ND	ND	ND
		Q2000-1	35	ND	ND	ND
		Q2000-2	5.2	ND	ND	ND
		Q2000-3	12	ND	ND	ND
		Q2001-4	43	ND	ND	ND
		Q2002-2	9.9	ND	ND	ND
		Q2002-4	13	ND	ND	ND
		Q2003-2	110	ND	ND	ND
		Q2003-4	26	ND	ND	ND
		Q2004-2	14	ND	ND	ND
		Q2004-4	10	ND	ND	ND
		Q2005-2	3.6	ND	ND	ND
		Q2005-4	1.6	ND	ND	ND
		Q2006-2	44	ND	ND	ND
		Q2006-4	180	ND	ND	ND
		Q2007-2	85	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	160	ND	ND	ND
		Q2008-4	130	ND	ND	ND
		Q2009-2	270	ND	ND	0.6
		Q2009-3	230	ND	ND	ND
		Q2009-4	62	ND	ND	ND
		Q2010-1	200	ND	ND	ND
		Q2010-2	230	ND	ND	ND
		Q2010-3	110	ND	ND	ND
		Q2010-4	140	ND	ND	ND
		Q2011-1	140	ND	ND	ND
		Q2011-2	55	ND	ND	ND
		Q2011-3	21	ND	ND	ND
		Q2011-4	21	ND	ND	ND
		Q2012-1	83	ND	ND	1
		Q2012-2	75	ND	ND	ND
		Q2012-3	96	ND	ND	ND
		Q2012-4	35	ND	ND	ND
		Q2013-1	65	ND	ND	ND
		Q2013-2	20	ND	ND	ND
		Q2013-3	17	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-198	PM	Q2013-4	28	ND	ND	ND
		Q2014-1	29	ND	ND	ND
		Q2014-2	230	ND	ND	ND
		Q2014-3	21	ND	ND	ND
		Q2014-4	87	ND	ND	ND
		Q2015-1	83	ND	ND	1.1
		Q2015-2	91	ND(0.08)	ND(0.07)	--
		Q2015-4	55	ND(0.2)	ND(0.19)	--
		Q2016-2	81.2	ND(0.31)	ND(0.31)	--
		Q2016-4	9.99	ND(0.31)	ND(0.31)	--
		Q2017-2	37.9	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	15.9	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	15.4	ND(0.31)	ND(0.31)	ND(1)
		Q2018-4	14.9	ND(0.31)	ND(0.31)	ND(1)
		Q2019-2	6.2	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	4.01	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	3.99	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	2.39	ND(0.31)	ND(0.31)	ND(1)
		Q2021-2	1.26	ND(0.31)	ND(0.31)	ND(1)
		Q2021-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2024-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
E-199		Q1999-3	131	ND	ND	ND
		Q1999-4	140	ND	ND	ND
		Q2001-3	31	ND	ND	ND
		Q2001-4	36	ND	ND	ND
		Q2002-2	42	ND	ND	ND
		Q2002-4	69	ND	ND	ND
		Q2003-2	98	ND	ND	ND
		Q2003-4	100	ND	ND	ND
		Q2004-2	140	ND	ND	ND
		Q2004-4	170	ND	ND	ND
		Q2005-1	140	ND	ND	ND
		Q2005-2	170	ND	ND	ND
		Q2005-4	170	ND	ND	ND
		Q2006-2	120	ND	ND	ND
		Q2006-3	140	ND	ND	ND
		Q2006-4	130	ND	ND	ND
		Q2007-1	110	ND	ND	ND
		Q2007-2	100	ND	ND	ND
		Q2007-3	73	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-1	44	ND	ND	ND
		Q2008-2	40	ND	ND	ND
		Q2008-3	41	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
* - The first result represents the laboratory reported concentration. The second result was evaluated to be undetected at the reported concentration by the data validator. The result was determined to be a false positive.
The method detection limit (MDL) was used as the reporting limit.

APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-199	PM	Q2008-4	35	ND	ND	ND
		Q2009-1	28	ND	ND	ND
		Q2009-2	24	ND	ND	ND
		Q2009-3	27	ND	ND	ND
		Q2009-4	14	ND	ND	ND
		Q2010-2	13	ND	ND	ND
		Q2010-4	5.3	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-2	1.2	ND	ND	ND
		Q2013-3	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-2	1.4	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	1.75	ND(0.31)	ND(0.31)	ND(1)
		Q2016-4	0.97	ND(0.31)	ND(0.31)	--
		Q2017-2	2.74	ND(0.31)	ND(0.31)	ND(1)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-200		Q1999-3	21.4	ND	ND	ND
		Q1999-4	15	ND	ND	ND
		Q2005-1	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-200	PM	Q2013-2	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
E-201		Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
E-202A	PRM	Q1999-3	1300	ND	ND	ND
		Q1999-4	1500	ND	ND	ND
		Q2000-2	1700	ND	ND	ND
		Q2000-3	1120	ND	ND	ND
		Q2000-4	3060	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-202A	PRM	Q2001-1	3000	ND	ND	ND
		Q2002-4	1200	ND	ND	ND
		Q2004-2	560	ND	5.4	13
		Q2006-1	4.7	ND	2.2	18
		Q2006-2	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	2.3	ND	2.4	14
		Q2009-2	2.3	ND	0.6	9.4
		Q2015-1	ND	ND	ND	ND
		Q2015-2	ND(0.03) UJ	ND(0.04)	ND(0.04)	--
		Q2015-3	4.6	ND(0.04)	ND(0.04)	--
		Q2015-4	2.4	ND(0.04)	ND(0.04)	--
		Q2016-1	4.8	ND(0.2)	ND(0.19)	--
		Q2016-2	3.39	ND(0.31)	ND(0.31)	--
E-202B		Q1999-3	512	ND	ND	ND
		Q1999-4	780	ND	ND	ND
		Q2000-2	1300	ND	ND	ND
		Q2000-4	990	ND	ND	ND
E-203		Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-203	PRM	Q2014-2	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2016-2	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-204	PM	Q1999-3	8.96	39.4	ND	226
E-205	PRM	Q1999-3	8.5	ND	ND	ND
		Q1999-4	230	ND	ND	ND
		Q2000-4	550	ND	ND	ND
		Q2001-1	480	ND	ND	ND
		Q2002-4	28	ND	ND	ND
		Q2003-1	29	ND	ND	ND
		Q2003-2	28	ND	ND	ND
		Q2003-3	25	ND	ND	ND
		Q2003-4	23	ND	ND	ND
		Q2004-1	21	ND	ND	ND
		Q2004-2	15	ND	ND	ND
		Q2005-3	74	ND	ND	ND
		Q2005-4	21	ND	ND	ND
		Q2006-1	310	ND	ND	ND
		Q2006-2	110	ND	ND	ND
		Q2006-3	67	ND	ND	ND
		Q2006-4	31	ND	ND	ND
		Q2007-3	2000	ND	ND	ND
		Q2007-4	2000	40	ND	ND
		Q2008-2	1900	ND	ND	ND
		Q2008-3	1400	ND	ND	ND
		Q2008-4	920	ND	ND	ND
		Q2009-1	420	ND	ND	ND
		Q2009-2	360	ND	ND	ND
		Q2009-3	1100	ND	ND	ND
		Q2009-4	840	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-205	PRM	Q2010-1	470	ND	ND	ND
		Q2010-2	340	ND	ND	ND
		Q2010-3	220	ND	ND	ND
		Q2010-4	200	ND	ND	ND
		Q2011-1	130	ND	ND	ND
		Q2011-2	150	ND	ND	ND
		Q2011-3	290	ND	ND	ND
		Q2012-3	2500	ND	ND	ND
		Q2012-4	3400	ND	ND	ND
		Q2013-2	1900	ND	ND	ND
		Q2013-3	2200	ND	ND	ND
		Q2013-4	1900	ND	ND	ND
		Q2014-2	1600	ND	ND	ND
		Q2015-2	1800 J-	ND(2)	ND(1.9)	--
		Q2015-3	1600	ND(0.04)	ND(0.04)	--
		Q2015-4	2500	2.6 J-	ND(0.37)	--
		Q2016-1	2300 J-	ND(0.2)	ND(0.19)	--
		Q2016-2	2600	ND(0.31)	ND(0.31)	--
		Q2017-2	51.8	ND(0.31)	ND(0.31)	ND(0.93)
E-206	PM	Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-2	2.1	ND	ND	4.3
		Q2013-4	2.3	ND	ND	7
		Q2014-2	3.5	ND	ND	9.4

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-206	PM	Q2014-4	6.5	ND	ND	13
		Q2015-1	5.1	ND	ND	12
		Q2015-2	3.8	ND(0.04)	ND(0.04)	--
		Q2015-4	2.8	ND(0.2)	ND(0.19)	--
		Q2016-1	4.8	ND(0.2)	ND(0.19)	--
		Q2016-2	3.7	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-207	PRM	Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-4	19	ND	ND	ND
		Q2003-1	74	ND	ND	ND
		Q2003-2	120	ND	ND	ND
		Q2003-3	200	ND	ND	ND
		Q2003-4	150	ND	ND	ND
		Q2004-1	230	ND	ND	ND
		Q2004-2	200	ND	ND	ND
		Q2004-3	270	ND	ND	ND
		Q2004-4	270	ND	ND	ND
		Q2005-1	490	ND	ND	ND
		Q2005-2	450	ND	ND	ND
		Q2005-3	480	ND	ND	ND
		Q2005-4	490	ND	ND	ND
		Q2006-1	890	ND	ND	ND
		Q2006-2	1100	ND	ND	ND
		Q2006-3	1500	ND	ND	ND
		Q2006-4	1500	ND	ND	ND
		Q2007-1	2000	ND	ND	ND
		Q2007-2	200	ND	ND	ND
		Q2007-3	1700	ND	ND	ND
		Q2007-4	2000	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-207	PRM	Q2008-1	1700	ND	ND	ND
		Q2008-2	1800	ND	ND	ND
		Q2008-3	1700	ND	ND	ND
		Q2008-4	1200	ND	ND	ND
		Q2009-1	1900	ND	ND	ND
		Q2009-2	2000	ND	ND	ND
		Q2009-4	1400	ND	ND	ND
		Q2010-1	1400	ND	ND	ND
		Q2010-2	1500	ND	ND	ND
		Q2010-4	1400	ND	ND	ND
		Q2011-1	1200	ND	ND	ND
		Q2011-2	1100	ND	ND	ND
		Q2011-4	1100	ND	ND	ND
		Q2012-2	1000	ND	ND	ND
		Q2012-4	920	ND	ND	ND
		Q2013-2	770	ND	ND	ND
		Q2013-4	880	ND	ND	ND
		Q2014-2	920	ND	ND	ND
		Q2014-4	1100	ND	ND	ND
		Q2015-2	870	ND(0.8)	ND(0.74)	--
		Q2015-4	860	ND(1)	ND(0.93)	--
		Q2016-2	924	ND(0.31)	ND(0.31)	--
		Q2016-4	912	ND(0.31)	ND(0.31)	--
		Q2017-2	695 J+	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	714	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	552	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	581	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	360	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	694	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	618	ND(3.1)	ND(3.1)	ND(9.3)
		Q2020-4	428	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	290	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	349	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	256	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	391	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	197	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	169	ND(1.55)	ND(1.55)	ND(5)
		Q2024-2	48	ND(2.5)	ND(2.5)	ND(2.5)
E-208	PM	Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	1
		Q2002-2	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-208	PM	Q2004-2	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	1.4
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15) UJ	ND(0.31)	ND(0.31)	ND(0.93) UJ
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-209	PRM	Q1999-4	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-209	PRM	Q2004-2	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-4	14	ND	ND	ND
		Q2015-1	60	ND	ND	ND
		Q2015-2	7.3	ND(0.31)	ND(0.31)	--
		Q2015-3	2.4	ND(0.04)	ND(0.04)	--
		Q2015-4	4	ND(0.2)	ND(0.19)	--
		Q2016-1	1	ND(0.2)	ND(0.19)	--
		Q2016-2	1.03	ND(0.31)	ND(0.31)	--
		Q2016-3	698	ND(0.31)	ND(0.31)	--
		Q2016-4	48.1	ND(0.31)	ND(0.31)	--
		Q2017-1	17.4	ND(0.31)	ND(0.31)	ND(0.62)
		Q2017-2	3.02	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	1.9	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	0.57	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	29.8	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	13.9	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	19.7	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	309	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	55.8	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	106	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	1210	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	75.1	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	584	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	226	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	392	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	394	ND(1.55)	ND(1.55)	ND(5)
		Q2024-2	3.25	ND(2.5)	ND(2.5)	ND(2.5)
E-210		Q1999-4	ND	ND	ND	ND

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-210	PRM	Q2000-1	6.1	ND	8.34	73
		Q2000-2	ND	ND	ND	125
		Q2013-3	ND	ND	ND	ND
E-211		Q2000-1	12.8	ND	7.65	18
		Q2005-3	41	ND	83	219
		Q2006-3	12	ND	3.1	6.9
		Q2007-3	12	ND	16	26
		Q2009-3	41.7	ND	31.6	18
		Q2011-1	ND	ND	ND	ND
		Q2011-3	ND	ND	ND	ND
		Q2012-3	ND	ND	ND	ND
E-212A	PM	Q2000-1	52	ND	52	8.95
		Q2000-2	90	ND	3.7	6
E-212B		Q2000-1	24	ND	ND	ND
E-213		Q2000-1	272	ND	148	462
		Q2000-2	350	ND	170	580
E-214		Q2000-1	55	ND	4	28
		Q2000-2	40	ND	0.8	2.5
E-215		Q2000-2	720	71	ND	850
		Q2000-3	13000	ND	160	890
		Q2000-4	11000	ND	100	605
		Q2001-4	6200	ND	25	460
		Q2002-2	5800	ND	18	360
		Q2002-4	3500	ND	6.4	230
		Q2003-2	4600	ND	ND	370
		Q2003-4	4500	ND	8.4	470
		Q2004-2	4900	ND	5	420
		Q2004-4	2900	ND	ND	220
		Q2005-2	2500	ND	ND	140
		Q2005-4	2500	ND	ND	400
		Q2006-2	2100	ND	ND	340
		Q2006-4	2500	ND	ND	350
		Q2007-2	2700	ND	ND	380
		Q2007-4	1900	ND	ND	300
		Q2008-2	3100	ND	ND	320
		Q2008-4	2500	ND	3.4	320
		Q2009-2	2300	ND	ND	270
		Q2009-4	1800	ND	ND	200
		Q2010-2	2000	ND	ND	170
		Q2010-4	1400	ND	ND	ND
		Q2011-2	1200	ND	ND	150
		Q2011-4	2100	ND	ND	250
		Q2012-2	1400	ND	ND	130
		Q2012-4	1700	ND	ND	ND
		Q2013-2	1100	ND	ND	ND
		Q2013-4	1200	ND	ND	50
		Q2014-2	1100	ND	ND	ND
		Q2014-4	1000	ND	ND	ND

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-215	PM	Q2015-2	860	ND(0.8)	ND(0.74)	--
		Q2015-4	730	ND(1)	ND(0.93)	--
		Q2016-2	824	ND(0.31)	ND(0.31)	3.4
		Q2016-4	817	ND(0.31)	ND(0.31)	--
		Q2017-2	725 J	ND(3.1)	ND(3.1)	ND(10)
		Q2017-4	616	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	817	1.45	ND(0.31)	ND(1)
		Q2018-4	870	ND(0.31)	ND(0.31)	ND(1)
		Q2019-2	649	ND(3.1)	ND(3.1)	ND(10)
		Q2019-4	907	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	846	ND(3.1)	ND(3.1)	ND(10)
		Q2020-4	815	ND(3.1)	ND(3.1)	ND(10)
		Q2021-2	922	ND(3.1)	ND(3.1)	ND(10)
		Q2021-4	1060	ND(3.1)	ND(3.1)	ND(10)
		Q2022-2	1220	ND(1.55)	ND(1.55)	ND(5)
		Q2022-4	1140	ND(1.55)	ND(1.55)	ND(5)
		Q2023-2	1070	ND(6.2)	ND(6.2)	ND(20)
		Q2023-4	1000	ND(7.75)	ND(7.75)	ND(25)
		Q2024-2	1080	ND(3.1)	ND(3.1)	ND(10)
E-216		Q2000-2	670	30	10	900
		Q2000-3	290	ND	11	98
		Q2000-4	240	ND	9.2	77
		Q2018-2	1.03	1.21	ND(0.31)	ND(0.93)
		Q2018-4	0.97	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-217A		Q2000-3	2700	14000	2900	12000
		Q2002-1	2200	28000	5200	25400
		Q2009-2	0.4	0.3	0.6	2.2
		Q2017-3	9.38 J	220 J	179 J	--
		Q2017-4	1.09	7.06	24.7	96.2
		Q2018-2	13	51	295	1170
		Q2018-4	0.59	ND(0.31)	3.03	7.7
		Q2019-2	0.51	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-3	1.06	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	1.15	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	0.73	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	0.89	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-1	0.84	ND(0.31)	ND(0.31)	ND(0.93)

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-217A	PM	Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-3	1.1	ND(0.31)	2.19	5.29
		Q2021-4	0.72	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-1	1.42	ND(0.5)	3.79	7.93
		Q2022-2	0.59	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-3	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	0.52	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-1	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	0.59	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-217B		Q2000-3	12	54	9	40
		Q2000-4	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2016-4	44.3	1330	1040	--
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-217B	PM	Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-218A		Q2000-3	2900	ND	ND	160
		Q2000-4	6200	ND	7.9	291
E-218B		Q2000-3	200	ND	ND	6.6
		Q2000-4	8.8	ND	ND	ND
E-219		Q2001-1	8390	2390	1570	6920
		Q2002-2	6130	950	189	229
		Q2002-3	2100	17	920	3840
		Q2003-2	250	17	790	3400
		Q2004-2	2100	ND	780	1760
		Q2005-2	260	ND	660	1000
		Q2006-2	360	ND	520	1200
		Q2007-2	1	ND	ND	ND
		Q2007-4	42	ND	98	320
		Q2008-2	43	ND	150	470
		Q2008-4	100	ND	54	180
		Q2009-2	140	0.5	45	460
		Q2009-4	12	ND	19	53
		Q2010-2	42	ND	1.4	120
		Q2010-4	55	ND	ND	84
		Q2011-2	38	ND	ND	9
		Q2011-4	36	ND	ND	2.2
		Q2012-3	110	ND	5.1	ND
		Q2012-4	110	ND	ND	5.6
		Q2013-2	220	ND	7.4	327
		Q2013-4	270	ND	3.2	111.7
		Q2014-2	520	ND	46	471
		Q2014-4	640	ND	19	134
		Q2015-2	500 J-	ND(0.4)	ND(0.37)	--
		Q2015-4	410	ND(0.4)	ND(0.37)	--
		Q2016-2	600	ND(0.31)	2.16	--
		Q2016-4	432	0.65 J	1.97	--
		Q2017-2	182	ND(0.31)	2.37	ND(0.93)
		Q2017-4	139	1.23	11.9	54.8
		Q2018-2	86.3	ND(0.31)	35.3	27
E-220		Q2001-1	14700	5910	2050	7910
		Q2003-2	15000	ND	2300	10500
		Q2004-2	9800	ND	1500	6460

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-220	PM	Q2005-2	4500	1.7	1700	4733
		Q2006-2	9000	ND	2100	6400
		Q2007-2	2600	ND	970	2900
		Q2007-4	9300	ND	1600	4500
		Q2008-2	9600	ND	1600	5900
		Q2008-4	12000	2.7	1400	5350
		Q2009-2	9400	2	1400	5400
		Q2009-4	2800	ND	190	1900
		Q2010-2	7200	ND	200	3600
		Q2010-4	7200	ND	ND	3200
		Q2011-2	8700	ND	ND	3400
		Q2011-4	6100	ND	ND	4100
		Q2012-2	7900	ND	ND	5300
		Q2012-4	10000	ND	ND	4000
		Q2013-2	7400	ND	ND	4200
		Q2013-4	11000	ND	6.4	2800
		Q2014-2	6100	ND	ND	3500
		Q2014-4	6000	ND	ND	4400
		Q2015-2	5700 J-	ND(4)	ND(3.7)	--
		Q2015-4	7600	ND(4)	ND(3.7)	--
		Q2016-2	10700	2.04	15.1	--
		Q2016-4	9290	1.91	4.72	--
		Q2017-2	5750 J+	1.2 J+	3.2 J+	1460 J+
		Q2017-4	7340	1.79	4.27	1830
		Q2018-2	4630	ND(3.1)	470	2770
E-221		Q2001-1	1500	12700	1260	5600
E-222		Q2000-4	1000	990	ND	930
		Q2001-1	6930	ND	496	1970
		Q2003-2	3400	ND	190	690
		Q2004-2	12000	ND	1800	5540
		Q2005-2	10000	31	1400	4360
		Q2006-2	6300	ND	1200	3300
		Q2007-2	3400	ND	410	1500
		Q2008-2	3900	ND	490	3100
		Q2009-2	740	ND	34	890
		Q2010-2	1200	ND	51	1400
		Q2011-2	1500	ND	ND	1900
		Q2012-2	1300	ND	ND	1900
		Q2017-3	417	ND(0.31)	1.41 J+	--
		Q2017-4	412	ND(0.31)	1.37	958
		Q2018-2	248	ND(1.55)	ND(1.55)	330
		Q2018-4	343	1.62	4.91	866
		Q2019-2	306	1.46	1.41	932
E-223		Q2001-1	72	10.6	ND	4.7
		Q2017-3	0.56	ND(0.31)	ND(0.31)	--
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	1.47	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-223	PM	Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
E-224	PRM	Q2001-1	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-1	ND	ND	ND	ND
		Q2015-2	ND(0.03) UJ	ND(0.04)	ND(0.04)	--
		Q2015-3	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.12)	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-225		Q2001-2	320	ND	ND	110
		Q2002-4	45	ND	ND	ND
		Q2004-2	19	ND	ND	ND
		Q2005-3	710	ND	ND	ND
		Q2005-4	770	ND	ND	ND
		Q2006-1	790	ND	ND	ND
		Q2006-2	630	ND	ND	ND

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-225	PRM	Q2006-3	510	ND	ND	ND
		Q2006-4	730	ND	ND	ND
		Q2007-1	840	ND	ND	ND
		Q2008-1	1800	ND	ND	ND
		Q2008-2	940	ND	ND	ND
		Q2008-4	720	ND	ND	ND
		Q2009-1	300	ND	ND	ND
		Q2009-2	160	ND	ND	ND
		Q2009-3	88	ND	ND	ND
		Q2009-4	160	ND	ND	ND
		Q2010-1	93	ND	ND	ND
		Q2010-2	74	ND	ND	ND
		Q2010-3	57	ND	ND	ND
		Q2010-4	52	ND	ND	ND
		Q2011-1	34	ND	ND	ND
		Q2011-2	22	ND	ND	ND
		Q2011-3	5.4	ND	ND	ND
		Q2012-3	540	ND	ND	ND
		Q2012-4	580	ND	ND	ND
		Q2013-2	1400	ND	ND	ND
		Q2013-3	1800	ND	ND	ND
		Q2013-4	1900	ND	ND	ND
		Q2014-2	1900	ND	ND	ND
		Q2015-2	800	ND(0.8)	ND(0.74)	--
		Q2015-3	530	ND(0.8)	ND(0.74)	--
		Q2015-4	540	ND(0.4)	ND(0.37)	--
		Q2016-1	350	ND(0.2)	ND(0.19)	--
		Q2016-2	354	ND(0.31)	ND(0.31)	--
		Q2017-2	63.6	ND(0.31)	ND(0.31)	ND(0.93)
E-226	PM	Q2001-1	330	160	ND	660
E-227		Q2001-1	7500	610	770	2300
		Q2001-2	7200	560	780	2710
		Q2014-2	3700	2600	1400	5600
		Q2014-3	4010	3150	1660	6070
		Q2017-3	2200	207	943	2080
		Q2017-4	1530	2.82	286	574
		Q2018-2	1750	ND(6.2)	175	446
		Q2018-4	2290	16.1	165	523
		Q2019-2	1630	3.68	279	576
		Q2019-3	1570	4.75	335	807
		Q2019-4	2050	10.3	472	1100
		Q2020-3	1910	17.4	429	1120
		Q2020-4	1510	ND(6.2)	335	779
		Q2021-1	981	ND(6.2)	308	657
		Q2021-2	1340	ND(6.2)	275	628
		Q2021-3	1180	ND(15.5)	364	700
		Q2021-4	1110	ND(10)	155	277
		Q2022-1	973	ND(0.5)	155	276

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-227	PM	Q2022-2	1280	10.3	422	965
		Q2022-3	1000	ND(5)	351	709
		Q2022-4	1050	ND(5)	299	512
		Q2023-1	1170	ND(5)	283	665
		Q2023-2	1100	ND(2.5)	497	978
		Q2023-4	555 J+	ND(0.5)	178 J+	251 J+
		Q2024-2	529	ND(2.5)	366	507
E-228		Q2001-2	210	ND	ND	43
		Q2001-3	180	ND	3.2	63
		Q2001-4	130	ND	ND	53
		Q2002-1	230	ND	1.6	52
		Q2002-2	470	ND	2.2	53
		Q2002-3	130	ND	7.6	81
		Q2002-4	120	ND	11	100
		Q2003-1	50	ND	8.4	86
		Q2003-2	42	ND	7.6	80
		Q2003-3	94	ND	1.9	64
		Q2003-4	190	ND	ND	67
		Q2004-1	60	ND	ND	7.4
		Q2004-2	250	ND	ND	88
		Q2004-3	190	ND	5.6	100
		Q2004-4	150	ND	2.1	69
		Q2005-1	61	ND	5.8	80
		Q2005-2	100	ND	2.7	76
		Q2005-3	130	ND	1.5	65
		Q2005-4	280	ND	ND	53
		Q2006-1	130	ND	ND	47
		Q2006-2	350	ND	1.3	97
		Q2006-3	540	ND	ND	130
		Q2006-4	360	ND	ND	91
		Q2007-1	320	ND	ND	140
		Q2007-2	340	ND	ND	160
		Q2007-3	830	ND	ND	400
		Q2007-4	480	ND	ND	200
		Q2008-1	420	ND	ND	250
		Q2008-2	340	ND	ND	210
		Q2008-3	660	ND	ND	540
		Q2008-4	600	ND	4.1	290
		Q2009-1	320	ND	ND	260
		Q2009-2	280	ND	2	200
		Q2009-3	140	ND	ND	99
		Q2009-4	310	ND	ND	160
		Q2010-1	180	ND	ND	120
		Q2010-2	260	ND	ND	150
		Q2010-3	260	ND	ND	150
		Q2010-4	150	ND	ND	83
		Q2011-1	60	ND	ND	57
		Q2011-2	160	ND	ND	95

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-228	PM	Q2011-3	130	ND	ND	79
		Q2011-4	91	ND	ND	56
		Q2012-1	82	ND	ND	56
		Q2012-2	200	ND	ND	140
		Q2012-3	84	ND	ND	81
		Q2012-4	32	ND	ND	40
		Q2013-1	25	ND	ND	35
		Q2013-2	92	ND	ND	82
		Q2013-3	85	ND	0.5	60
		Q2013-4	39	ND	ND	35
		Q2014-1	13	ND	ND	18
		Q2014-2	28	ND	ND	48
		Q2014-3	20	ND	ND	42
		Q2014-4	25	ND	ND	48
		Q2015-1	9	ND	ND	18
		Q2015-2	18	ND(0.04)	ND(0.04)	--
		Q2015-3	55	ND(0.04)	ND(0.04)	--
		Q2015-4	68	ND(0.2)	ND(0.19)	--
		Q2016-1	15	ND(0.2)	ND(0.19)	--
		Q2016-2	14.5	ND(0.31)	ND(0.31)	--
		Q2016-3	6.86	1.67	ND(0.31)	--
		Q2016-4	2.98	1.37	ND(0.31)	--
		Q2017-1	4.35 J+	ND(0.31)	ND(0.31)	14.3 J+
		Q2017-2	22.7 J-	1.6	ND(0.31)	27 J-
		Q2017-3	55.5	2.81	ND(0.31)	26.5
		Q2017-4	15.6	ND(0.31)	ND(0.31)	13.4
E-229		Q2002-1	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	1.6
		Q2002-3	ND	ND	ND	ND
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-230		Q2002-1	78	230	140	790
		Q2002-2	290	480	300	1400
		Q2002-3	400	240	230	1090
		Q2014-2	540	ND	ND	240
		Q2014-3	479	ND	ND	205
		Q2017-2	38.9 J+	ND(0.31)	73.2 J+	143 J+
E-231		Q2002-3	ND	ND	ND	ND
		Q2014-3	13.7	251	ND	ND
		Q2014-4	66	86	ND	ND
		Q2015-1	72	18	ND	ND
		Q2015-2	210	39	ND(0.19)	--
		Q2015-3	23	16	ND(0.04)	--
		Q2015-4	5	12	ND(0.19)	--
		Q2017-3	14.9	31.7	ND(0.31)	ND(0.93)
		Q2017-4	2.31	1.32	ND(0.31)	ND(0.93)
		Q2018-4	1.83	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	7.43	ND(0.31)	ND(0.31)	ND(0.93)
E-232A		Q2002-3	ND	ND	ND	ND

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-232A	PM	Q2014-3	2.33	1.3	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2017-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
E-232B		Q2002-3	ND	ND	ND	ND
		Q2014-3	19.6	6.97	ND	ND
		Q2014-4	5.4	ND	ND	ND
		Q2015-1	3	ND	ND	ND
		Q2015-4	1.2	ND(0.2)	ND(0.19)	--
		Q2017-3	0.54	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
E-233	PRM	Q2004-1	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-1	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-3	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-1	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-3	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-1	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-3	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-1	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-3	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-1	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-3	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-1	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-4	1	ND	ND	ND
		Q2014-2	8	ND	ND	ND
		Q2014-4	84	ND	ND	ND
		Q2015-1	180	ND	ND	ND
		Q2015-2	280	ND(0.2)	ND(0.19)	--

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-233	PRM	Q2015-3	230	ND(0.04)	ND(0.04)	--
		Q2015-4	340	ND(0.04) UJ	ND(0.04)	--
		Q2016-1	400	ND(0.2)	ND(0.19)	--
		Q2016-2	524	ND(0.31)	ND(0.31)	--
		Q2016-3	557	ND(0.31)	ND(0.31)	--
		Q2016-4	635	ND(0.31)	ND(0.31)	--
		Q2017-1	788 J-	ND(3.1)	ND(3.1)	ND(6.2)
		Q2017-2	895 J+	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	1130 J+	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	1530	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-1	866	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	1000	1.29	ND(0.31)	ND(0.93)
		Q2018-4	1980	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	2030	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	2440	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	2600	ND(6.2)	ND(6.2)	ND(18.6)
		Q2020-4	2190	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	2110	ND(6.2)	ND(6.2)	ND(18.6)
		Q2021-4	2020	ND(6.2)	ND(6.2)	ND(20)
		Q2022-2	2100	ND(5)	ND(5)	ND(14)
		Q2022-4	2060	ND(5)	ND(5)	ND(14)
		Q2023-2	1810	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	1190	ND(0.31)	ND(0.31)	ND(1)
		Q2024-1	976 J-	ND(10) UJ	ND(10) UJ	ND(28) UJ
		Q2024-2	124	ND(2.5)	ND(2.5)	ND(2.5)
E-234A	PM	Q2009-4	5700	ND	1	18
		Q2011-4	5000	ND	ND	ND
		Q2012-2	150	ND	ND	ND
		Q2012-3	42	ND	ND	ND
		Q2012-4	110	ND	ND	ND
		Q2013-2	7.7	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2016-2	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	238	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
E-234A-R		Q2024-1	0.84 J-	ND(0.5) UJ	ND(0.5) UJ	ND(1.4) UJ
		Q2024-2	15.3	ND(2.5)	ND(2.5)	ND(2.5)
E-234B		Q2009-4	5400	ND	ND	ND
		Q2011-4	4600	ND	ND	ND
		Q2012-4	4800	ND	ND	ND
		Q2017-2	2770	ND(0.31)	ND(0.31)	ND(0.93) UJ
		Q2018-2	1750	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	2940	ND(0.31)	ND(0.31)	ND(0.93)

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-234B	PM	Q2019-2	2400	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	2850	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	2620	ND(6.2)	ND(6.2)	ND(18.6)
		Q2020-4	1920	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	2180	ND(6.2)	ND(6.2)	ND(18.6)
		Q2021-4	2320	ND(6.2)	ND(6.2)	ND(20)
E-234B-R		Q2024-1	1830 J-	ND(10) UJ	ND(10) UJ	ND(28) UJ
		Q2024-2	1440	ND(2.5)	ND(2.5)	ND(2.5)
E-235A		Q2009-4	4200	ND	ND	ND
		Q2010-2	5500	ND	ND	ND
		Q2010-4	4200	ND	ND	ND
		Q2011-2	880	ND	ND	ND
		Q2011-4	4700	ND	ND	ND
		Q2012-2	34	ND	ND	ND
		Q2012-3	ND	ND	ND	ND
		Q2012-4	150	ND	ND	ND
		Q2013-2	2.4	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-2	210	ND	ND	11
		Q2014-4	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	7390	ND(0.31)	ND(0.31)	--
		Q2016-3	4700	ND(0.31)	ND(0.31)	--
		Q2016-4	4880	ND(0.31)	ND(0.31)	--
		Q2017-1	6710	ND(31)	ND(31)	ND(62)
		Q2017-2	5840 J+	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	7010	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	0.66	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2023-1	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
E-235B		Q2009-4	1800	ND	ND	ND
		Q2010-2	2300	ND	ND	ND
		Q2010-4	2900	ND	ND	ND
		Q2011-2	3400	ND	ND	ND
		Q2011-4	3800	ND	ND	ND
		Q2012-2	3900	ND	ND	ND
		Q2012-4	3200	ND	ND	ND
		Q2013-2	2500	ND	ND	ND
		Q2014-2	4600	ND	ND	ND
		Q2023-1	1490	ND(5)	ND(5)	ND(14)
E-236		Q2009-4	1200	ND	2.6	9.8
		Q2011-4	1400	ND	ND	ND
		Q2012-2	31	ND	ND	ND
		Q2012-3	12	ND	ND	ND
		Q2012-4	59	ND	ND	ND

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-236	PM	Q2013-2	1.8	ND	ND	ND
		Q2013-4	3.6	ND	ND	ND
		Q2014-2	9	ND	ND	ND
		Q2015-2	240	ND(0.04)	ND(0.04)	--
E-237	PRM	Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-3	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
E-238		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
E-239		Q2011-4	42.7	ND	ND	ND
		Q2012-1	4.9	ND	ND	ND
		Q2012-2	2.5	ND	ND	ND
		Q2012-3	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-1	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-3	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
E-240		Q2012-1	140	ND	0.4	2.1
		Q2014-1	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-4	11	ND(0.2)	ND(0.19)	--
E-241		Q2012-1	6	ND	ND	ND
		Q2012-2	22	ND	ND	ND
E-242		Q2012-3	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-1	2.8	ND	ND	ND
		Q2013-2	45	ND	ND	ND
E-243		Q2012-3	1.2	ND	ND	ND
		Q2013-2	73	ND	ND	ND
		Q2013-4	230	ND	ND	ND
		Q2014-1	250	ND	ND	ND
		Q2014-2	110	ND	ND	ND
		Q2014-3	76	ND	ND	ND
		Q2014-4	57	ND	ND	5.5
		Q2015-1	41	ND	ND	9.9
		Q2015-2	44	ND(0.2)	ND(0.19)	--
		Q2015-3	26	ND(0.2)	ND(0.19)	--
		Q2015-4	27	ND(0.2)	ND(0.19)	--
		Q2016-1	22	ND(0.2)	ND(0.19)	--
		Q2016-2	26.7	ND(0.31)	ND(0.31)	--
E-244		Q2013-3	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-1	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-244	PRM	Q2014-3	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-1	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-3	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	0.64	ND(0.31)	ND(0.31)	--
		Q2017-2	1.96	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	1.5	ND(0.31)	ND(0.93)
		Q2018-4	4.08	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	82.9	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-3	273	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	540	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-1	577	ND(3.1)	ND(3.1)	ND(10)
		Q2020-2	426	ND(3.1)	ND(3.1)	ND(10)
		Q2020-3	164	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	35.1	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-1	4.53	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	3.43	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-3	0.58	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-1	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-3	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-245A	PM	Q2013-3	530	ND	ND	ND
		Q2013-4	320	ND	ND	ND
		Q2014-2	220	ND	ND	ND
		Q2014-3	99	ND	ND	ND
		Q2014-4	27	ND	ND	ND
		Q2015-2	2	ND(0.04)	ND(0.04)	--
		Q2015-4	42	ND(0.2)	ND(0.19)	--
		Q2016-2	12	ND(0.31)	ND(0.31)	--
		Q2016-3	13.6	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-1	194	ND(0.31)	ND(0.31)	ND(0.62)
		Q2017-2	8.97	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	1.16	ND(0.31)	ND(0.31)	ND(0.93)
		Q2023-1	46.8	ND(0.5)	ND(0.5)	ND(1.4)
E-245B		Q2013-4	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-245B	PM	Q2016-2	0.81	ND(0.31)	ND(0.31)	--
		Q2018-2	3.65	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	14.2	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	1810	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	58.5	ND(6.2)	ND(6.2)	ND(18.6)
		Q2020-4	132	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	139	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	184	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	255	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	289	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-1	303	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	284	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	220	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	307 J	ND(2.5)	ND(2.5)	ND(2.5)
E-246A		Q2014-1	140	ND	ND	ND
		Q2014-2	230	ND	ND	ND
E-246B		Q2014-1	ND	ND	ND	ND
		Q2014-2	1.1	ND	ND	ND
E-247A		Q2014-2	21.1	ND	ND	ND
		Q2014-3	15	ND	ND	ND
		Q2014-4	3.5	ND	ND	ND
		Q2015-1	3	ND	ND	ND
		Q2015-2	59	ND(0.04)	ND(0.04)	--
		Q2015-3	53	ND(0.04)	ND(0.04)	--
		Q2015-4	28	ND(0.2)	ND(0.19)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-3	7.9	ND(0.31)	ND(0.31)	--
		Q2016-4	0.73	ND(0.31)	ND(0.31)	--
		Q2017-2	25.5	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	35.1	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	10.6	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	42.6	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-3	25	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	4.33	ND(0.31)	ND(0.31)	ND(1)
		Q2020-3	51.9	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	0.59	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	31	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-3	54.4	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	3.55	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-1	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-3	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)

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KENAI, AK

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E-247A	PM	Q2023-1	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	59	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-3	45.6	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	0.85	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-1	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	67.9	ND(2.5)	ND(2.5)	ND(2.5)
E-247B		Q2014-2	ND	ND	ND	ND
		Q2014-3	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-1	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-3	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	0.64	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	0.51	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	4.46	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	7.21	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-3	7.55	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	14	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-1	12.9	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	17.9	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-3	18.3	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	24.6	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-1	35.2	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	41.3	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-3	40.5	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	35.6	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-1	58	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	60.4	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-3	49.1	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	60.9	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-1	67.4	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	57	ND(2.5)	ND(2.5)	ND(2.5)
E-248A		Q2014-2	24.7	ND	ND	ND
		Q2014-3	4.97	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-1	ND	ND	ND	ND
		Q2015-2	59	ND(0.04)	ND(0.04)	--
		Q2015-3	14	ND(0.04)	ND(0.04)	--
		Q2015-4	21	ND(0.2)	ND(0.19)	--
		Q2016-1	2.8	ND(0.2)	ND(0.19)	--
		Q2016-2	3.1	ND(0.31)	ND(0.31)	--

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-248A	PM	Q2017-2	3.69	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	36.5	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	21.7	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	19.7	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-3	15.5	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	0.77	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	0.69	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	24.7	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	5.63	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	54.7	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	0.59	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-1	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	39.1	ND(2.5)	ND(2.5)	ND(2.5)
E-248B		Q2014-2	ND	ND	ND	ND
		Q2014-3	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-1	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-3	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-1	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-249A		Q2016-2	700	ND(0.31)	ND(0.31)	--
		Q2016-4	1930	ND(0.31)	ND(0.31)	--
		Q2017-2	1650 J+	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	1900	ND(0.31)	ND(0.31)	ND(0.93)

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-249A	PM	Q2017-4	1520	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-1	1820	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	1210	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	1180	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	1140	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	1750	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	1580	ND(6.2)	ND(6.2)	ND(18.6)
		Q2020-3	1570	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	1400	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-1	1090	ND(6.2)	ND(6.2)	ND(18.6)
		Q2021-2	1420	ND(6.2)	ND(6.2)	ND(18.6)
		Q2021-3	1230	ND(15.5)	ND(15.5)	ND(46.5)
		Q2021-4	1280	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-1	1210	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	1210	ND(5)	ND(5)	ND(14)
		Q2022-3	1470	ND(5)	ND(5)	ND(14)
		Q2022-4	1290	ND(5)	ND(5)	ND(14)
		Q2023-1	1530	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	1340	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-3	933	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	1090 J+	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-1	1110 J-	ND(10) UJ	ND(10) UJ	ND(28) UJ
		Q2024-2	891	ND(2.5)	ND(2.5)	ND(2.5)
E-249B		Q2016-2	11.5	ND(0.31)	ND(0.31)	--
		Q2016-4	1100	ND(0.31)	ND(0.31)	--
		Q2017-2	501 J+	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	500	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	412	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-1	517	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	258	1.37	ND(0.31)	ND(0.93)
		Q2018-3	382	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	366	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-1	300	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	217	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	908	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	766	ND(3.1)	ND(3.1)	ND(10)
		Q2020-3	1020	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	717	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-1	920	ND(3.1)	ND(3.1)	ND(9.3)
		Q2021-2	623	ND(3.1)	ND(3.1)	ND(9.3)
		Q2021-3	707	ND(3.1)	ND(3.1)	ND(9.3)
		Q2021-4	762	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-1	553	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	710	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-3	223	ND(2.5)	ND(2.5)	ND(7)
		Q2022-4	734	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-1	256	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	662	ND(0.5)	ND(0.5)	ND(1.4)

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-249B	PM	Q2023-3	688	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	581 J+	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-1	792	ND(5)	ND(5)	ND(14)
		Q2024-2	158 J-	ND(2.5)	ND(2.5)	ND(2.5)
E-249C		Q2016-2	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	1.86	ND(0.31)	ND(0.31)	--
		Q2017-2	0.57	ND(0.31)	ND(0.31)	ND(0.93) UJ
		Q2017-3	0.53 J-	ND(0.31) UJ	ND(0.31) UJ	ND(0.93) UJ
		Q2017-4	2.59	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	1.32	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-3	2.66	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	4.5	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-3	26.1	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	26.8	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-1	14.9	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	9.53	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-3	4.97	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	5.73	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-1	5.65	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	5.28	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-3	5.14	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	6.58	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-1	4.25	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	3.62	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-3	11.7	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	8.69	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-1	10.4	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	17.5	ND(2.5)	ND(2.5)	ND(2.5)
E-250A	PRM	Q2016-2	2430	ND(0.31)	ND(0.31)	--
		Q2016-4	2740	ND(0.31)	ND(0.31)	--
		Q2017-2	2160 J+	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	2020 J+	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	1720	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-1	1560	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	877	1.12	ND(0.31)	ND(0.93)
		Q2018-3	905	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	884	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-1	888	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	710	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	951	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	1920	ND(6.2)	ND(6.2)	ND(18.6)
		Q2020-3	899	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	579	ND(0.31)	ND(0.31)	ND(0.93)

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-250A	PRM	Q2021-1	800	ND(3.1)	ND(3.1)	ND(9.3)
		Q2021-2	913	ND(3.1)	ND(3.1)	ND(9.3)
		Q2021-3	742	ND(3.1)	ND(3.1)	ND(9.3)
		Q2021-4	748	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-1	703	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	719	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-3	375	ND(2.5)	ND(2.5)	ND(7)
		Q2022-4	200	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-1	164	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	152	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-3	38.7	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	10.8	ND(0.31)	ND(0.31)	ND(1)
		Q2024-1	107	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	16.1	ND(2.5)	ND(2.5)	ND(2.5)
E-250B		Q2016-2	1470	ND(0.31)	ND(0.31)	--
		Q2016-4	1640	ND(0.31)	ND(0.31)	--
		Q2017-2	1400 J+	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	1520 J+	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	1430	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-1	144	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	706	1.08	ND(0.31)	ND(0.93)
		Q2018-3	1140	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	1140	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-1	130	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	1050	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	964	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	1090	ND(3.1)	ND(3.1)	ND(9.3)
		Q2020-4	832	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	871	ND(3.1)	ND(3.1)	ND(9.3)
		Q2021-3	731	ND(3.1)	ND(3.1)	ND(9.3)
		Q2021-4	787	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-1	705	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	690	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-3	650	ND(5)	ND(5)	ND(14)
		Q2022-4	641	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-1	637	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	606	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-3	588	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	525 J+	ND(1.55)	ND(1.55)	ND(5)
		Q2024-1	510	ND(2.5)	ND(2.5)	ND(7)
		Q2024-2	80	ND(2.5)	ND(2.5)	ND(2.5)
E-251A		Q2016-2	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-251A	PRM	Q2018-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-1	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
E-251B		Q2016-2	0.66	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-252A		Q2016-2	127	ND(0.31)	ND(0.31)	--
		Q2016-4	103	ND(0.31)	ND(0.31)	--
		Q2017-2	104	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	203	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	155	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-1	201	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	183	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-3	206	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	189	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-1	126	ND(0.31)	ND(0.31)	ND(0.93)

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-252A	PRM	Q2019-2	128	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	78.5	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	64.6	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	66.1	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	99.4	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	134	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	212	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	236	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-1	148	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	15.9	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
E-252B		Q2016-2	337	ND(0.31)	ND(0.31)	--
		Q2016-4	425	ND(0.31)	ND(0.31)	--
		Q2017-2	418	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	628	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	526	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-1	672	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	470	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-3	514	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	450	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-1	424	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	359	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	259	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	146	ND(3.1)	ND(3.1)	ND(9.3)
		Q2020-4	138	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	235	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	386	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	543	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	545	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	277	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	5.79	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-253		Q2016-2	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-253	PRM	Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-1	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-3	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-254		Q2016-2	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-3	28.1	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-255		Q2019-4	616	ND(0.31)	3.15	22.4
		Q2020-1	531	ND(3.1)	ND(3.1)	ND(10)
		Q2020-2	508	ND(3.1)	ND(3.1)	ND(9.3)
		Q2020-3	418	ND(0.31)	1.34	5.31
		Q2020-4	512	ND(0.31)	1.62	3.39
		Q2021-1	445	ND(1.55)	ND(1.55)	ND(4.65)
		Q2021-2	414	ND(0.31)	1.27	5.08
		Q2021-3	462	ND(3.1)	ND(3.1)	ND(9.3)
		Q2021-4	500	1.73	1.19	ND(1.4)
		Q2022-1	435	1.02	ND(0.5)	ND(1.4)
		Q2022-2	400	ND(0.5)	1.01	ND(1.4)
		Q2022-3	393	ND(2.5)	ND(2.5)	ND(7)
		Q2022-4	364	2.53	1.27	6.74
		Q2023-1	250	1.38	ND(0.5)	ND(1.4)
		Q2023-2	204	1.46	1.01	ND(1.4)
		Q2023-3	182	ND(0.5)	ND(0.5)	8.34
		Q2023-4	164	ND(0.62)	ND(0.62)	ND(2)

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-255	PRM	Q2024-1	163	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	113	ND(2.5)	ND(2.5)	ND(2.5)
E-256		Q2019-4	2980	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-1	2700	ND(7.75)	ND(7.75)	ND(25)
		Q2020-2	2480	ND(7.75)	ND(7.75)	ND(23.3)
		Q2020-3	2490	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	1790	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-1	2270	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	2120	ND(6.2)	ND(6.2)	ND(18.6)
		Q2021-3	2210	ND(15.5)	ND(15.5)	ND(46.5)
		Q2021-4	2140	ND(15.5)	ND(15.5)	ND(50)
		Q2022-1	1760	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	2020	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-3	1690	ND(5)	ND(5)	ND(14)
		Q2022-4	1770	ND(5)	ND(5)	ND(14)
		Q2023-1	1760	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	1640	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-3	1440	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	1740	ND(1.55)	ND(1.55)	ND(5)
		Q2024-1	1640 J-	ND(10) UJ	ND(10) UJ	ND(28) UJ
		Q2024-2	1260	ND(2.5)	ND(2.5)	ND(2.5)
E-257A		Q2020-1	4.36	ND(0.31)	3.23	7.94
		Q2020-2	4.4	ND(0.31)	2.97	7.31
		Q2020-3	4.62	ND(0.31)	3.05	6.21
		Q2020-4	3.91	ND(0.31)	3.88	5.98
		Q2021-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2023-4	2.03	ND(0.5)	9.24	32.8
E-257B		Q2020-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2022-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-3	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-258		Q2020-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-1	4.22	ND(0.31)	2.85	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-3	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
E-258	PRM	Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-259	PM	Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-1	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
E-A		Q1999-1	ND	1.13	ND	ND
E-C		Q1999-1	ND	ND	ND	2.46
		Q2000-2	ND	ND	ND	ND
E-D		Q1999-1	ND	ND	ND	ND
ER-37	PRM	Q1999-4	ND	ND	ND	ND
		Q2013-3	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-3	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.12)	ND(0.31)	ND(0.31)	--
I-02		Q1999-1	ND	ND	ND	ND
I-03		Q2000-1	18.9	1.4	106	220
IWS-5	SI	Q2011-2	ND	ND	ND	ND
MW-12	PM	Q1996-1	ND	ND	ND	ND
		Q1996-2	ND	ND	ND	2.5
		Q1996-4	ND	ND	ND	ND
		Q1997-1	ND	ND	ND	ND
		Q1997-2	ND	ND	ND	ND
		Q1997-3	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-1	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-1	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
MW-12	PM	Q2004-2	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	0.3	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-2	ND(0.03) UJ	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.12)	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15) UJ	ND(0.31)	ND(0.31)	ND(0.93) UJ
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
MW-22		Q2000-2	ND	ND	ND	ND
MW-32		Q2000-1	2400	2100	1400	5600
		Q2017-3	92.4	1.37	307	538
		Q2017-4	161	ND(0.31)	227	344
		Q2018-2	105	20.1	164	462
		Q2018-4	113	ND(1.55)	136	201
		Q2019-2	3.61	13.3	1.49	ND(0.93)
MW-42		Q2000-1	18000	20000	2800	12000

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
MW-42	PM	Q2017-3	79.6	1.45	46.2	--
		Q2017-4	41.2	1.14	23.3	248
		Q2018-2	50.3	ND(0.31)	34.9	66.2
		Q2018-4	26.5	ND(0.31)	3.68	29.9
		Q2019-2	15.2	ND(0.31)	3.04	12.7
MW-52		Q2000-2	63	ND	1.6	ND
		Q2017-3	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
MW-92		Q2002-3	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-3	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-1	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-3	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.12)	ND(0.31)	ND(0.31)	--
		Q2016-3	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15) UJ	ND(0.31)	ND(0.31)	ND(0.93) UJ
		Q2017-3	0.96	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	1.41	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	2.04	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	3.92	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	5.28	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-3	5.55	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	6.83	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-1	7.04	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	7.53	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-3	6.74	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	5.27	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-1	4.26	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	2.49	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-3	3.33	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	2.99	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-1	3.98	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	2.76	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-3	3.41	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	3.36	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-1	4.07	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	1.91	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	2.17	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	0.82	ND(2.5)	ND(2.5)	ND(2.5)
MW-93		Q2002-3	ND	ND	ND	ND

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
MW-93	PM	Q2014-2	ND	ND	ND	ND
		Q2014-3	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-1	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-3	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.12)	ND(0.31)	ND(0.31)	--
		Q2016-3	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15) UJ	ND(0.31)	ND(0.31)	ND(0.93) UJ
		Q2017-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
MW-93A		Q2015-1	ND	ND	ND	ND
		Q2015-2	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2015-3	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.12)	ND(0.31)	ND(0.31)	--
		Q2016-3	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15) UJ	ND(0.31)	ND(0.31)	ND(0.93) UJ
		Q2017-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
MW-93A	PM	Q2023-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	ND(0.15)	ND(2.5)	ND(2.5)	ND(2.5)
MW-93B		Q2015-1	ND	ND	ND	ND
		Q2015-2	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2015-3	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.12)	ND(0.31)	ND(0.31)	--
		Q2016-3	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.15) UJ	ND(0.31)	ND(0.31)	ND(0.93) UJ
		Q2017-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
O-2	PRM	Q2000-2	2900	ND	ND	ND
		Q2000-3	2520	ND	ND	ND
		Q2000-4	3070	ND	ND	ND
O-4		Q2000-2	710	ND	ND	ND
		Q2000-3	897	ND	ND	ND
		Q2000-4	740	ND	ND	ND
O-5		Q2000-2	2100	ND	ND	ND
		Q2000-3	2000	ND	ND	ND
		Q2000-4	889	ND	ND	ND
		Q2004-2	75	ND	ND	ND
P-40		Q2009-3	2.32	ND	ND	ND
P-40/41		Q2015-4	26	ND(0.2)	4.8	--
P-41		Q2009-3	56	ND	160	220
P-45		Q2009-3	18.7	ND	58	300
P-46		Q2009-3	2.7	ND	12.2	37
P-49		Q2001-3	2.7	ND	2	2.7
P-53	PM	Q2018-3	1.61	ND(0.31)	ND(0.31)	52.3
PAS-03	PRM	Q2011-3	0.88	ND	ND	ND
PAS-04		Q2011-2	ND	ND	ND	ND
PAS-05		Q2011-2	ND	ND	ND	ND
		Q2011-3	0.54	ND	ND	ND
PAS-06		Q2011-2	ND	ND	ND	ND
		Q2011-3	ND	ND	ND	ND
PAS-07		Q2011-2	ND	ND	ND	ND
		Q2011-3	ND	ND	ND	ND
PI-01		Q2009-3	1.91	ND	73	360
		Q2011-2	6.3	ND	28	200
PI-02		Q1999-1	52	16.6	132	465
		Q1999-4	ND	ND	ND	98
		Q2007-4	ND	ND	7.52	90
		Q2008-1	ND	ND	0.608	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-3	ND	ND	ND	3.7
		Q2010-4	ND	ND	ND	ND

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
PI-02	PRM	Q2011-1	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-3	ND	ND	ND	ND
PI-03		Q1999-1	4.8	1.03	12.4	32
		Q1999-4	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-1	ND	ND	ND	ND
		Q2008-4	1	ND	ND	ND
		Q2009-3	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	5.51	ND	ND	ND
		Q2011-3	66	ND	ND	ND
		Q2011-4	17	ND	ND	ND
		Q2012-1	60	ND	ND	ND
		Q2012-2	66	ND	ND	ND
		Q2012-3	54	ND	ND	ND
		Q2012-4	3.2	ND	ND	ND
		Q2013-1	11	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-3	ND	ND	ND	ND
PI-04		Q2007-4	2.08	ND	9.77	10.9
		Q2008-1	0.628	ND	ND	3.44
		Q2008-2	0.675	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-3	ND	ND	ND	ND
PI-05		Q2007-4	ND	ND	ND	ND
		Q2008-1	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-3	ND	ND	ND	ND
PI-06A		Q2000-4	86	1.1	ND	ND
		Q2001-1	110	ND	ND	ND
PI-06B		Q2000-4	7.2	1	ND	--
		Q2001-1	5.5	ND	ND	ND
PI-07		Q2001-1	240	ND	ND	ND
PI-08		Q2001-1	460	ND	ND	ND
PI-09		Q2001-1	ND	ND	ND	ND
PMW	PM	Q1991-1	ND	ND	ND	ND
PMZ-1		Q1999-4	ND	ND	ND	ND
PMZ-2		Q1999-4	ND	ND	ND	ND
PMZ-3		Q1999-4	ND	ND	ND	ND
PMZ-5		Q2018-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
PS-2	SI	Q2009-2	4.4	ND	2.8	5
		Q2009-3	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-3	ND	ND	ND	ND

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
PS-2	SI	Q2012-2	ND	ND	ND	ND
PTW-1	PM	Q2009-4	ND	ND	ND	ND
PTW-3		Q2005-1	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
PTW-6		Q1999-3	ND	ND	ND	ND
PW-1		Q1991-1	2800	1.8	14	25
R-20		Q1997-3	3800	ND	ND	92
R-22		Q1998-2	6530	2.31	66	649
R-25		Q1998-2	1970	7.19	4.73	121
R-27		Q2006-2	3.13	ND	2.3	11
R-39	PRM	Q2013-3	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
R-40		Q2014-1	400	ND	ND	ND
		Q2014-2	730	ND	ND	ND
		Q2014-3	450	ND	ND	ND
		Q2014-4	540	ND	ND	4.3
		Q2015-1	590	ND	ND	ND
		Q2015-2	570	ND(0.4)	ND(0.37)	--
		Q2015-3	460 J-	ND(0.04) UJ	ND(0.04) UJ	--
		Q2015-4	730	ND(0.04) UJ	ND(0.04)	--
		Q2016-1	380	ND(0.2)	ND(0.19)	--
		Q2016-2	396	ND(0.31)	ND(0.31)	--
R-41		Q2006-2	63	ND	22.1	94
R-44		Q2006-2	68	5.74	89	331
R-45		Q2006-2	38.3	0.976	55	196
R-46		Q2006-2	11	ND	2.53	5.14
R-47		Q1998-3	47.1	ND	16.8	123
		Q2006-2	64	ND	25.1	185
R-48		Q2006-2	15.6	2.41	56	132
R-49		Q1998-3	ND	ND	1.43	5.2
R-50		Q2001-1	490	ND	ND	ND
R-51		Q2001-1	360	ND	ND	ND
R-52		Q2001-1	600	ND	ND	ND
R-53	PM	Q2001-1	1870	100	ND	ND
		Q2006-2	27.6	ND	ND	15
RE-36		Q1998-2	5250	67	22.6	749
RS-1	SI	Q1998-3	2.4	ND	ND	ND
		Q2005-4	1.5	ND	ND	1.6
RS-2		Q1998-3	230	ND	110	180
		Q2005-4	14	ND	91	86
		Q2007-1	1.7	ND	5.3	4.8
		Q2007-2	2.4	ND	9.3	9
		Q2007-3	1.7	ND	6.4	7.3
		Q2007-4	2.2	ND	ND	ND
		Q2008-1	1.6	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
RS-2	SI	Q2008-2	2.4	ND	1	ND
		Q2008-3	2.3	ND	1.6	1.7
		Q2008-4	3.7	ND	2.8	4.8
		Q2009-1	2.8	ND	2.5	4.5
		Q2009-2	3.6	ND	2.6	5.8
		Q2009-3	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-1	ND	ND	ND	ND
SAS-03		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
SAS-04		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
SAS-05		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
SAS-06		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
SAS-07		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
SAS-08		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
SAS-09		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
SAS-11		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
SD-1		Q2000-2	10	ND	1.9	ND
		Q2004-3	7.6	ND	4.7	ND
		Q2005-3	55	0.547	8.05	4.66
		Q2006-2	ND	ND	ND	ND
SD-3		Q1994-3	41	14	6.7	22
		Q1994-4	ND	ND	ND	ND
		Q1995-3	86	ND	4.9	6.5
		Q1996-4	33	6.3	4.3	290
		Q1997-3	240	ND	52	42
		Q1998-3	420	17	88	114
		Q1999-3	1100	4.8	99	102
		Q1999-4	1200	ND	280	170
		Q2000-1	270	ND	120	93
		Q2000-2	310	ND	140	110
		Q2000-4	84	ND	33	15
		Q2001-1	78	ND	27	10
		Q2001-2	73	ND	22	9
		Q2001-4	76	1.3	17	13
		Q2002-2	39	ND	15	8.1
		Q2002-4	61	ND	28	14
		Q2003-2	26	ND	17	10
		Q2003-4	8	ND	3.3	2.6
		Q2004-1	13	ND	5.9	4.6
		Q2004-2	22	ND	17	11

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SD-3	SI	Q2004-4	44	ND	65	50
		Q2005-2	9.5	ND	24	27
		Q2005-4	1.8	ND	ND	ND
		Q2006-2	3.9	ND	1.5	1.6
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	1.8	ND	ND	ND
		Q2008-2	1.3	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	1.8	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-2	1.7	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	1	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-2	51	25	430	650
		Q2013-3	59	190	640	1170
		Q2013-4	29	37	200	371
		Q2014-2	9.3	ND	16	10
		Q2014-3	13	ND	ND	ND
		Q2014-4	160	27	160	74
		Q2015-1	88	ND	190	88
		Q2015-2	190	160	670	--
		Q2015-4	28	ND(0.2)	81	--
		Q2016-1	34	2.9	160	--
		Q2016-2	64.6	4.34	482	236
		Q2016-4	34.2	3.38	184	130
		Q2017-1	21.3 J+	1.29	179 J+	87.2
		Q2017-2	25.5	ND(0.31)	62.2	53.5
		Q2017-4	4.38	ND(0.31)	ND(0.31)	ND(1)
		Q2018-2	4.25	ND(0.31)	8.54	ND(1)
		Q2018-4	2.38	ND(0.31)	ND(0.31)	ND(1)
		Q2019-2	2.83	ND(0.31)	4.98	ND(1)
		Q2019-4	4.69	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	4.09	ND(0.31)	4.04	3.89
		Q2020-4	4.7	ND(0.31)	1.4	ND(1)
		Q2021-2	3.74	ND(0.31)	ND(0.31)	ND(1)
		Q2021-4	3.16	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	1.9	ND(0.31)	1.91	4.47
		Q2022-4	2.11	ND(0.31)	ND(0.31)	ND(1)
		Q2023-3	22	43	856	1040
		Q2023-4	34.2	70.7	1190	1580
		Q2024-2	14.6	13.7	208	133
SMW-04		Q2006-2	ND	ND	ND	ND
SMW-05		Q1990-1	33	2.7	ND	5.3
		Q1998-3	ND	ND	ND	ND

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-05	SI	Q2000-2	0.22	ND	ND	ND
		Q2004-3	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-2	4.7	ND	ND	ND
		Q2014-3	4	ND	ND	ND
		Q2014-4	4.1	ND	ND	ND
		Q2015-1	4.3	ND	ND	ND
		Q2015-2	3	ND(0.04)	ND(0.04)	--
		Q2015-3	1.7	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	0.66	ND(0.31)	ND(0.31)	--
		Q2016-4	0.69	ND(0.31)	ND(0.31)	ND(1)
		Q2017-2	0.45	ND(0.31)	ND(0.31)	ND(1)
		Q2017-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2018-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2018-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	0.451	ND(0.31)	ND(0.31)	ND(1)
		Q2021-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2021-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-2	1.43	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	3.42	ND(0.31)	ND(0.31)	ND(1)
		Q2024-2	3.32	ND(0.31)	ND(0.31)	ND(1)
SMW-06		Q2000-2	0.23	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-1	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-3	ND	ND	ND	ND
		Q2006-4	6.4	ND	ND	ND

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-06	SI	Q2007-1	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-3	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2012-1	0.2	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-3	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-1	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-1	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2017-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2018-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2018-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2018-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2018-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2021-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2021-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2021-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	1.1	ND(0.31)	ND(0.31)	ND(1)
		Q2024-1	2.53 J-	ND(0.31) UJ	ND(0.31) UJ	ND(1) UJ
		Q2024-2	0.7	ND(0.31)	ND(0.31)	ND(1)
SMW-07		Q2005-3	16	ND	16.8	16
		Q2005-4	ND	ND	9.7	ND
		Q2006-1	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
SMW-08		Q1998-3	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2015-1	ND	ND	ND	ND
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
SMW-09		Q1994-1	ND	ND	ND	2
		Q1994-2	ND	ND	ND	ND

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-09	SI	Q1994-3	ND	ND	ND	ND
		Q1994-4	ND	ND	ND	ND
		Q1995-1	ND	ND	ND	ND
		Q1995-2	ND	ND	ND	ND
		Q1995-3	ND	ND	ND	ND
		Q1995-4	ND	ND	ND	ND
		Q1996-1	ND	ND	ND	ND
		Q1996-2	ND	ND	ND	ND
		Q1996-4	ND	ND	ND	ND
		Q1997-1	ND	ND	ND	ND
		Q1997-2	ND	ND	ND	ND
		Q1997-3	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-1	ND	ND	ND	ND
		Q1999-2	ND	48	ND	ND
		Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-1	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
		Q2001-3	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-1	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-3	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-1	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-3	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-1	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-3	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-1	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-3	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-1	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-3	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-09	SI	Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-1	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-3	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-1	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	1.3	ND(0.2)	ND(0.19)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	0.78	ND(0.31)	ND(0.31)	ND(1)
		Q2016-3	0.89	ND(0.31)	ND(0.31)	ND(1)
		Q2016-4	0.83	ND(0.31)	ND(0.31)	ND(1)
		Q2017-1	0.59 J+	ND(0.31)	ND(0.31)	ND(1)
		Q2017-2	0.54	ND(0.31)	ND(0.31)	ND(1)
		Q2017-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2017-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2018-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2018-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2018-3	0.4	ND(0.31)	ND(0.31)	ND(1)
		Q2018-4	0.4	ND(0.31)	ND(0.31)	ND(1)
		Q2019-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-3	0.519	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	0.93	ND(0.31)	ND(0.31)	ND(1)
		Q2020-1	0.856	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	0.517	ND(0.31)	ND(0.31)	ND(1)
		Q2020-3	0.859	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	0.821	ND(0.31)	ND(0.31)	ND(1)
		Q2021-1	0.948	ND(0.31)	ND(0.31)	ND(1)
		Q2021-2	0.74	ND(0.31)	ND(0.31)	ND(1)
		Q2021-4	0.554	ND(0.31)	ND(0.31)	ND(1)
		Q2022-3	0.538	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	0.99	ND(0.31)	ND(0.31)	ND(1)
		Q2023-1	0.955	ND(0.31)	ND(0.31)	ND(1)
		Q2023-2	0.763	ND(0.31)	ND(0.31)	ND(1)
		Q2023-3	0.774	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	0.59	ND(0.31)	ND(0.31)	ND(1)
		Q2024-1	0.67 J-	ND(0.31) UJ	ND(0.31) UJ	ND(1) UJ
		Q2024-2	0.54	ND(0.31)	ND(0.31)	ND(1)
SMW-10		Q1994-1	72	ND	ND	4

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-10	SI	Q1994-2	72	1	ND	2
		Q1994-3	59	ND	ND	ND
		Q1994-4	65	ND	ND	4
		Q1995-1	80	ND	ND	1
		Q1995-2	64	ND	ND	2.2
		Q1995-3	20	ND	ND	1.6
		Q1995-4	26	ND	ND	1.9
		Q1996-1	6.4	ND	ND	ND
		Q1996-2	1.4	ND	ND	2.4
		Q1996-4	ND	ND	ND	ND
		Q1997-1	1.1	ND	ND	2
		Q1997-2	5	ND	ND	1.6
		Q1997-3	2	ND	ND	2
		Q1997-4	9.3	ND	ND	2.8
		Q1998-1	8.4	ND	ND	1.9
		Q1998-2	2.5	ND	ND	1.5
		Q1998-3	7	ND	ND	ND
		Q1998-4	5.4	ND	ND	1.7
		Q1999-1	6.5	ND	ND	1.5
		Q1999-2	5.3	ND	ND	1.4
		Q1999-3	8.1	ND	ND	2
		Q1999-4	7.3	ND	ND	1.4
		Q2000-1	4.6	ND	ND	ND
		Q2000-2	2.9	ND	ND	ND
		Q2000-3	1.8	ND	ND	ND
		Q2000-4	2.4	ND	ND	ND
		Q2001-1	4.6	ND	ND	ND
		Q2001-2	5.2	ND	ND	ND
		Q2001-3	4.6	ND	ND	ND
		Q2001-4	4.9	ND	ND	ND
		Q2002-1	7.2	ND	ND	ND
		Q2002-2	5.8	ND	ND	ND
		Q2002-3	7.3	ND	ND	ND
		Q2002-4	4.8	ND	ND	ND
		Q2003-1	4.5	ND	ND	ND
		Q2003-2	4.6	ND	ND	ND
		Q2003-3	4.3	ND	ND	ND
		Q2003-4	3.9	ND	ND	ND
		Q2004-1	6.1	ND	ND	ND
		Q2004-2	5.9	ND	ND	ND
		Q2004-3	6.3	ND	ND	ND
		Q2004-4	4.2	ND	ND	ND
		Q2005-1	4.3	ND	ND	ND
		Q2005-2	4.6	ND	ND	ND
		Q2005-3	6	ND	ND	ND
		Q2005-4	2.3	ND	ND	ND
		Q2006-1	3.9	ND	ND	ND
		Q2006-2	1.6	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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The method detection limit (MDL) was used as the reporting limit.

APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-10	SI	Q2006-3	4.4	ND	ND	ND
		Q2006-4	2.5	ND	ND	ND
		Q2007-2	2.5	ND	9.1	8.7
		Q2008-2	5.2	ND	ND	ND
		Q2008-4	5.3	ND	ND	ND
		Q2009-1	7	ND	ND	ND
		Q2009-2	7.2	ND	ND	ND
		Q2009-3	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-1	ND	ND	ND	ND
		Q2010-2	1.4	ND	ND	ND
		Q2011-1	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2012-1	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2013-1	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2016-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2017-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2018-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2018-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2021-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2021-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2024-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
SMW-11		Q1998-3	ND	ND	ND	ND
		Q2000-2	0.59	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
SMW-12A		Q1994-3	1400	230	570	1270
		Q1994-4	330	7	ND	920
		Q1995-3	1600	510	570	2760
		Q1996-3	18	ND	9.4	3.9

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-12A	SI	Q1996-4	2200	490	630	2820
		Q1997-3	2000	40	560	2610
		Q2002-2	2400	ND	470	1300
		Q2002-4	1000	3.8	490	1210
		Q2005-2	330	4.4	460	880
		Q2005-4	7.8	ND	ND	1.3
		Q2006-2	3.7	ND	ND	11
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2010-3	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2015-2	1.5	ND(0.11)	ND(0.16)	ND(0.4)
		Q2016-2	0.75 J	ND(0.2)	ND(0.2)	ND(0.46)
SMW-12B		Q1998-3	66	ND	61	110
		Q1999-3	140	ND	55	132
		Q2000-2	150	ND	96	93
		Q2003-4	ND	ND	24	23
		Q2004-2	ND	ND	19	17
		Q2008-2	260	1.6	150	140
		Q2009-2	100	ND	4.7	140
		Q2010-2	170	ND	120	180
		Q2011-2	170	ND	140	250
		Q2012-2	160	ND	91	72
		Q2013-2	680	ND	270	580

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-12B	SI	Q2017-2	275 J+	ND(0.6)	95.6	277
		Q2017-4	266	ND(0.31)	77.1	390
		Q2018-2	148	ND(0.31)	47.6	229
		Q2018-4	150	ND(0.31)	48.1	324
		Q2019-2	93.4	1.84	8.21	137
		Q2019-4	228	ND(0.31)	49	320
		Q2020-2	272	ND(0.31)	50.7	372
		Q2020-4	65.7	ND(3.1)	15.6	181
		Q2021-2	182	ND(3.1)	ND(3.1)	280
		Q2021-4	180	ND(0.31)	12.8	344
		Q2022-3	138	ND(0.31)	29.9	167
		Q2022-4	103	ND(0.31)	4.21	172
		Q2023-3	4.99	ND(0.31)	1.38	10.7
		Q2023-4	1.55	ND(0.31)	1.58	3.31
		Q2024-2	1.3	ND(0.31)	ND(0.31)	7.04
SMW-12C		Q2004-4	ND	ND	6	6.6
SMW-13		Q1994-1	ND	ND	ND	2
		Q1994-2	ND	ND	ND	ND
		Q1994-3	ND	ND	ND	ND
		Q1994-4	ND	ND	ND	4
		Q1995-1	ND	ND	ND	ND
		Q1995-2	ND	ND	ND	ND
		Q1995-3	ND	ND	ND	ND
		Q1995-4	ND	ND	ND	ND
		Q1996-1	ND	ND	ND	ND
		Q1996-2	ND	ND	ND	ND
		Q1996-4	ND	ND	ND	ND
		Q1997-1	ND	ND	ND	ND
		Q1997-2	ND	ND	ND	ND
		Q1997-3	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-13	SI	Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	2.4
		Q1998-4	ND	ND	ND	ND
		Q1999-1	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-3	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-1	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
		Q2009-3	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
SMW-15		Q1994-1	ND	ND	ND	ND
		Q1994-2	ND	ND	ND	ND
		Q1994-3	ND	ND	ND	ND
		Q1994-4	ND	ND	ND	ND
		Q1995-1	ND	ND	ND	ND
		Q1995-2	ND	5.8	ND	ND
		Q1995-3	ND	ND	ND	ND
		Q1995-4	ND	ND	ND	ND
		Q1996-1	ND	ND	ND	ND
		Q1996-2	ND	ND	ND	ND
		Q1996-4	ND	ND	ND	ND
		Q1997-1	ND	ND	ND	ND
		Q1997-2	ND	ND	ND	ND
		Q1997-3	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-1	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
SMW-16		Q1994-1	ND	ND	ND	ND
		Q1994-2	ND	ND	ND	ND
		Q1994-3	ND	ND	ND	ND
		Q1994-4	ND	ND	ND	ND
		Q1995-1	ND	ND	ND	ND
		Q1995-2	ND	1.8	ND	ND
		Q1995-3	ND	ND	ND	ND
		Q1995-4	ND	ND	ND	ND
		Q1996-1	ND	ND	ND	ND
		Q1996-2	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-16	SI	Q1996-4	ND	ND	ND	ND
		Q1997-1	ND	ND	ND	ND
		Q1997-2	ND	ND	ND	ND
		Q1997-3	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-1	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
SMW-17		Q2000-2	ND	ND	ND	ND
SMW-21A		Q1994-1	43	ND	12	9
		Q1994-2	41	ND	10	6
		Q1994-3	52	ND	4.9	2.2
		Q1994-4	72	ND	8	5
		Q1995-1	44	ND	6	2.5
		Q1995-2	38	ND	15	9.1
		Q1995-3	23	ND	9.6	5.1
		Q1995-4	26	ND	12	6
		Q1996-1	23	ND	10	5.4
		Q1996-2	20	ND	9.4	4.1
		Q1996-3	18	ND	9.7	3.7
		Q1996-4	18	ND	14	9.7
		Q1997-1	21	ND	14	9.7
		Q1997-2	25	ND	14	10
		Q1997-3	27	ND	19	16
		Q1997-4	11	ND	11	11
		Q1998-1	6.3	ND	7.2	7.9

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-21A	SI	Q1998-2	6.5	ND	5.3	4.4
		Q1998-3	13	ND	6.3	5
		Q1998-4	30	ND	6	3.6
		Q1999-1	23	ND	4.9	2.9
		Q1999-2	7.4	ND	ND	ND
		Q1999-3	24	ND	6.7	4.7
		Q1999-4	10	ND	1.8	1.7
		Q2000-1	16	ND	ND	8
		Q2000-2	19	ND	5.2	1.6
		Q2000-3	17	ND	6.2	1.1
		Q2000-4	7.8	ND	1.7	ND
		Q2001-1	14	ND	7.1	ND
		Q2001-2	17	ND	8.6	ND
		Q2001-4	10	ND	18	2.4
		Q2002-2	8.2	ND	1.2	ND
		Q2002-4	13	ND	2.1	ND
		Q2003-2	14	ND	ND	ND
		Q2003-4	6.8	ND	ND	ND
		Q2004-2	12	ND	ND	ND
		Q2004-4	15	ND	ND	ND
		Q2005-2	5.9	ND	ND	ND
		Q2005-4	14	ND	ND	ND
		Q2006-1	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-21A	SI	Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	3.5	ND	ND	ND
		Q2009-4	4	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-1	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2016-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2017-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2018-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-21A	SI	Q2018-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2018-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2018-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2021-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2021-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2021-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	0.482	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2024-1	ND(0.12) UJ	ND(0.31) UJ	ND(0.31) UJ	ND(1) UJ
		Q2024-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
SMW-21B		Q1994-1	ND	ND	ND	ND
		Q1994-2	5	ND	ND	ND
		Q1994-3	8	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-21B	SI	Q1994-4	5	ND	ND	ND
		Q1995-1	2.9	ND	ND	ND
		Q1995-2	6.5	ND	ND	ND
		Q1995-3	2.4	ND	ND	ND
		Q1995-4	2.1	ND	ND	ND
		Q1996-1	1.6	ND	ND	ND
		Q1996-2	2	ND	ND	ND
		Q1996-4	ND	ND	ND	ND
		Q1997-1	6.7	ND	3.6	3.5
		Q1997-2	ND	ND	ND	ND
		Q1997-3	3	ND	2	3
		Q1997-4	1.5	ND	1.5	2.5
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	2.6	ND	ND	ND
		Q1998-4	7.7	ND	ND	ND
		Q1999-1	6	ND	ND	ND
		Q1999-2	4.7	ND	ND	ND
		Q1999-3	10	ND	ND	ND
		Q1999-4	9.4	ND	ND	ND
		Q2000-1	6.8	ND	ND	ND
		Q2000-2	5.8	ND	ND	ND
		Q2000-3	5.8	ND	ND	ND
		Q2000-4	2.8	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
* - The first result represents the laboratory reported concentration. The second result was evaluated to be undetected at the reported concentration by the data validator. The result was determined to be a false positive.
The method detection limit (MDL) was used as the reporting limit.

APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-21B	SI	Q2001-1	4.4	ND	ND	ND
		Q2001-2	3.4	ND	ND	ND
SMW-22A		Q1994-1	8	ND	ND	3
		Q1994-2	6	ND	ND	2
		Q1994-3	7.5	ND	ND	ND
		Q1995-1	5.2	ND	ND	ND
		Q1995-2	6.7	ND	ND	2
		Q1995-3	3.6	ND	ND	ND
		Q1995-4	4.1	ND	ND	1.1
		Q1996-1	3.8	ND	ND	ND
		Q1996-2	5.4	ND	ND	1.5
		Q1996-4	3.8	ND	ND	ND
		Q1997-1	2.4	ND	ND	2.1
		Q1997-2	1.7	ND	ND	2.2
		Q1997-3	5	ND	ND	2
		Q1997-4	23	ND	ND	2.7
		Q1998-1	1.4	ND	ND	1.7
		Q1998-2	1.2	ND	ND	1.9
		Q1998-3	ND	ND	ND	2
		Q1998-4	ND	ND	ND	2.3
		Q1999-1	ND	ND	ND	1.2
		Q1999-2	ND	ND	ND	1.8
		Q1999-3	ND	ND	ND	1.4
		Q1999-4	26	ND	ND	1.9

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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The method detection limit (MDL) was used as the reporting limit.

APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-22A	SI	Q2000-1	95	ND	ND	1.8
		Q2000-2	1.4	ND	ND	1.5
		Q2000-3	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-1	ND	ND	ND	2
		Q2001-2	ND	ND	ND	1.8
		Q2005-3	201	ND	173	273
		Q2005-4	2	ND	18	13
		Q2006-1	ND	ND	10	7.4
		Q2006-2	ND	ND	26	17
		Q2006-3	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-1	ND	ND	13	23
		Q2007-2	ND	ND	ND	ND
		Q2007-3	ND	ND	ND	3
		Q2007-4	ND	ND	ND	9
		Q2008-1	ND	ND	ND	8
		Q2008-2	ND	ND	ND	2.3
		Q2008-3	ND	ND	ND	6.9
		Q2008-4	ND	ND	ND	11
		Q2009-1	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	2.2
		Q2009-3	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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The method detection limit (MDL) was used as the reporting limit.

APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-22A	SI	Q2010-1	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-3	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-1	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-3	ND	ND	ND	2.3
		Q2011-4	ND	ND	ND	ND
		Q2012-1	ND	ND	ND	ND
		Q2012-2	ND	ND	ND	ND
		Q2012-3	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-1	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-3	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-1	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-3	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.12)	ND(0.31)	ND(0.31)	--
		Q2017-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
* - The first result represents the laboratory reported concentration. The second result was evaluated to be undetected at the reported concentration by the data validator. The result was determined to be a false positive.
The method detection limit (MDL) was used as the reporting limit.

APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-22B	SI	Q1994-1	19	ND	ND	ND
		Q1994-2	16	ND	ND	ND
		Q1994-3	11	ND	ND	ND
		Q1994-4	11	ND	ND	ND
		Q1995-1	10	ND	ND	ND
		Q1995-2	20	ND	ND	ND
		Q1995-3	12	ND	ND	ND
		Q1995-4	13	ND	ND	ND
		Q1996-1	10	ND	ND	ND
		Q1996-2	17	ND	ND	ND
		Q1996-3	20	ND	ND	ND
		Q1996-4	21	ND	ND	ND
		Q1997-1	19	ND	ND	ND
		Q1997-2	18	ND	ND	ND
		Q1997-3	15	ND	ND	ND
		Q1997-4	11	ND	ND	ND
		Q1998-1	6.3	ND	ND	ND
		Q1998-2	6.2	ND	ND	ND
		Q1998-3	6.2	ND	ND	ND
		Q1998-4	4.7	ND	ND	ND
		Q1999-1	3.7	ND	ND	ND
		Q1999-2	3.2	ND	ND	ND
		Q1999-3	3.3	ND	ND	ND
		Q1999-4	3.4	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-22B	SI	Q2000-1	3	ND	ND	ND
		Q2000-2	2.1	ND	ND	ND
		Q2000-3	1.8	ND	ND	ND
		Q2000-4	1.1	ND	ND	ND
		Q2001-1	1.1	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
SMW-23		Q1998-3	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
SMW-24		Q1998-3	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	ND
		Q2007-4	ND	ND	ND	ND
		Q2008-2	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-2	ND	ND	ND	ND
		Q2011-4	ND	ND	ND	ND
		Q2012-3	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-3	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	ND(0.12)	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2017-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-24	SI	Q2017-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2018-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2021-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2021-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
SMW-25		Q1998-3	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2011-3	ND	ND	ND	ND
SMW-26C		Q1995-3	ND	ND	ND	ND
		Q1996-3	ND	ND	ND	ND
		Q1996-4	ND	ND	ND	ND
		Q1997-2	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-2	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
		Q2001-2	ND	ND	ND	ND
SMW-27		Q1998-2	9.3	ND	2.2	ND
		Q1998-3	9.2	ND	1.3	ND
		Q2001-3	ND	ND	ND	ND
		Q2001-4	1.8	ND	ND	ND
		Q2002-1	ND	ND	ND	ND
		Q2002-2	ND	ND	ND	ND
		Q2002-3	ND	ND	ND	ND
		Q2002-4	ND	ND	ND	ND
		Q2003-1	ND	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-27	SI	Q2003-2	ND	ND	ND	ND
		Q2003-3	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-1	ND	ND	ND	ND
		Q2004-2	ND	ND	ND	ND
		Q2004-3	ND	ND	ND	ND
		Q2004-4	ND	ND	ND	ND
		Q2005-1	ND	ND	ND	ND
		Q2005-2	ND	ND	ND	ND
		Q2005-3	ND	ND	ND	ND
		Q2005-4	2.4	ND	ND	ND
		Q2006-1	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-3	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2011-3	ND	ND	ND	ND
		Q2011-4	5.2	ND	ND	ND
		Q2012-1	0.6	ND	ND	ND
		Q2012-3	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-1	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-3	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-1	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-3	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2016-2	0.43	ND(0.31)	ND(0.31)	--
SMW-28		Q1994-1	ND	ND	ND	ND
		Q1994-2	ND	ND	ND	ND
		Q1994-3	ND	ND	ND	ND
		Q1994-4	ND	ND	ND	ND
		Q1995-1	ND	ND	ND	ND
		Q1995-2	ND	ND	ND	ND
		Q1995-3	ND	ND	ND	ND
		Q1995-4	ND	ND	ND	ND
		Q1996-1	ND	ND	ND	ND
		Q1996-2	ND	ND	ND	ND
		Q1996-4	ND	ND	ND	ND
		Q1997-1	ND	ND	ND	ND
		Q1997-2	ND	ND	ND	ND
		Q1997-3	ND	ND	ND	ND
		Q1997-4	ND	ND	ND	ND
		Q1998-1	ND	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	ND	ND	ND	ND

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-28	SI	Q1998-4	ND	ND	ND	ND
		Q1999-1	ND	ND	ND	ND
		Q1999-2	ND	ND	ND	ND
		Q1999-4	ND	ND	ND	ND
		Q2000-4	ND	ND	ND	ND
SMW-29		Q1998-3	9.1	ND	ND	ND
		Q2012-1	0.7	ND	ND	ND
		Q2012-3	ND	ND	ND	ND
		Q2012-4	ND	ND	ND	ND
		Q2013-1	ND	ND	ND	ND
		Q2013-2	ND	ND	ND	ND
		Q2013-3	ND	ND	ND	ND
		Q2013-4	ND	ND	ND	ND
		Q2014-1	ND	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-3	ND	ND	ND	ND
		Q2015-1	1.1	ND	ND	ND
		Q2015-2	1.1	ND(0.04)	ND(0.04)	--
		Q2016-1	1.2	ND(0.2)	ND(0.19)	--
		Q2016-2	1.21	ND(0.31)	ND(0.31)	--
		Q2017-2	0.896	ND(0.31)	ND(0.31)	ND(1)
		Q2018-1	0.84	ND(0.31)	ND(0.31)	ND(1)
		Q2018-2	1	ND(0.31)	ND(0.31)	ND(1)
		Q2018-3	0.99	ND(0.31)	ND(0.31)	ND(1)
		Q2018-4	0.88	ND(0.31)	ND(0.31)	ND(1)
		Q2019-1	1.03	ND(0.31)	ND(0.31)	ND(1)
		Q2019-2	0.878	ND(0.31)	ND(0.31)	ND(1)
		Q2019-3	0.85	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	0.99	ND(0.31)	ND(0.31)	ND(1)
		Q2020-1	0.856	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	0.937	ND(0.31)	ND(0.31)	ND(1)
		Q2020-3	0.868	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	0.596	ND(0.31)	ND(0.31)	ND(1)
		Q2021-1	0.823	ND(0.31)	ND(0.31)	ND(1)
		Q2021-2	0.9	ND(0.31)	ND(0.31)	ND(1)
		Q2021-4	0.77	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	0.801	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	0.69	ND(0.31)	ND(0.31)	ND(1)
		Q2023-1	0.735	ND(0.31)	ND(0.31)	ND(1)
		Q2023-2	0.861	ND(0.31)	ND(0.31)	ND(1)
		Q2023-3	0.828	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	0.71	ND(0.31)	ND(0.31)	ND(1)
		Q2024-1	1.02 J-	ND(0.31) UJ	ND(0.31) UJ	ND(1) UJ
		Q2024-2	1	ND(0.31)	ND(0.31)	ND(1)
SMW-30		Q1998-3	ND	ND	ND	ND
		Q2000-2	1.2	ND	ND	ND
		Q2000-3	ND	ND	ND	ND
		Q2020-2	0.909	ND(0.31)	ND(0.31)	ND(1)

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-30	SI	Q2020-4	0.594	ND(0.31)	ND(0.31)	ND(1)
SMW-31		Q2005-3	23.8	0.726	ND	ND
		Q2005-4	10	ND	ND	ND
		Q2006-1	3.9	ND	ND	ND
		Q2006-2	1.7	ND	ND	ND
		Q2006-3	3.6	ND	ND	ND
		Q2006-4	ND	ND	2	14
		Q2007-1	4.5	ND	ND	ND
		Q2007-2	2.6	ND	ND	ND
		Q2007-3	3.3	ND	ND	ND
		Q2007-4	2.8	ND	ND	ND
		Q2008-1	2.1	ND	ND	ND
		Q2008-2	3.2	ND	ND	ND
		Q2008-3	3.8	ND	ND	ND
		Q2008-4	2.4	ND	ND	ND
		Q2009-1	2.7	ND	ND	ND
		Q2009-2	2.8	ND	ND	ND
		Q2009-3	2.5	ND	ND	ND
		Q2009-4	1.9	ND	ND	ND
		Q2010-1	1.8	ND	ND	ND
		Q2010-2	2.5	ND	ND	ND
		Q2010-3	2.7	ND	ND	ND
		Q2010-4	2.5	ND	ND	ND
		Q2011-1	1.8	ND	ND	ND
		Q2011-2	1.6	ND	ND	ND
		Q2011-3	1.8	ND	ND	ND
		Q2011-4	1.9	ND	ND	ND
		Q2012-1	2.4	ND	ND	ND
		Q2012-2	2.6	ND	ND	ND
		Q2012-3	2.1	ND	ND	ND
		Q2012-4	2.3	ND	ND	ND
		Q2013-1	1.1	ND	ND	ND
		Q2013-2	1.5	ND	ND	ND
		Q2013-3	1.6	ND	ND	ND
		Q2013-4	1.6	ND	ND	ND
		Q2014-1	1.2	ND	ND	ND
		Q2014-2	ND	ND	ND	ND
		Q2014-3	ND	ND	ND	ND
		Q2014-4	1.2	ND	ND	ND
		Q2015-1	1.8	ND	ND	ND
		Q2015-2	1.6	ND(0.04)	ND(0.04)	--
		Q2015-3	1.4	ND(0.04)	ND(0.04)	--
		Q2015-4	1.9	ND(0.2)	ND(0.19)	--
		Q2016-1	2	ND(0.2)	ND(0.19)	--
		Q2016-2	1.65	ND(0.31)	ND(0.31)	--
		Q2016-3	1.43	ND(0.31)	ND(0.31)	ND(1)
		Q2016-4	2.31	ND(0.31)	ND(0.31)	ND(1)
		Q2017-1	1.84 J+	ND(0.31)	ND(0.31)	ND(1)

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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The method detection limit (MDL) was used as the reporting limit.

APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-31	SI	Q2017-2	2.12	ND(0.31)	ND(0.31)	ND(1)
		Q2017-3	2.28	ND(0.31)	ND(0.31)	ND(1)
		Q2017-4	2.66	ND(0.31)	ND(0.31)	ND(1)
		Q2018-1	3.58	ND(0.31)	ND(0.31)	ND(1)
		Q2018-2	3.34	ND(0.31)	ND(0.31)	ND(1)
		Q2018-3	3.59	ND(0.31)	ND(0.31)	ND(1)
		Q2018-4	3.56	ND(0.31)	ND(0.31)	ND(1)
		Q2019-1	3.68	ND(0.31)	ND(0.31)	ND(1)
		Q2019-2	3.63	ND(0.31)	ND(0.31)	ND(1)
		Q2019-3	3.52	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	3.15	ND(0.31)	ND(0.31)	ND(1)
		Q2020-1	3.26	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	3.47	ND(0.31)	ND(0.31)	ND(1)
		Q2020-3	2.94	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	2.87	ND(0.31)	ND(0.31)	ND(1)
		Q2021-1	2.7	ND(0.31)	ND(0.31)	ND(1)
		Q2021-2	3.73	ND(0.31)	ND(0.31)	ND(1)
		Q2021-4	3.22	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	3.83	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	2.24	ND(0.31)	ND(0.31)	ND(1)
		Q2023-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2024-1	ND(0.12) UJ	ND(0.31) UJ	ND(0.31) UJ	ND(1) UJ
		Q2024-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
SMW-32		Q2005-3	20	ND	37.8	33
		Q2005-4	130	73	530	1530
		Q2006-1	1.2	1.6	8.9	18
		Q2006-2	1.9	ND	15	20
		Q2006-3	ND	ND	4.7	13
		Q2006-4	1.2	ND	1.1	4
		Q2007-1	ND	ND	ND	ND
		Q2007-2	ND	ND	ND	1.3
		Q2007-3	ND	ND	ND	ND
		Q2007-4	1.2	ND	6	10
		Q2008-1	1.2	ND	14	20
		Q2008-2	1.8	ND	3	7.6
		Q2008-3	2.8	ND	29	42
		Q2008-4	1.7	ND	1.7	6.3
		Q2009-1	0.7	ND	0.8	1.3
		Q2009-2	1.7	ND	1.5	2
		Q2009-3	ND	ND	ND	ND
		Q2009-4	1.6	ND	1.1	ND
		Q2010-1	5.4	ND	27	20
		Q2010-2	5.9	ND	13	12
		Q2010-3	4.6	ND	2	2.9
		Q2010-4	4.8	ND	2.1	3.9

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-32	SI	Q2011-1	1.4	ND	1	ND
		Q2011-2	3.1	ND	1.1	2
		Q2011-3	110	ND	20	4.6
		Q2011-4	3.7	ND	1.1	ND
		Q2012-1	26	ND	2.3	9.2
		Q2012-2	9.7	ND	ND	6.3
		Q2012-3	16	ND	ND	2.4
		Q2012-4	ND	ND	ND	ND
		Q2013-1	28	ND	2.8	10
		Q2013-2	85	ND	ND	63
		Q2013-3	110	ND	ND	130
		Q2013-4	12	ND	ND	9.6
		Q2014-1	3.4	ND	ND	ND
		Q2014-2	16	ND	ND	ND
		Q2014-3	3	ND	ND	ND
		Q2014-4	5.6	ND	ND	ND
		Q2015-1	ND	ND	ND	ND
		Q2015-2	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-3	18	ND(0.04) UJ	ND(0.04) UJ	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	1.03	ND(0.31)	ND(0.31)	--
		Q2016-3	29.6	ND(0.31)	ND(0.31)	ND(1)
		Q2016-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2017-1	1.51 J+	ND(0.31)	ND(0.31)	ND(1)
		Q2017-2	24.4	ND(0.31)	ND(0.31)	ND(1)
		Q2017-3	17.7	ND(0.31)	ND(0.31)	ND(1)
		Q2017-4	16.7	ND(0.31)	ND(0.31)	ND(1)
		Q2018-2	10	ND(0.31)	ND(0.31)	ND(1)
		Q2018-4	5.76	ND(0.31)	ND(0.31)	ND(1)
		Q2019-2	ND(0.12)	1.13	ND(0.31)	ND(1)
		Q2019-4	2.16	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	1.15	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	28.1	ND(0.31)	ND(0.31)	ND(1)
		Q2021-2	9.91	ND(0.31)	ND(0.31)	ND(1)
		Q2021-4	10.3	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	22	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2024-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
SMW-33		Q2005-3	147	ND	843	2100
		Q2005-4	129	ND	948	2455
		Q2008-2	11	ND	590	1570
		Q2009-1	22	ND	240	1000
		Q2009-2	58	ND	310	830
		Q2009-3	ND	ND	155	780
		Q2009-4	ND	ND	272	880

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-33	SI	Q2010-1	ND	ND	270	896
		Q2010-2	ND	ND	260	800
		Q2010-3	ND	ND	120	397
		Q2010-4	ND	ND	85	258
		Q2011-1	1	ND	51	201
		Q2011-2	ND	ND	38	93
		Q2011-3	4	ND	71	164
		Q2011-4	ND	ND	25	93
		Q2012-1	2.2	ND	69	156
		Q2012-2	ND	ND	53	140
		Q2012-3	1	ND	18	46
		Q2012-4	ND	ND	9.9	33
		Q2013-1	ND	ND	5.6	17.2
		Q2013-2	1	ND	21	62
		Q2013-3	ND	ND	30	79.5
		Q2013-4	ND	ND	14	68.8
		Q2014-1	ND	ND	11	57.8
		Q2014-2	ND	ND	7.9	49.8
		Q2014-3	ND	ND	7.2	38.2
		Q2014-4	ND	ND	8.3	45.7
		Q2015-1	ND	ND	12	93
		Q2015-2	ND(0.03)	ND(0.04)	4.6	--
		Q2015-3	ND(0.03)	ND(0.04)	9.1	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	0.43	ND(0.31)	ND(0.31)	--
		Q2016-3	ND(0.12)	ND(0.31)	ND(0.31)	6.52 J
		Q2016-4	0.98	ND(0.31)	1.32	7.18
		Q2017-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2017-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2017-3	1.76	ND(0.31)	1.82	62.2
		Q2017-4	6.42	ND(0.31)	ND(0.31)	63.5
		Q2018-2	1.21	ND(0.31)	ND(0.31)	105
		Q2018-4	1.98	ND(0.31)	ND(0.31)	90.2
SMW-33R		Q2019-4	0.571	ND(0.31)	1.32	16.7
		Q2020-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2021-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2021-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-33R	SI	Q2023-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2024-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
SMW-34		Q2010-3	38	ND	23.1	8.58
		Q2010-4	60	ND	43	25
		Q2011-1	93	ND	42	24
		Q2011-2	160	ND	25	15
		Q2016-1	29	1.4	6.6	--
		Q2018-2	23.2	ND(0.31)	18.5	ND(1)
		Q2018-4	9.16	ND(0.31)	22.2	6.23
		Q2019-2	14.9	ND(0.31)	27.1	ND(1)
		Q2019-4	17.2	ND(0.31)	26.7	ND(1)
		Q2020-2	17.5	ND(0.31)	27.9	ND(1)
		Q2020-4	6.96	ND(0.31)	8.25	ND(1)
		Q2021-3	13.3	ND(0.31)	29.3	9.71
		Q2021-4	25.7	ND(0.31)	53.8	19.9
		Q2022-1	27.5	ND(0.31)	60.3	25.3
		Q2022-3	7.95	ND(0.31)	13.2	ND(1)
		Q2022-4	6.84	ND(0.31)	14.7	ND(1)
		Q2023-3	2.79	ND(0.31)	2.3	ND(1)
		Q2023-4	2.04	ND(0.31)	ND(0.31)	ND(1)
		Q2024-2	2.63	ND(0.31)	1.19	ND(1)
SMW-35		Q2017-4	0.75	ND(0.31)	ND(0.31)	ND(1)
		Q2018-1	2.91	ND(0.31)	ND(0.31)	ND(1)
		Q2018-2	3.61	ND(0.31)	ND(0.31)	ND(1)
		Q2018-3	3.95	ND(0.31)	ND(0.31)	ND(1)
		Q2018-4	3.69	ND(0.31)	ND(0.31)	ND(1)
		Q2019-1	3.7	ND(0.31)	ND(0.31)	ND(1)
		Q2019-2	3.71	ND(0.31)	ND(0.31)	ND(1)
		Q2019-3	3.77	ND(0.31)	ND(0.31)	ND(1)
		Q2019-4	3.61	ND(0.31)	ND(0.31)	ND(1)
		Q2020-1	1.68	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	3.99	ND(0.31)	ND(0.31)	ND(1)
		Q2020-3	2.77	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	3.67	ND(0.31)	ND(0.31)	ND(1)
		Q2021-1	2.13	ND(0.31)	ND(0.31)	ND(1)
		Q2021-2	3.21	ND(0.31)	ND(0.31)	ND(1)
		Q2021-4	2.66	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	1.36	ND(0.31)	ND(0.31)	ND(1)
		Q2022-3	3.34	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	2.85	ND(0.31)	ND(0.31)	ND(1)
		Q2023-1	3.48	ND(0.31)	ND(0.31)	ND(1)
		Q2023-2	2.94	ND(0.31)	ND(0.31)	ND(1)
		Q2023-3	3.13	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	0.94	ND(0.31)	ND(0.31)	ND(1)

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-35	SI	Q2024-1	0.94 J-	ND(0.31) UJ	ND(0.31) UJ	ND(1) UJ
		Q2024-2	1.15	ND(0.31)	ND(0.31)	ND(1)
SMW-36		Q2019-4	1.6	ND(0.31)	ND(0.31)	ND(1)
		Q2020-1	1.26	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	1.63	ND(0.31)	ND(0.31)	ND(1)
		Q2020-3	1.09	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	0.912	ND(0.31)	ND(0.31)	ND(1)
		Q2021-1	0.845	ND(0.31)	ND(0.31)	ND(1)
		Q2021-2	1.69	ND(0.31)	ND(0.31)	ND(1)
		Q2021-3	1.49	ND(0.31)	ND(0.31)	ND(1)
		Q2021-4	1.68	ND(0.31)	ND(0.31)	ND(1)
		Q2022-1	1.77	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	1.94	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	1.54	ND(0.31)	ND(0.31)	ND(1)
		Q2023-1	0.751	ND(0.31)	ND(0.31)	ND(1)
		Q2023-2	0.623	ND(0.31)	ND(0.31)	ND(1)
		Q2023-3	0.511	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	0.84	ND(0.31)	ND(0.31)	ND(1)
		Q2024-1	0.95 J-	ND(0.31) UJ	ND(0.31) UJ	ND(1) UJ
		Q2024-2	0.84	ND(0.31)	ND(0.31)	ND(1)
SMW-37		Q2023-1	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-2	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-3	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	0.56	ND(0.31)	ND(0.31)	ND(1)
		Q2024-1	0.92 J-	ND(0.31) UJ	ND(0.31) UJ	ND(1) UJ
		Q2024-2	0.93	ND(0.31)	ND(0.31)	ND(1)
SMW-I-1		Q1998-3	22	ND	ND	ND
		Q2000-2	19	ND	ND	ND
		Q2001-4	19	ND	ND	ND
		Q2002-2	18	ND	ND	ND
		Q2002-4	17	ND	ND	ND
		Q2003-2	16	ND	ND	ND
		Q2003-4	18	ND	ND	ND
		Q2004-2	20	ND	ND	ND
		Q2004-4	16	ND	ND	ND
		Q2005-2	17	ND	ND	ND
		Q2005-4	14	ND	ND	ND
		Q2006-2	12	ND	ND	ND
		Q2006-4	5.4	ND	ND	ND
		Q2007-2	3.2	ND	ND	ND
		Q2007-3	7.3	ND	ND	ND
		Q2007-4	6	ND	ND	ND
		Q2008-1	4.8	ND	ND	ND
		Q2008-2	6.3	ND	ND	ND
		Q2008-3	4.7	ND	ND	ND
		Q2008-4	2.9	ND	ND	ND
		Q2009-1	5	ND	ND	ND
		Q2009-2	6	ND	ND	ND

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-I-1	SI	Q2009-3	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-1	ND	ND	ND	ND
		Q2010-2	5.2	ND	ND	ND
		Q2010-3	4.3	ND	ND	ND
		Q2010-4	ND	ND	ND	ND
		Q2011-1	ND	ND	ND	ND
		Q2011-2	4.3	ND	ND	ND
		Q2011-3	ND	ND	ND	ND
		Q2011-4	1.3	ND	ND	ND
		Q2012-1	1.8	ND	ND	ND
		Q2012-2	4.3	ND	ND	ND
		Q2012-3	ND	ND	ND	ND
		Q2012-4	1.2	ND	ND	ND
		Q2013-1	3.5	ND	ND	ND
		Q2013-2	4	ND	ND	ND
		Q2013-3	3.8	ND	ND	ND
		Q2013-4	3.4	ND	ND	ND
		Q2014-1	2.8	ND	ND	ND
		Q2014-2	3.8	ND	ND	ND
		Q2014-3	3.2	ND	ND	ND
		Q2014-4	4.4	ND	ND	ND
		Q2015-1	5.1	ND	ND	ND
		Q2015-2	7.3	ND(0.08)	ND(0.07)	--
		Q2015-3	1.5	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-1	1.2	ND(0.2)	ND(0.19)	--
		Q2016-2	4.65	ND(0.31)	ND(0.31)	ND(1)
		Q2016-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2017-2	5.22	ND(0.31)	ND(0.31)	ND(1)
		Q2017-4	3.03	ND(0.31)	ND(0.31)	ND(1)
		Q2018-1	3.94	ND(0.31)	ND(0.31)	ND(1)
		Q2018-2	3.68	ND(0.31)	ND(0.31)	ND(1)
		Q2018-3	3.42	ND(0.31)	ND(0.31)	ND(1)
		Q2018-4	2.86	ND(0.31)	ND(0.31)	ND(1)
		Q2019-1	2.53	ND(0.31)	ND(0.31)	ND(1)
		Q2019-2	3.07	ND(0.31)	ND(0.31)	ND(1)
		Q2019-3	4.01	1.28	ND(0.31)	ND(1)
		Q2019-4	4.22	ND(0.31)	ND(0.31)	ND(1)
		Q2020-1	2.99	ND(0.31)	ND(0.31)	ND(1)
		Q2020-2	4.77	ND(0.31)	ND(0.31)	ND(1)
		Q2020-3	3.95	ND(0.31)	ND(0.31)	ND(1)
		Q2020-4	4.73	ND(0.31)	ND(0.31)	ND(1)
		Q2021-1	4.74	ND(0.31)	ND(0.31)	ND(1)
		Q2021-2	4.12	ND(0.31)	ND(0.31)	ND(1)
		Q2021-4	3.62	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	3.56	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	5.42	ND(0.31)	ND(0.31)	ND(1)

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SMW-I-1	SI	Q2023-2	4.88	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	5	ND(0.31)	ND(0.31)	ND(1)
		Q2024-2	5.38	ND(0.31)	ND(0.31)	ND(1)
SMW-I-3		Q1998-3	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
SPZ-3		Q1994-1	31	ND	ND	ND
		Q1994-2	2	ND	ND	ND
		Q1994-3	17	ND	ND	ND
		Q1994-4	23	ND	ND	ND
		Q1995-1	16	ND	ND	ND
		Q1995-2	11	ND	ND	ND
		Q1995-3	7.2	ND	ND	ND
		Q1995-4	11	ND	ND	ND
		Q1996-1	ND	ND	ND	ND
		Q1996-2	ND	ND	ND	ND
		Q1996-4	ND	ND	ND	ND
		Q1997-1	ND	ND	ND	ND
		Q1997-2	2.1	ND	ND	ND
		Q1997-3	ND	ND	ND	ND
		Q1997-4	3.7	ND	ND	ND
		Q1998-1	2.7	ND	ND	ND
		Q1998-2	ND	ND	ND	ND
		Q1998-3	1.7	ND	ND	ND
		Q1998-4	ND	ND	ND	ND
		Q1999-1	1.2	ND	ND	ND
		Q1999-2	1.8	ND	ND	ND
		Q1999-3	1.1	ND	ND	ND
		Q1999-4	3.4	ND	ND	ND
		Q2000-1	ND	ND	ND	ND
		Q2000-2	1.2	ND	ND	ND
		Q2000-3	1.1	ND	ND	ND
		Q2000-4	1.5	ND	ND	ND
		Q2001-1	5.1	ND	ND	ND
		Q2001-2	3.1	ND	ND	ND
		Q2001-3	ND	ND	ND	ND
		Q2001-4	ND	ND	ND	ND
		Q2002-1	2.5	ND	ND	ND
		Q2002-2	1.3	ND	ND	ND
		Q2002-3	ND	ND	ND	ND
		Q2002-4	1.4	ND	ND	ND
		Q2003-1	ND	ND	ND	ND
		Q2003-2	ND	ND	ND	ND
		Q2003-3	ND	ND	ND	ND
		Q2003-4	ND	ND	ND	ND
		Q2004-1	2.4	ND	ND	ND
		Q2004-2	1.1	ND	ND	ND
		Q2004-3	1.1	ND	ND	ND
		Q2004-4	ND	ND	ND	ND

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SPZ-3	SI	Q2005-1	ND	ND	ND	ND
		Q2005-2	1.5	ND	ND	ND
		Q2005-3	ND	ND	ND	ND
		Q2005-4	ND	ND	ND	ND
		Q2006-1	ND	ND	ND	ND
		Q2006-2	ND	ND	ND	ND
		Q2006-3	ND	ND	ND	ND
		Q2006-4	ND	ND	ND	ND
		Q2008-4	ND	ND	ND	ND
		Q2009-1	ND	ND	ND	ND
		Q2009-2	ND	ND	ND	ND
		Q2009-3	ND	ND	ND	ND
		Q2009-4	ND	ND	ND	ND
		Q2010-1	ND	ND	ND	ND
		Q2010-2	ND	ND	ND	ND
		Q2010-3	ND	ND	ND	ND
SW-01	PM	Q2014-1	4.3	200	ND	ND
		Q2014-2	437	85.1	5.25	14.27
		Q2014-3	145	12.8	ND	ND
		Q2014-4	258	7.87	1.83	5.6
		Q2015-1	158	2.38	1.22	4.06
		Q2015-2	687	4.15	8.75	--
		Q2015-3	8.2	ND(0.04)	ND(0.04)	--
		Q2015-4	36	ND(0.2)	ND(0.19)	--
		Q2016-1	65	ND(0.2)	ND(0.19)	--
		Q2016-2	53.4 J+	11.5 J+	5.67 J+	--
		Q2016-3	216	1.56	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-1	277	ND(1.55)	ND(1.55)	ND(3.1)
		Q2017-3	6.92	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-3	34.7	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	181	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	4.18	1.2	ND(0.31)	ND(0.93)
		Q2019-4	2.42	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	206	2.22	ND(0.31)	3.56
		Q2021-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	1.01	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	435	32.5	1	ND(1.4)
		Q2023-4	115	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	1.06	ND(2.5)	ND(2.5)	ND(2.5)
SW-02		Q2014-1	8	2	ND	ND
		Q2014-2	281	158	38.3	93.8
		Q2014-3	573	23.4	25.1	56.36
		Q2014-4	74.2	1.03	5.46	10.91
		Q2015-1	7.42	2.58	ND	ND
		Q2015-2	688	13.3	6.43	--

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SW-02	PM	Q2015-3	1.2	ND(0.04)	ND(0.04)	--
		Q2015-4	12	ND(0.2)	1.8	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	88.9 J+	9.34 J+	21.3 J+	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-1	164	1.15	7.08	21.79
		Q2017-3	2.04	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-3	4.98	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	7.18	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	2.21	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	142	70.2	ND(0.5)	ND(1.4)
		Q2023-4	0.59	ND(0.5)	ND(0.5)	ND(1.4)
SW-03		Q2014-1	900	72	43	122
		Q2014-2	15.8	7.14	ND	ND
		Q2014-3	3.6	1.74	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-1	6.2	ND	ND	ND
		Q2015-2	34.4	ND(0.31)	ND(0.31)	--
		Q2015-3	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	23.7	ND(0.31)	ND(0.31)	--
		Q2016-3	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-1	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.62)
		Q2017-2	11	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	32.8	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	19.4	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	19.9	6.33	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	5.05	ND(0.5)	ND(1.4)
		Q2024-2	13.2	27.8	ND(2.5)	ND(2.5)
SW-04		Q2014-1	110	51	1.3	2.3

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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SW-04	PM	Q2014-2	9.03	97	ND	ND
		Q2014-3	ND	ND	ND	ND
		Q2015-1	ND	1270	ND	ND
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2018-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2023-4	ND(0.15)	2.08	ND(0.5)	ND(1.4)
SW-05		Q2014-1	29	25	ND	ND
		Q2014-2	191	414	7.18	36.18
		Q2014-3	ND	1.13	ND	ND
		Q2014-4	ND	ND	ND	ND
		Q2015-1	0.81	76.8	ND	ND
		Q2018-3	ND(0.15)	6.59	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.12)	126	ND(0.31)	ND(1)
SW-06		Q2014-2	3.35	33.3	ND	ND
		Q2014-3	ND	27.5	ND	ND
		Q2014-4	ND	4.56	ND	ND
		Q2015-1	ND	20.3	ND	ND
		Q2015-2	61.7	205	ND(0.31)	--
		Q2015-3	ND(0.03)	ND(0.04)	ND(0.04)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-4	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2017-1	11.9	3.14	ND(0.31)	ND(0.62)
		Q2017-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-3	ND(0.15)	1.46	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
SW-07		Q2014-2	0.59	47.4	ND	ND
		Q2016-1	20	17	ND(0.19)	--
SW-08		Q2014-2	30.8	64	1.19	ND
		Q2014-3	0.8	179	ND	ND
		Q2015-3	ND(0.03)	52	ND(0.04)	--
		Q2016-1	67	7.9	ND(0.19)	--
		Q2018-3	ND(0.15)	34	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	19.5	ND(0.31)	ND(0.93)
SW-09		Q2014-2	327	84.7	4.86	5.64
		Q2014-3	57.3	2.39	ND	ND
		Q2014-4	100	3.39	ND	2.1
		Q2015-1	78.4	1.34	ND	ND
		Q2015-2	470	2.49	3.16	--
		Q2015-3	22	ND(0.04)	ND(0.04)	--
		Q2015-4	25	1.3	ND(0.19)	--
		Q2016-1	85	ND(0.2)	ND(0.19)	--

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KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SW-09	PM	Q2016-2	36.8 J+	1.74 J+	1.18 J+	--
		Q2016-3	1.39	ND(0.31)	ND(0.31)	--
		Q2016-4	28.1	ND(0.31)	ND(0.31)	--
		Q2017-1	66.1	ND(0.31)	ND(0.31)	ND(0.62)
		Q2017-3	0.68	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	205	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	1.27	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	0.96	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	146	96.2	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	270	40.8	ND(2.5)	ND(2.5)
SW-10		Q2014-2	0.51	271	ND	ND
		Q2014-3	ND	5.71	ND	ND
		Q2015-3	ND(0.13)	15	ND(0.19)	--
		Q2018-3	ND(0.15)	2.52	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	7.58	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.12)	9.34	ND(0.31)	ND(1)
SW-11		Q2014-2	287	98.5	3.51	9.56
		Q2014-3	7.88	ND	ND	ND
		Q2014-4	79.1	5.02	ND	ND
		Q2015-1	43.6	ND	ND	ND
		Q2015-2	411	4.03	2.81	--
		Q2015-3	6	ND(0.2)	ND(0.19)	--
		Q2015-4	1	ND(0.2)	ND(0.19)	--
		Q2016-1	6.6	ND(0.2)	ND(0.19)	--
		Q2016-2	26.1	4.92	1	--
		Q2016-3	ND(0.15)	ND(0.31)	ND(0.31)	--
		Q2016-4	50.5	0.36 J	ND(0.31)	--
		Q2017-1	44.4	ND(0.31)	ND(0.31)	ND(0.62)
		Q2017-3	61	1.38	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	5.23	1.15	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	196	23.1	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	31.2	ND(2.5)	ND(2.5)	ND(2.5)
SW-12		Q2014-2	41.6	46.4	ND	ND

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KENAI, AK

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SW-12	PM	Q2014-3	ND	ND	ND	ND
		Q2014-4	10.3	ND	ND	ND
		Q2015-1	38.6	ND	ND	ND
		Q2015-2	294	6.42	1.42	--
		Q2015-3	3.5	ND(0.2)	ND(0.19)	--
		Q2015-4	49	ND(0.2)	ND(0.19)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	95.5	5.5	ND(0.31)	--
		Q2016-3	0.86	ND(0.31)	ND(0.31)	--
		Q2016-4	16	ND(0.31)	ND(0.31)	--
		Q2017-1	32.4	ND(0.31)	ND(0.31)	ND(0.62)
		Q2017-2	374	1.43	ND(0.31)	4.93
		Q2017-3	46.7	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	1.17	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	152	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	1.82	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	19	2.5	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	259	1.89	ND(0.31)	3.41
		Q2021-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	7.89	19.9	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	270	10.8	ND(2.5)	ND(7)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	193	9.13	ND(2.5)	ND(2.5)
SW-13		Q2014-2	30.5	86.5	ND	ND
		Q2014-3	ND	ND	ND	ND
		Q2014-4	1.47	ND	ND	ND
		Q2015-1	67.9	ND	ND	ND
		Q2015-2	323	6.61	1.51	--
		Q2015-3	8.8	ND(0.2)	ND(0.19)	--
		Q2015-4	1.2	ND(0.2)	ND(0.19)	--
		Q2016-1	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-2	66.3	4.17	ND(0.31)	--
		Q2016-3	0.5	ND(0.31)	ND(0.31)	--
		Q2016-4	5.62	ND(0.31)	ND(0.31)	--
		Q2017-1	12.3	ND(0.31)	ND(0.31)	ND(0.62)
		Q2017-2	62.4	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-3	1.27	ND(0.31)	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	1.96	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	11.9	1.9	ND(0.31)	ND(0.93)
		Q2019-4	1.7	1.01	ND(0.31)	ND(0.93)
		Q2020-4	0.58	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
* - The first result represents the laboratory reported concentration. The second result was evaluated to be undetected at the reported concentration by the data validator. The result was determined to be a false positive.
The method detection limit (MDL) was used as the reporting limit.

APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
SW-13	PM	Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	2.81	ND(0.5)	ND(1.4)
		Q2023-2	38.4	149	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
SW-14		Q2014-4	129	5.1	ND	2.4
		Q2015-1	60.6	2.94	ND	ND
		Q2015-2	383	3.9	2.1	--
		Q2015-3	3	ND(0.2)	ND(0.19)	--
		Q2015-4	ND(0.13)	ND(0.2)	ND(0.19)	--
		Q2016-1	ND(0.13)	1.7	ND(0.19)	--
		Q2016-2	17.7	2.97	ND(0.31)	--
		Q2016-3	1.95	ND(0.31)	ND(0.31)	--
		Q2016-4	1.12	ND(0.31)	ND(0.31)	--
		Q2017-1	7.14	ND(0.31)	ND(0.31)	ND(0.62)
		Q2017-2	24.8	2.12	ND(0.31)	ND(0.93)
		Q2017-3	4.31	2.07	ND(0.31)	ND(0.93)
		Q2017-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-2	16.3	7.95	ND(0.31)	ND(0.93)
		Q2018-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2018-4	1.65	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-2	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2019-4	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
		Q2020-4	0.95	ND(0.31)	ND(0.31)	ND(0.93)
		Q2021-2	216	1.78	ND(0.31)	ND(0.93)
		Q2021-4	ND(0.12)	ND(0.31)	ND(0.31)	ND(1)
		Q2022-2	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2022-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2023-2	89.1	35.1	ND(0.5)	ND(1.4)
		Q2023-4	ND(0.15)	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	4.73	ND(2.5)	ND(2.5)	ND(2.5)
TPZ-1		Q2021-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
TPZ-2		Q2021-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
TPZ-4		Q2021-3	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)
TW-2		Q1991-1	ND	ND	ND	ND
TW-2A		Q1995-3	73	2.8	9.5	41
		Q2001-2	43	ND	6.9	26
		Q2001-4	42	ND	8.8	34
		Q2002-2	53	ND	8.4	32
		Q2002-4	50	ND	8.9	36
		Q2003-2	53	ND	8.7	32
		Q2003-4	49	ND	8.1	32
		Q2004-2	57	ND	8.7	30
		Q2004-4	41	ND	6.7	28
		Q2005-2	44	ND	6.7	27
		Q2005-4	47	ND	9.2	30
		Q2006-2	33	ND	4.5	17
		Q2006-4	44	ND	7.9	28
		Q2007-2	38	ND	6.2	28

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
* - The first result represents the laboratory reported concentration. The second result was evaluated to be undetected at the reported concentration by the data validator. The result was determined to be a false positive.
The method detection limit (MDL) was used as the reporting limit.

APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
TW-2A	PM	Q2007-4	41	ND	5.2	22
		Q2008-2	39	ND	6.6	23
		Q2008-4	34	ND	5.5	23
		Q2009-2	39	ND	6.1	20
		Q2009-4	36	ND	6	22
		Q2010-2	31	ND	5	18
		Q2010-4	27	ND	4.9	18
		Q2011-2	3.1	ND	1.6	6.2
		Q2011-4	22	ND	3.7	13
		Q2012-2	21	ND	3.7	18
		Q2012-4	1.2	ND	1.8	5.7
		Q2013-2	10	ND	2.2	9
TW-2B		Q2013-4	14	ND	2.8	13
		Q2014-2	22	ND	4.8	21
		Q2014-4	18	ND	3.6	16
		Q2015-2	14	ND(0.04)	2.6	--
		Q2015-4	11	ND(0.2)	1.6	--
		Q2016-2	13.4	ND(0.31)	2.51	--
		Q2016-4	10.5	ND(0.31)	1.84	--
		Q2017-2	12.7 J-	ND(0.31)	2.36 JB	10.2 J-
		Q2017-4	12.3	ND(0.31)	2.31	9.31
		Q2018-2	10.4	ND(0.31)	2.02	8.72
		Q2018-4	10.5	ND(0.31)	1.79	7.27
		Q2019-2	9.52	ND(0.31)	1.79	7.51
		Q2019-4	10.2	ND(0.31)	1.42	6.53
		Q2020-2	9.69	ND(0.31)	1.22	6.4
		Q2020-4	9.71	ND(0.31)	1	5.6
		Q2021-2	7.93	ND(0.31)	ND(0.31)	6.53
		Q2021-4	8.06	ND(0.5)	ND(0.5)	6.62
		Q2022-2	6.76	ND(0.5)	ND(0.5)	5.16
		Q2022-4	5.94	ND(0.5)	ND(0.5)	5.17
		Q2023-2	5.2	ND(0.5)	ND(0.5)	4.99
		Q2023-4	2.43	ND(0.5)	ND(0.5)	ND(1.4)
		Q2024-2	2.42	ND(2.5)	ND(2.5)	ND(2.5)
TW-4		Q1999-3	ND	ND	ND	ND
TW-5A	PRM	Q2001-3	ND	ND	ND	ND
UNOCAL-6	PM	Q1991-1	ND	ND	ND	ND
		Q2001-2	6.9	ND	ND	ND
		Q2001-4	6.6	ND	ND	ND
		Q2002-2	6.3	ND	ND	ND
		Q2002-4	4.9	ND	ND	ND
		Q2003-4	2.8	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
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APPENDIX B1: HISTORICAL DATA
KENAI, AK

Well ID	Location	Quarter	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)
UNOCAL PM -6		Q2004-2	3	ND	ND	ND
		Q2004-4	3.4	ND	ND	ND
		Q2005-2	7.4	ND	ND	ND
		Q2005-4	6.4	ND	ND	ND

Quarter designation: Q[YEAR]-[QUARTER]; 1-Winter (Nov/Dec[previous year]/Jan[posted year]); 2-Spring (Feb/Mar/Apr); 3-Summer (May/June/July); 4-Fall (Aug/Sep/Oct)
* - The first result represents the laboratory reported concentration. The second result was evaluated to be undetected at the reported concentration by the data validator. The result was determined to be a false positive.
The method detection limit (MDL) was used as the reporting limit.

APPENDIX B-2

HISTORICAL BENZENE CONCENTRATIONS (µg/L) IN PM SWAMP SURFACE WATER SAMPLES

APPENDIX B-2. HISTORICAL BENZENE CONCENTRATIONS (µG/L) IN PM SWAMP SURFACE WATER SAMPLES

Quarter	Swamp Water Elevation	SW-01	SW-02	SW-03	SW-06	SW-09	SW-11	SW-12	SW-13	SW-14	Downgradient	
											E-247A	E-248A
Q14-2	--	**437**	**281**	**15.8**	3.35	**327**	**287**	**41.6**	**30.5**	--	**21.1**	**24.7**
Q14-4	--	**258**	**74.2**	ND	ND	**100**	**79.1**	**10.3**	1.47	**129**	3.5	**4.97**
Q15-2	74.50	**687**	**688**	**34.4**	**61.7**	**470**	**411**	**294**	**323**	**383**	**59**	**59**
Q15-4	72.55	**36**	**12**	1U	1U	**25**	1.0	**49**	1.3	1U	**28**	**21**
Q16-2	73.94	**53.4**	**88.9**	**23.7**	--	**36.8**	**23.1**	**95.5**	**66.3**	**17.7**	ND	3.1
Q16-4	73.42	ND	ND	ND	ND	28.1	50.5	16	5.62	1.12	0.73	--
Q17-2	75.35	--	--	**11**	--	--	--	**374**	**62.4**	**24.4**	**25.5**	3.69
Q17-4	--	ND	ND	ND	ND	ND	ND	1.17	ND	ND	**10.6**	**21.7**
Q18-2	--	--	--	**32.8**	--	**205**	--	**152**	--	**16.3**	ND	ND
Q18-4	73.49	**181**	ND	ND	--	1.27	ND	1.82	1.96	1.65	ND	ND
Q19-2	--	4.18	ND	ND	--	0.96	**5.23**	**19**	**11.9**	ND	**42.6**	**19.7**
Q19-4	74.02	2.42	ND	ND	ND	ND	ND	ND	1.7	ND	ND	ND
*Q20-2	--	--	--	--	--	--	--	--	--	--	4.33	0.77
Q20-4	74.22	ND	ND	ND	--	ND	ND	ND	0.58	0.95	0.59	0.69
Q21-2	75.02	**206**	--	**19.4**	--	--	--	**259**	--	**216**	**31**	**24.7**
Q21-4	74.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.55	**5.63**
Q22-2	--	--	**7.18**	ND	--	--	--	**7.89**	ND	ND	ND	ND
Q22-4	77.91	1.01	2.21	ND	ND	ND	ND	ND	ND	ND	ND	ND
Q23-2	--	**435**	**142**	**19.9**	--	**146**	**196**	**270**	**38.4**	**89.1**	**59**	**54.7**
Q23-4	--	**115**	0.59	ND	ND	ND	ND	ND	ND	ND	0.85	0.59
Q24-2	--	1.06	--	**13.2**	--	**270**	**31.2**	**193**	--	**4.73**	**67.9**	**39.1**

-- Not analyzed/measured

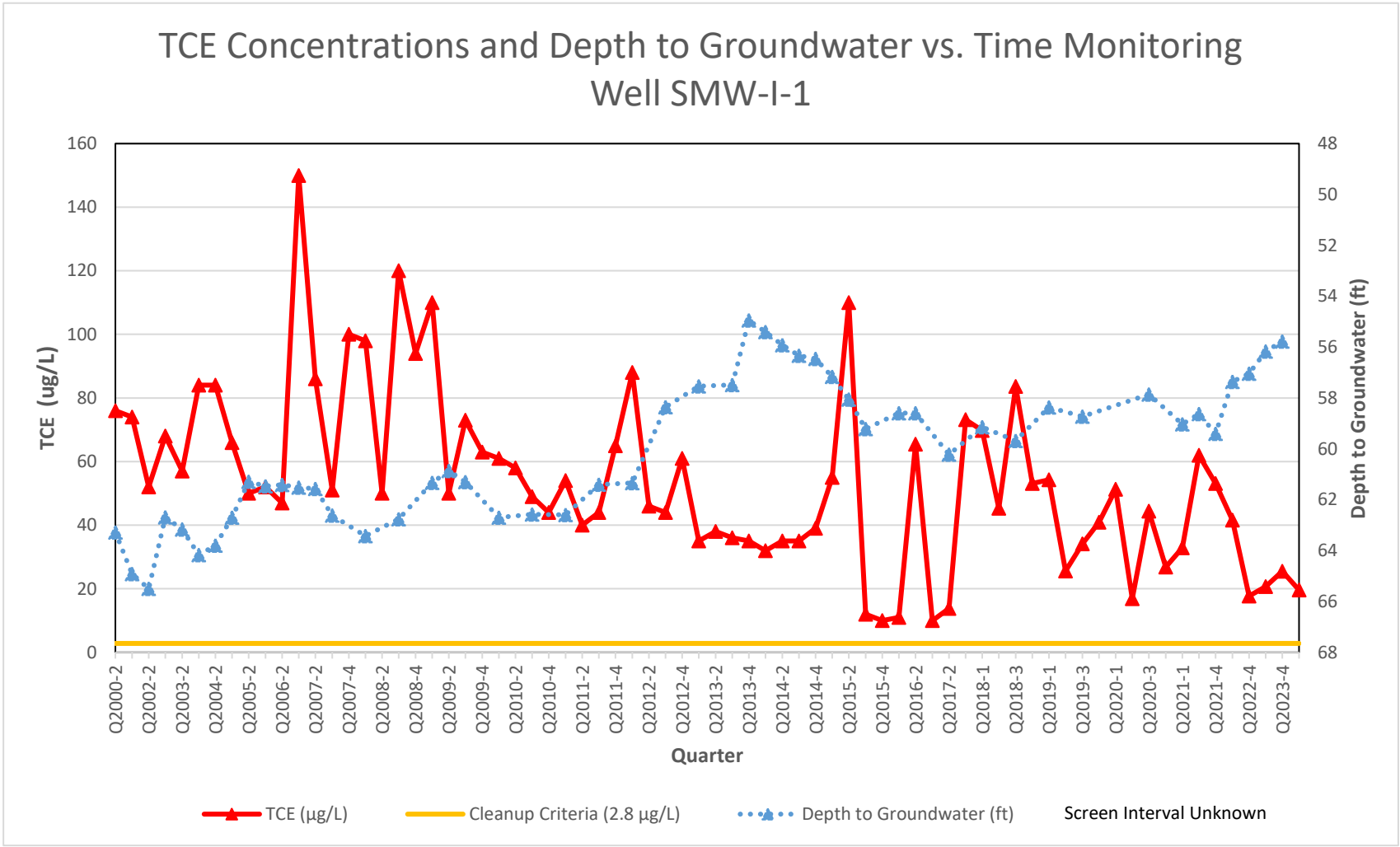
U/ND Not detected

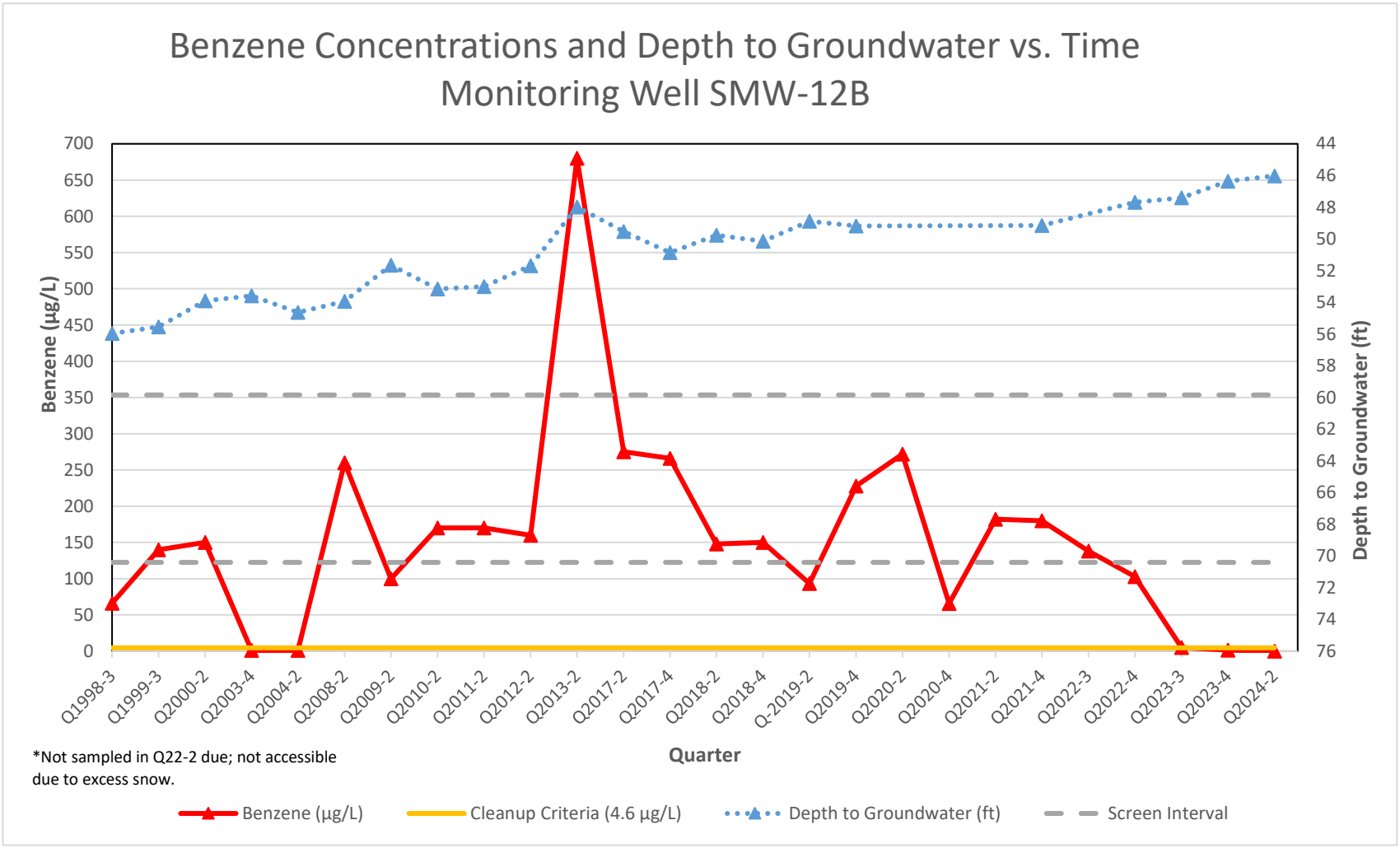
Spring sampling events are highlighted

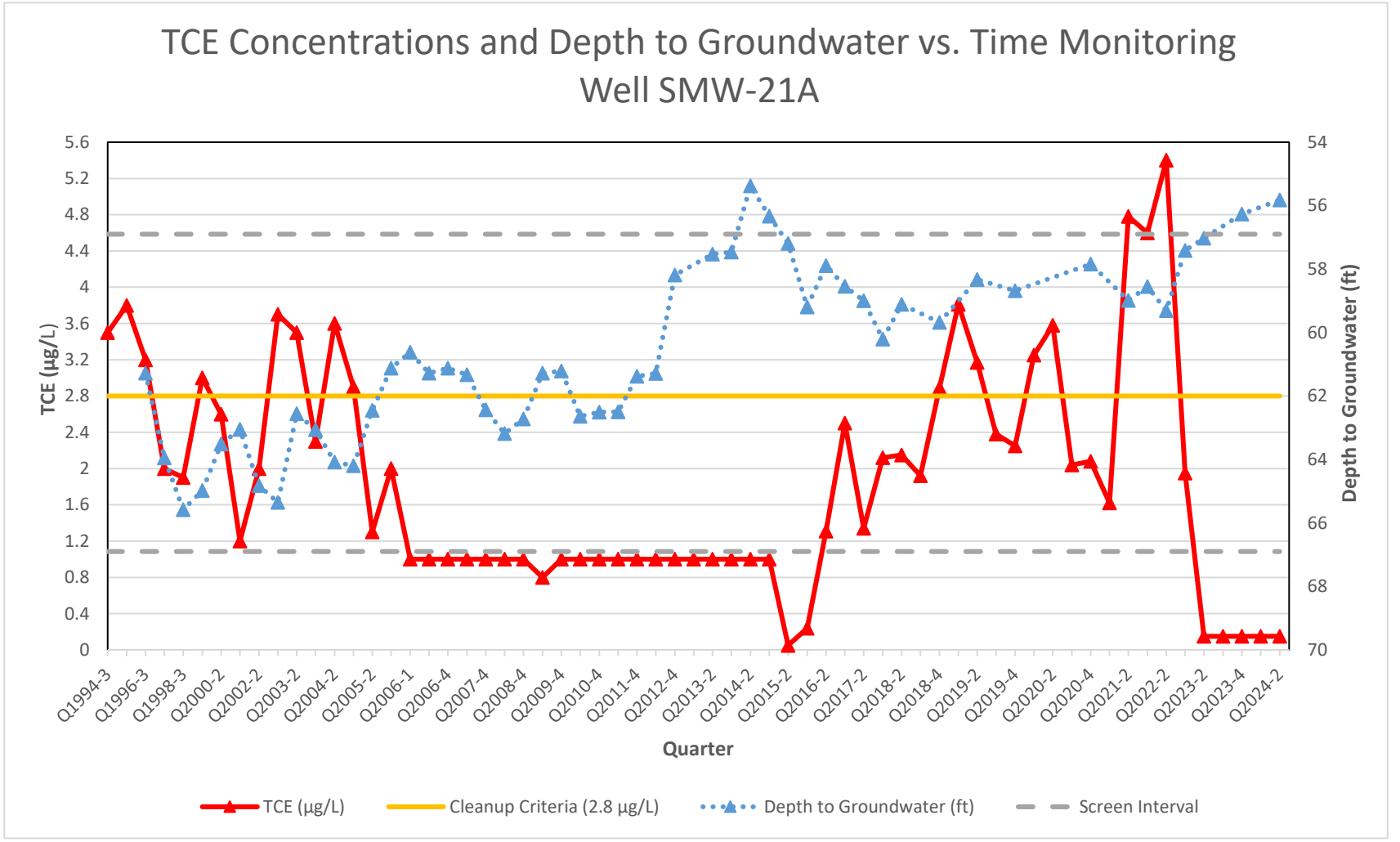
*No swamp samples were collected in Q20-2 due to COVID-19 Response.

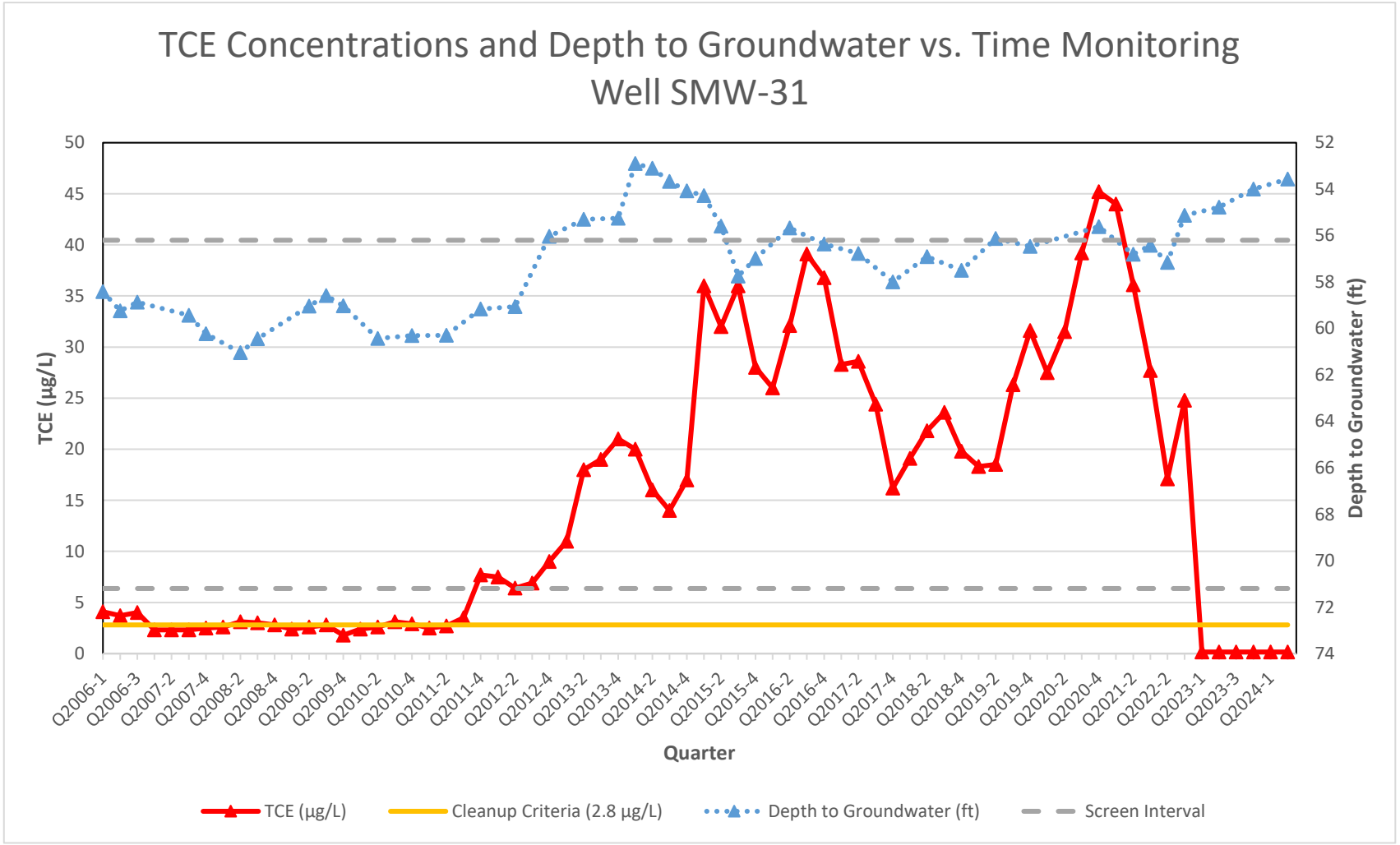
APPENDIX C

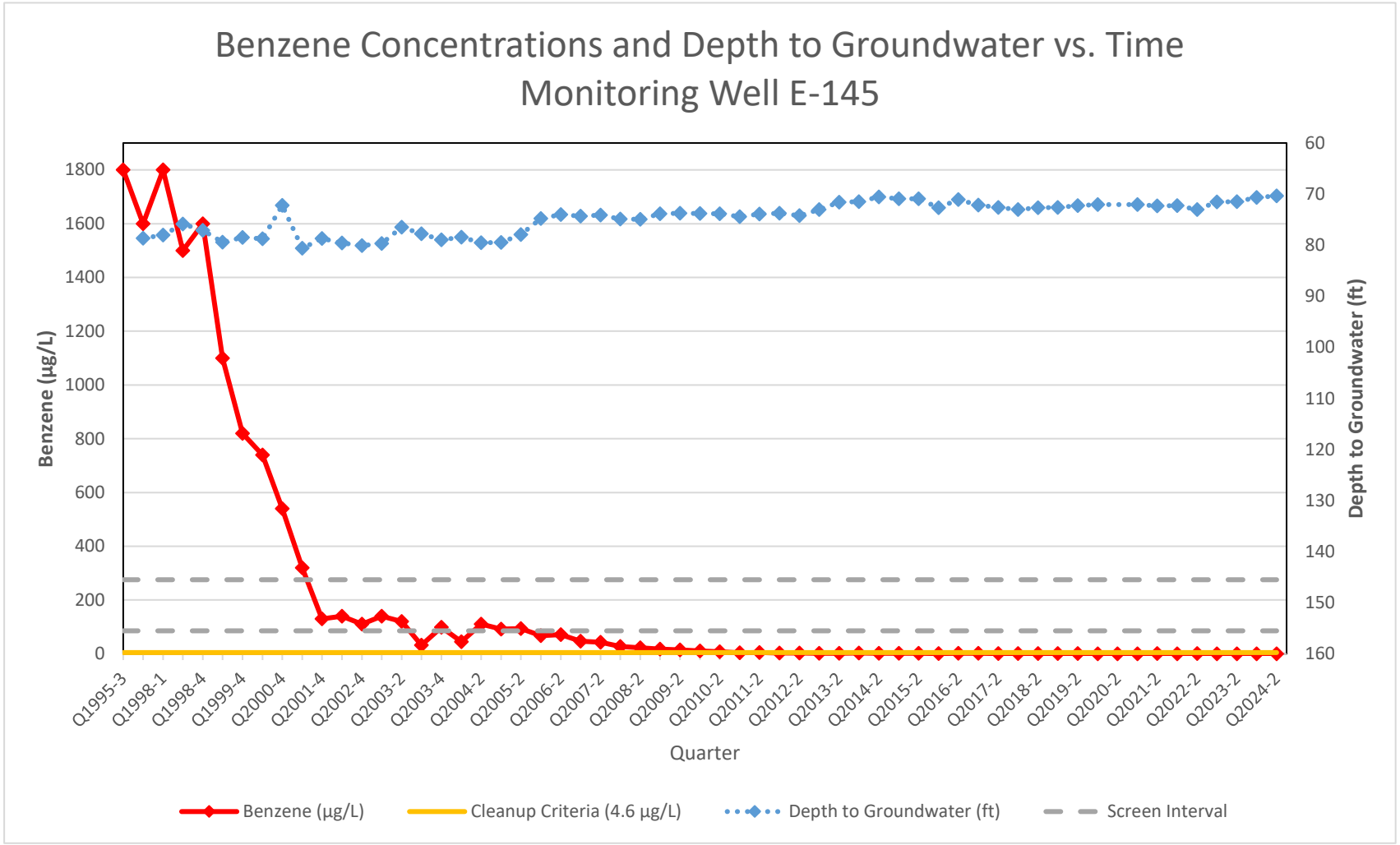
CONCENTRATION/DEPTH TO GROUNDWATER VERSUS TIME GRAPHS

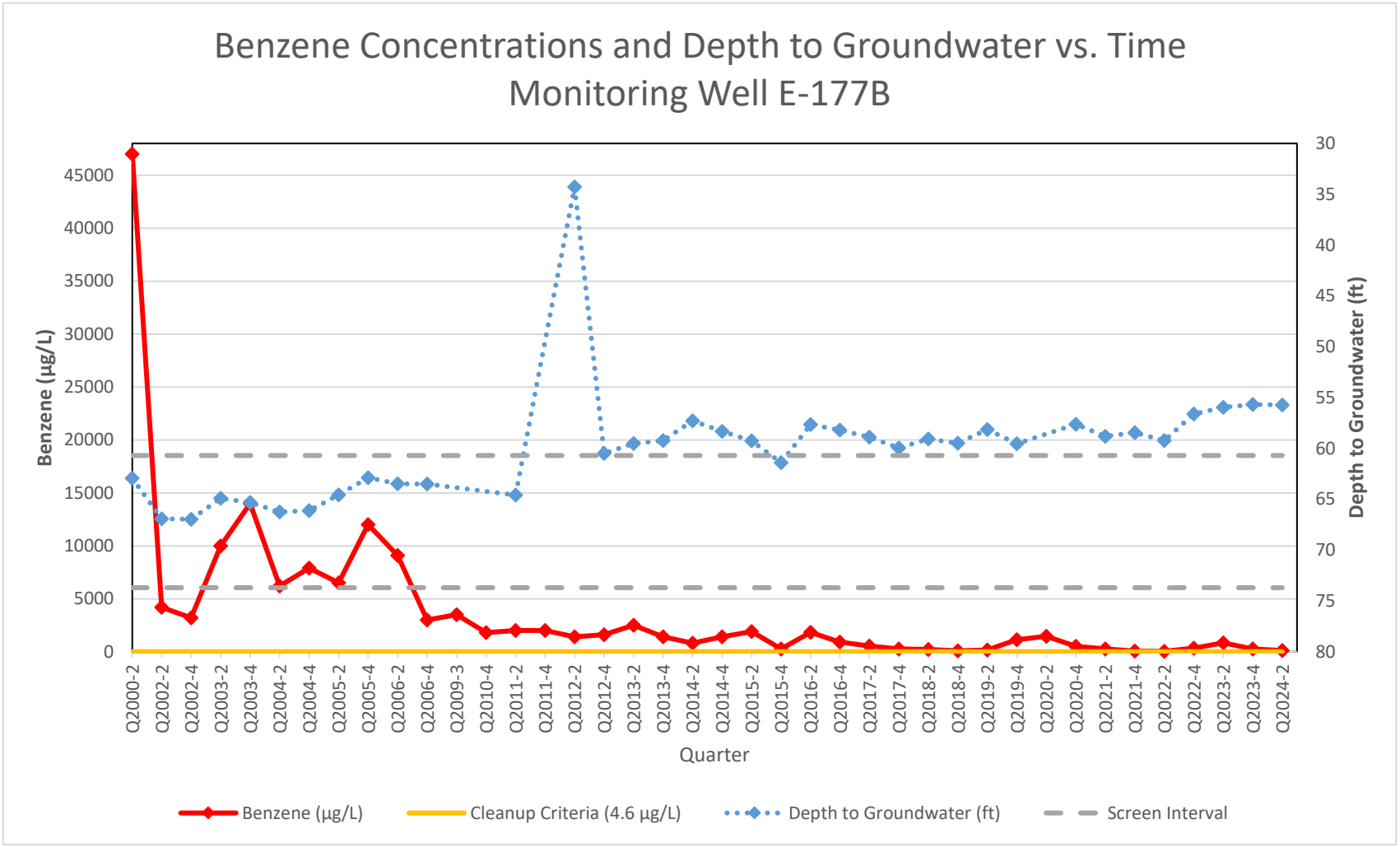

TCE Concentrations and Depth to Groundwater vs. Time Monitoring Well SMW-I-1
TCE (ug/L)
Depth to Groundwater (ft)
Quarter
0
20
40
60
80
100
120
140
160
48
50
52
54
56
58
60
62
64
66
68
Q2000-2
Q2002-2
Q2003-2
Q2004-2
Q2005-2
Q2006-2
Q2007-2
Q2007-4
Q2008-2
Q2008-4
Q2009-2
Q2009-4
Q2010-2
Q2010-4
Q2011-2
Q2011-4
Q2012-2
Q2012-4
Q2013-2
Q2013-4
Q2014-2
Q2014-4
Q2015-2
Q2015-4
Q2016-2
Q2017-2
Q2018-1
Q2018-3
Q2019-1
Q2019-3
Q2020-1
Q2020-3
Q2021-1
Q2021-4
Q2022-4
Q2023-4
TCE (µg/L)
Cleanup Criteria (2.8 µg/L)
Depth to Groundwater (ft)
Screen Interval Unknown

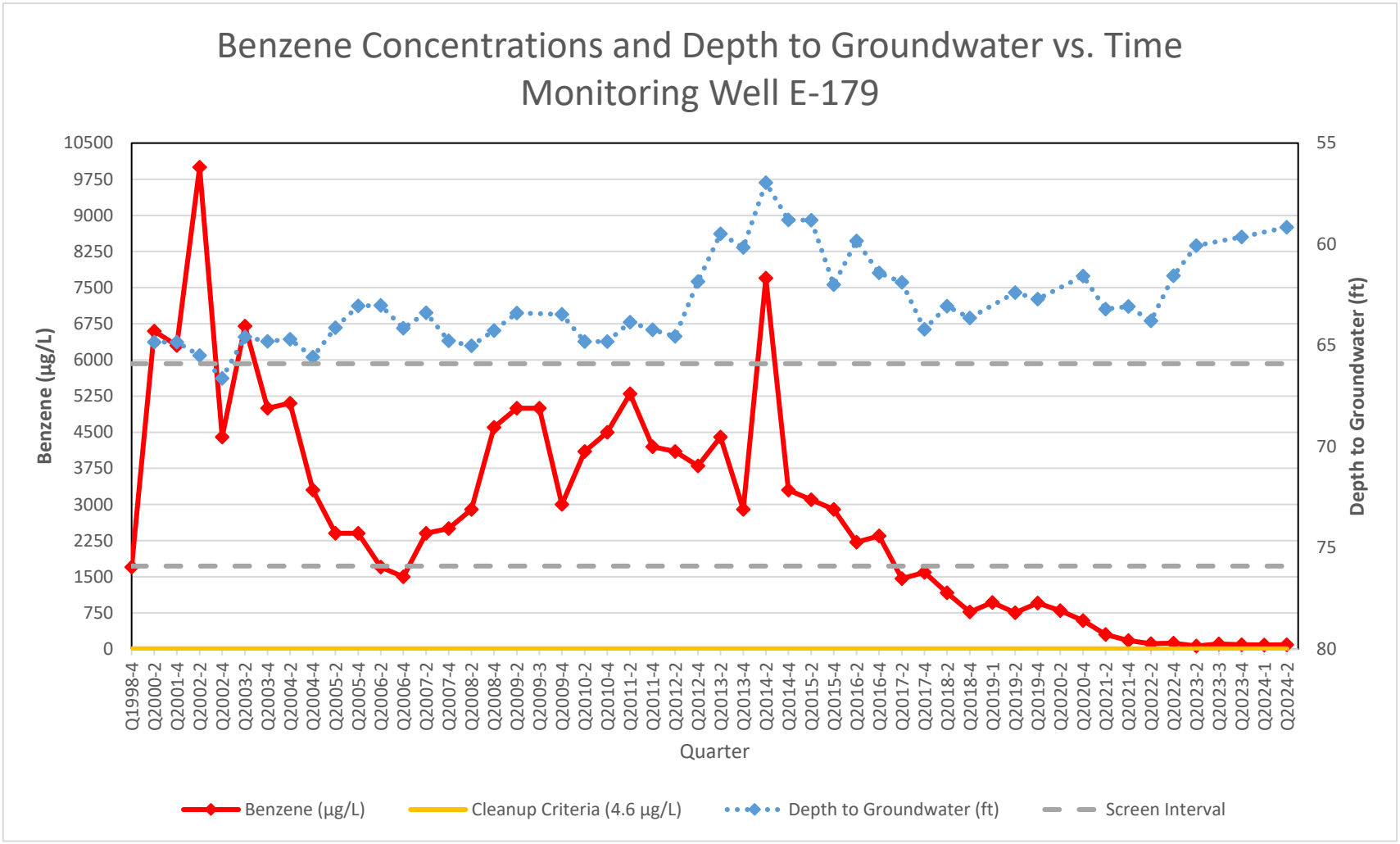

Benzene Concentrations and Depth to Groundwater vs. Time
Monitoring Well SMW-12B
Benzene (µg/L)
Depth to Groundwater (ft)
Quarter
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
44
46
48
50
52
54
56
58
60
62
64
66
68
70
72
74
76
Q1998-3
Q1999-3
Q2000-2
Q2003-4
Q2004-2
Q2008-2
Q2009-2
Q2010-2
Q2011-2
Q2012-2
Q2013-2
Q2017-2
Q2017-4
Q2018-2
Q2018-4
Q-2019-2
Q2019-4
Q2020-2
Q2020-4
Q2021-2
Q2021-4
Q2022-3
Q2022-4
Q2023-3
Q2023-4
Q2024-2
*Not sampled in Q22-2 due; not accessible due to excess snow.
Benzene (µg/L)
Cleanup Criteria (4.6 µg/L)
Depth to Groundwater (ft)
Screen Interval

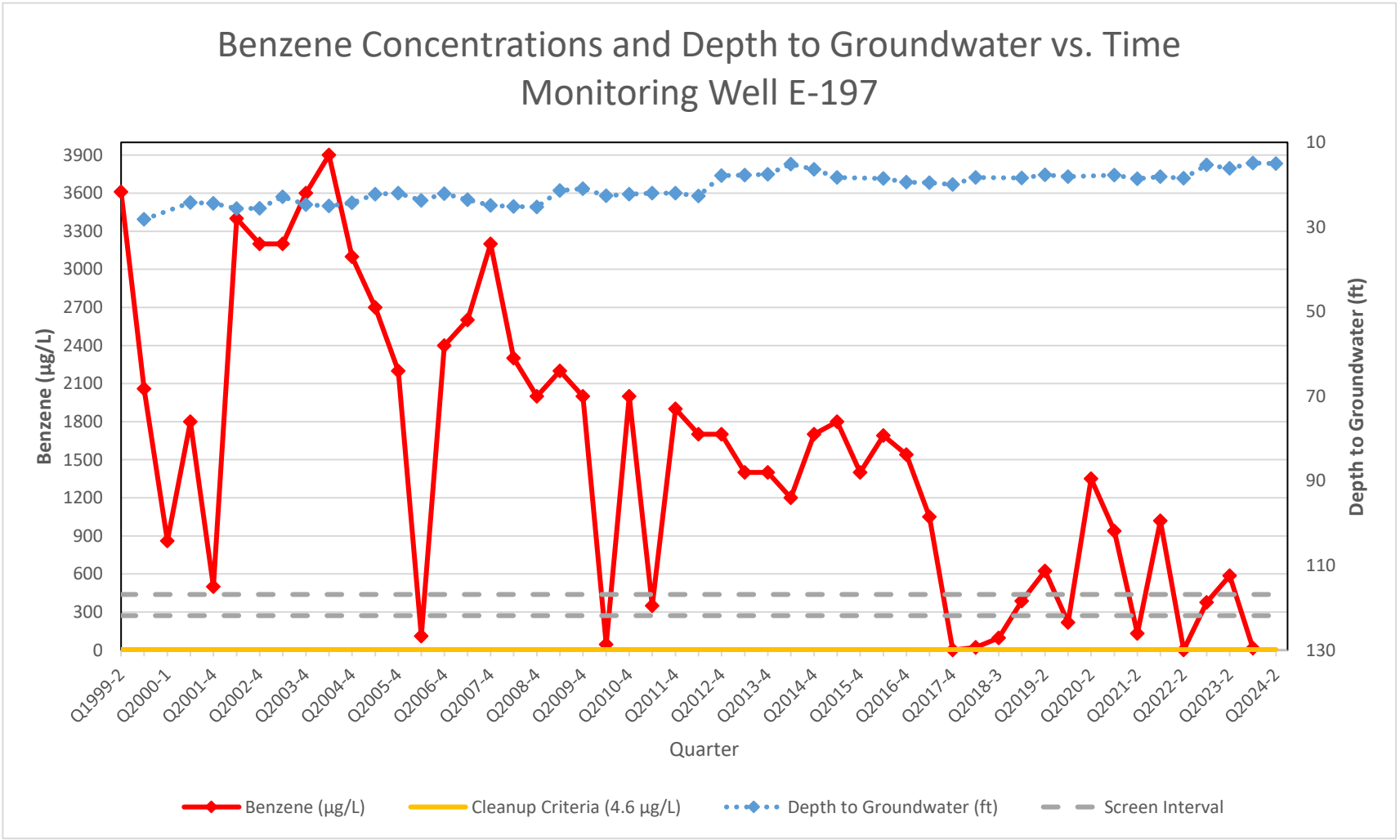

TCE Concentrations and Depth to Groundwater vs. Time Monitoring Well SMW-21A
TCE (µg/L)
Depth to Groundwater (ft)
Quarter
5.6
5.2
4.8
4.4
4
3.6
3.2
2.8
2.4
2
1.6
1.2
0.8
0.4
0
54
56
58
60
62
64
66
68
70
Q1994-3
Q1996-3
Q1998-3
Q2000-2
Q2002-2
Q2003-2
Q2004-2
Q2005-2
Q2006-1
Q2006-4
Q2007-4
Q2008-4
Q2009-4
Q2010-4
Q2011-4
Q2012-4
Q2013-2
Q2014-2
Q2015-2
Q2016-2
Q2017-2
Q2018-2
Q2018-4
Q2019-2
Q2019-4
Q2020-2
Q2020-4
Q2021-2
Q2022-2
Q2023-2
Q2023-4
Q2024-2
TCE (µg/L)
Cleanup Criteria (2.8 µg/L)
Depth to Groundwater (ft)
Screen Interval

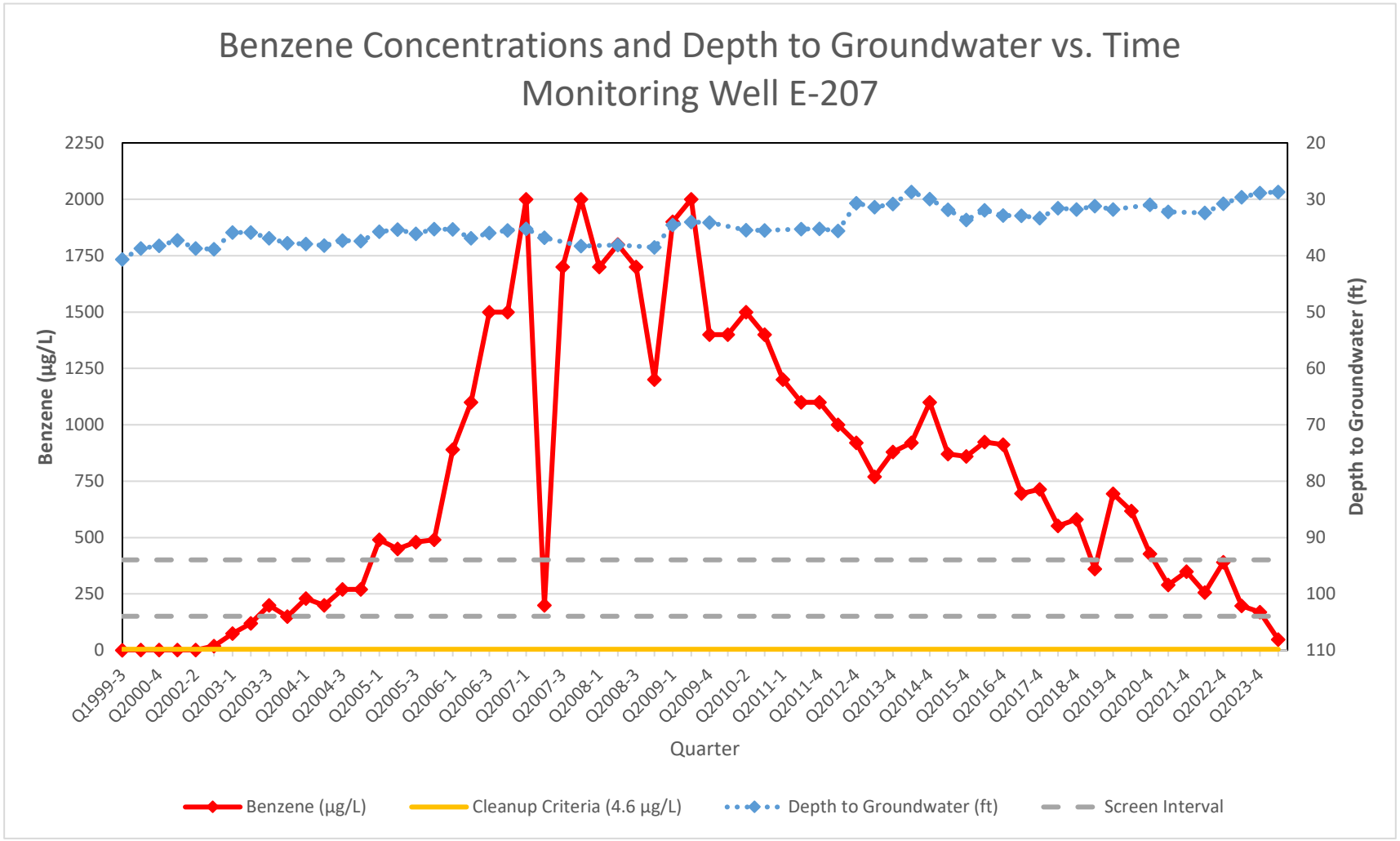

TCE Concentrations and Depth to Groundwater vs. Time Monitoring Well SMW-31
TCE (µg/L)
Depth to Groundwater (ft)
Quarter
50
45
40
35
30
25
20
15
10
5
0
52
54
56
58
60
62
64
66
68
70
72
74
Q2006-1
Q2006-3
Q2007-2
Q2007-4
Q2008-2
Q2008-4
Q2009-2
Q2009-4
Q2010-2
Q2010-4
Q2011-2
Q2011-4
Q2012-2
Q2012-4
Q2013-2
Q2013-4
Q2014-2
Q2014-4
Q2015-2
Q2015-4
Q2016-2
Q2016-4
Q2017-2
Q2017-4
Q2018-2
Q2018-4
Q2019-2
Q2019-4
Q2020-2
Q2020-4
Q2021-2
Q2022-2
Q2023-1
Q2023-3
Q2024-1
TCE (µg/L)
Cleanup Criteria (2.8 µg/L)
Depth to Groundwater (ft)
Screen Interval

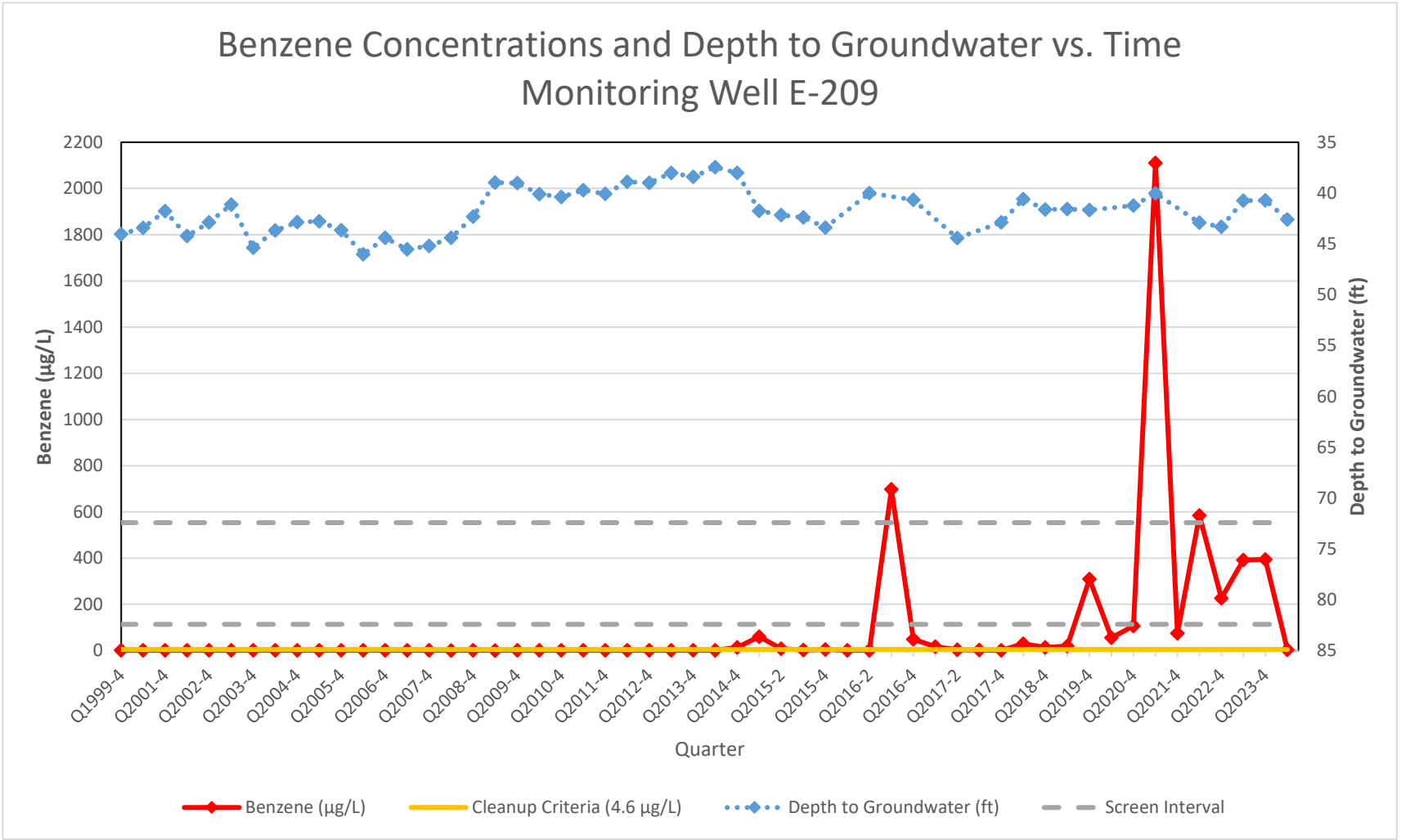

Benzene Concentrations and Depth to Groundwater vs. Time
Monitoring Well E-145
Benzene (µg/L)
Depth to Groundwater (ft)
Quarter
1800
1600
1400
1200
1000
800
600
400
200
0
60
70
80
90
100
110
120
130
140
150
160
Q1995-3
Q1998-1
Q1998-4
Q1999-4
Q2000-4
Q2001-4
Q2002-4
Q2003-2
Q2003-4
Q2004-2
Q2005-2
Q2006-2
Q2007-2
Q2008-2
Q2009-2
Q2010-2
Q2011-2
Q2012-2
Q2013-2
Q2014-2
Q2015-2
Q2016-2
Q2017-2
Q2018-2
Q2019-2
Q2020-2
Q2021-2
Q2022-2
Q2023-2
Q2024-2
Benzene (µg/L)
Cleanup Criteria (4.6 µg/L)
Depth to Groundwater (ft)
Screen Interval

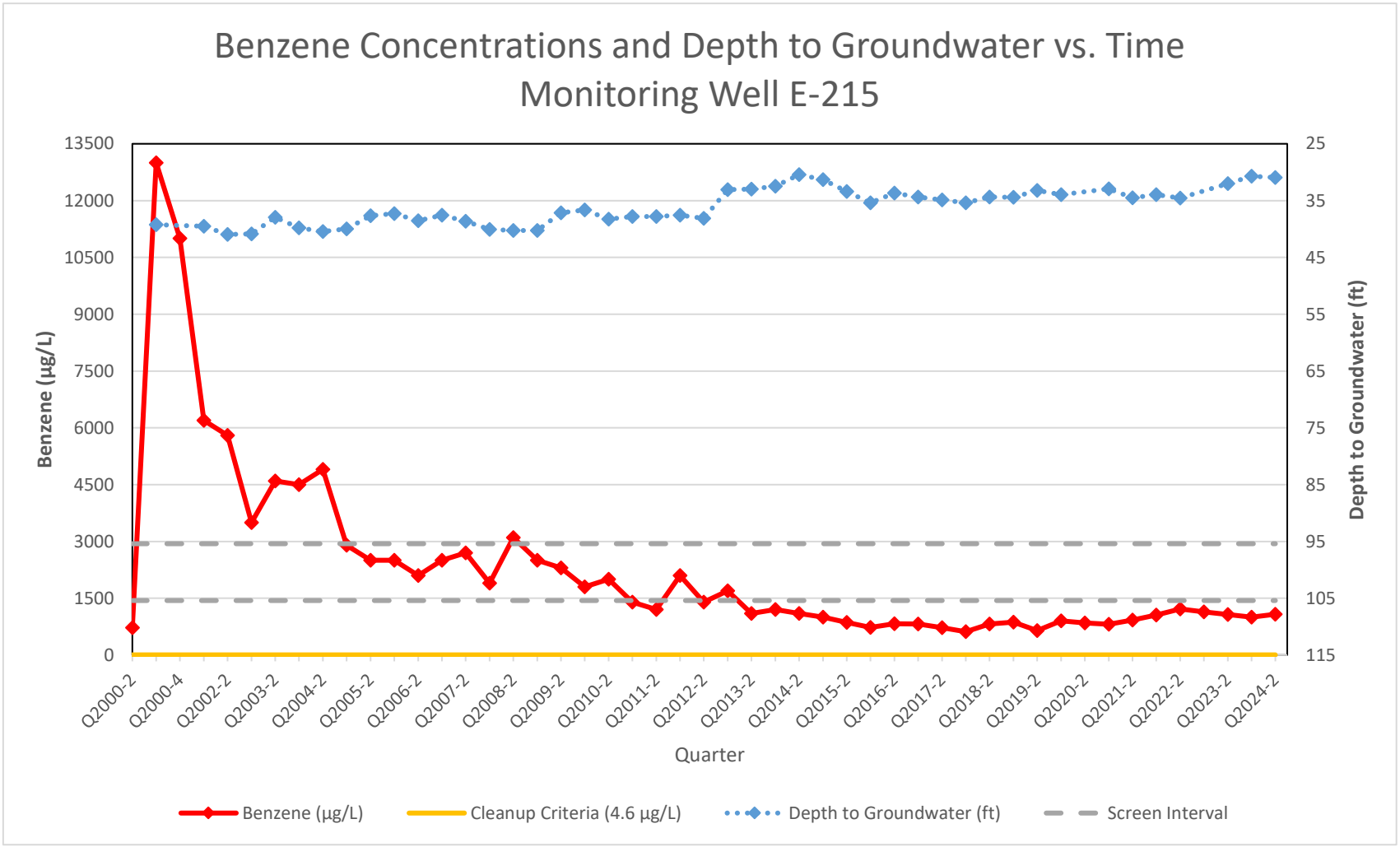

Benzene Concentrations and Depth to Groundwater vs. Time
Monitoring Well E-177B
Benzene (µg/L)
Depth to Groundwater (ft)
Quarter
Benzene (µg/L)
Cleanup Criteria (4.6 µg/L)
Depth to Groundwater (ft)
Screen Interval

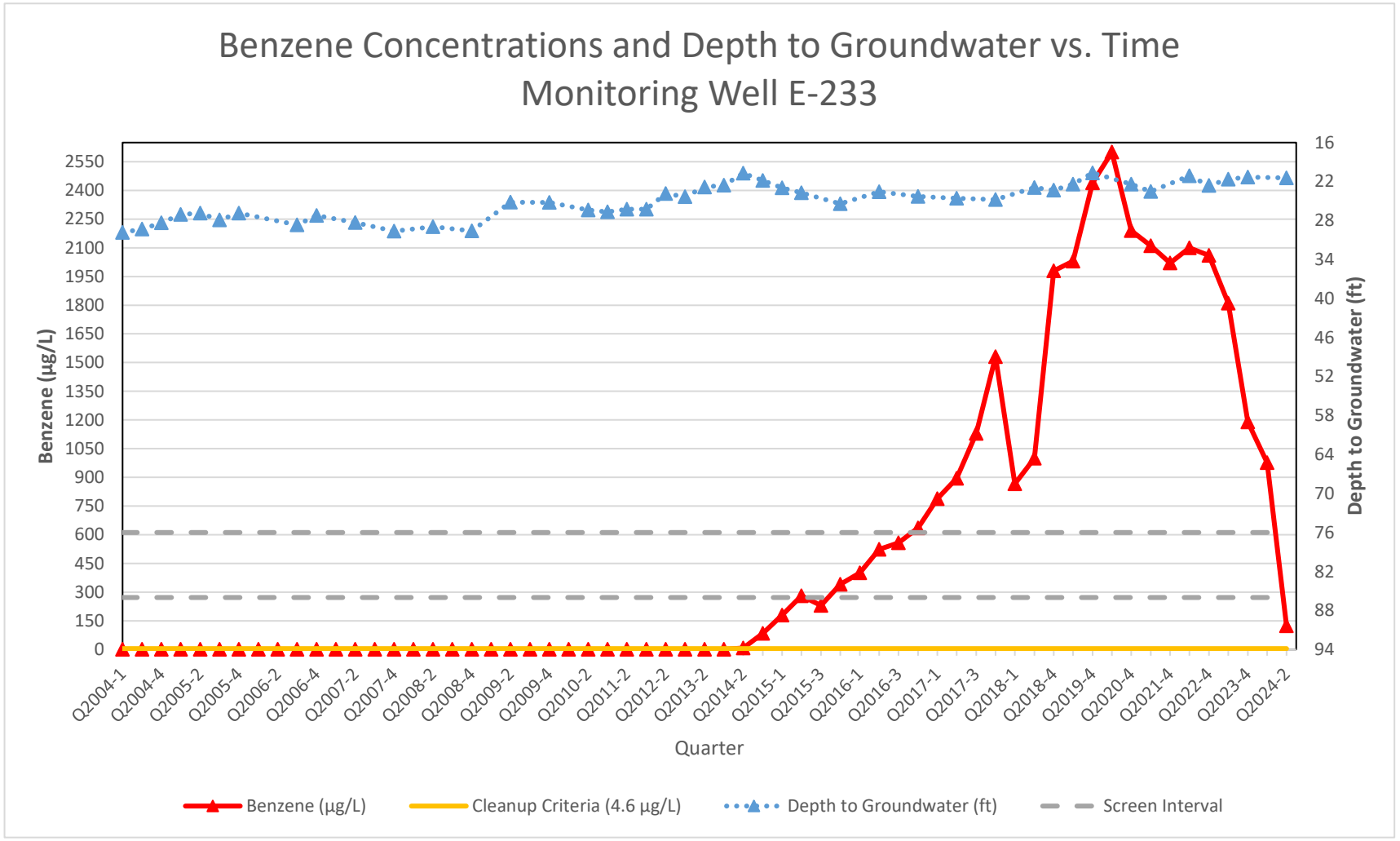

Benzene Concentrations and Depth to Groundwater vs. Time
Monitoring Well E-179
Benzene (µg/L)
Depth to Groundwater (ft)
Quarter
Benzene (µg/L)
Cleanup Criteria (4.6 µg/L)
Depth to Groundwater (ft)
Screen Interval

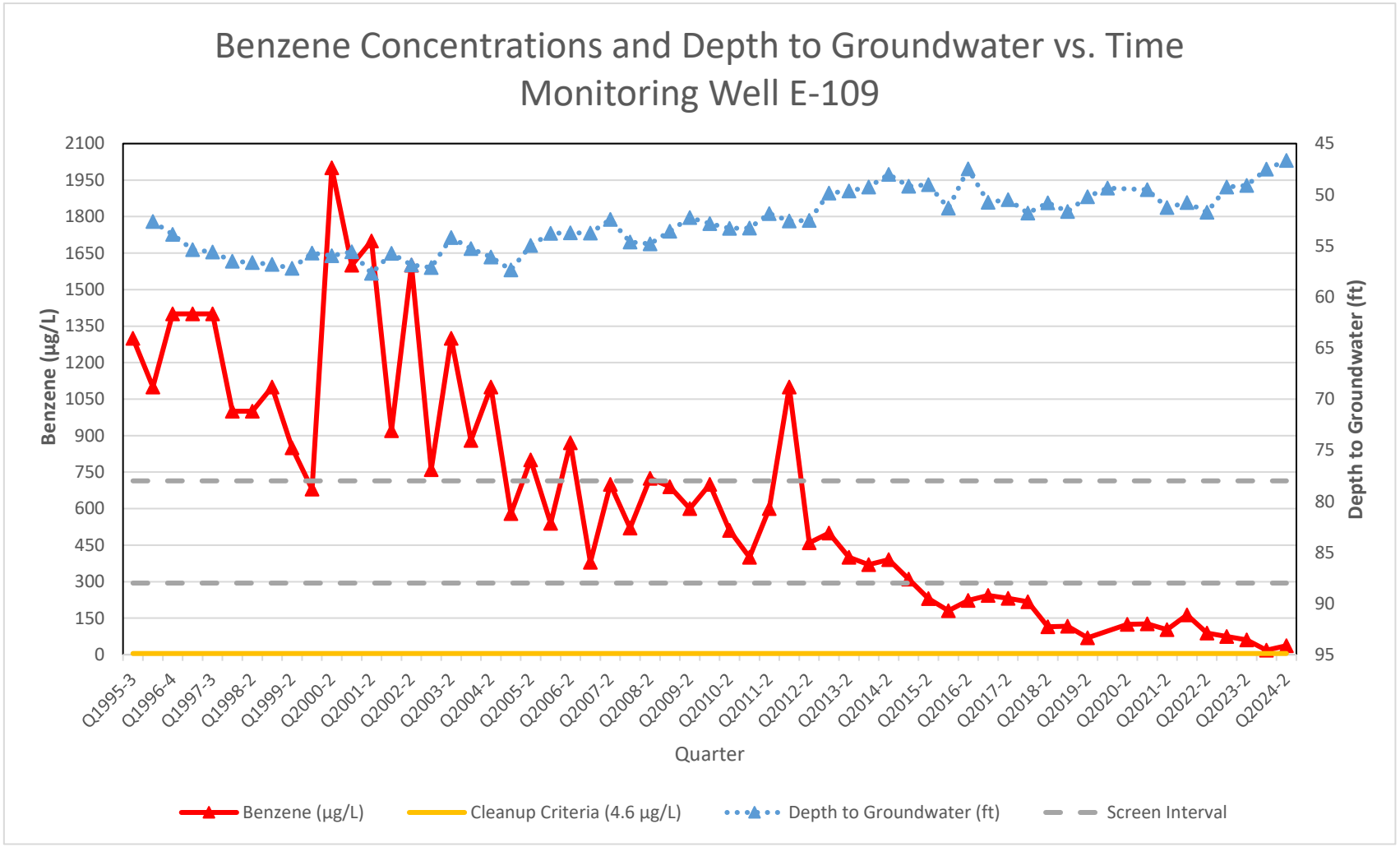

Benzene Concentrations and Depth to Groundwater vs. Time
Monitoring Well E-197
Benzene (µg/L)
3900
3600
3300
3000
2700
2400
2100
1800
1500
1200
900
600
300
0
Depth to Groundwater (ft)
10
30
50
70
90
110
130
Q1999-2
Q2000-1
Q2001-4
Q2002-4
Q2003-4
Q2004-4
Q2005-4
Q2006-4
Q2007-4
Q2008-4
Q2009-4
Q2010-4
Q2011-4
Q2012-4
Q2013-4
Q2014-4
Q2015-4
Q2016-4
Q2017-4
Q2018-3
Q2019-2
Q2020-2
Q2021-2
Q2022-2
Q2023-2
Q2024-2
Quarter
Benzene (µg/L)
Cleanup Criteria (4.6 µg/L)
Depth to Groundwater (ft)
Screen Interval

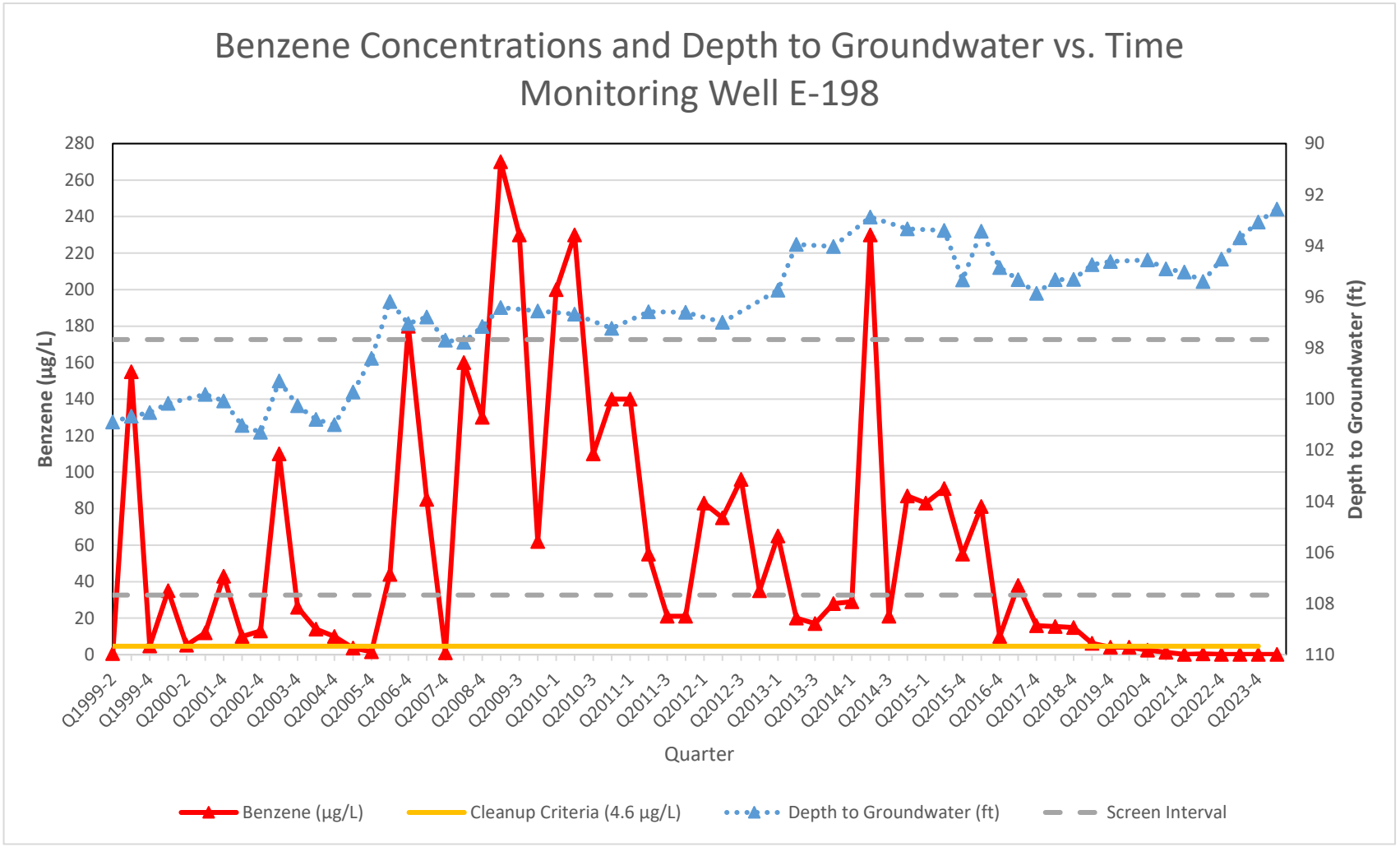

Benzene Concentrations and Depth to Groundwater vs. Time
Monitoring Well E-207
Benzene (µg/L)
Depth to Groundwater (ft)
Quarter
2250
2000
1750
1500
1250
1000
750
500
250
0
20
30
40
50
60
70
80
90
100
110
Q1999-3
Q2000-4
Q2002-2
Q2003-1
Q2003-3
Q2004-1
Q2004-3
Q2005-1
Q2005-3
Q2006-1
Q2006-3
Q2007-1
Q2007-3
Q2008-1
Q2008-3
Q2009-1
Q2009-4
Q2010-2
Q2011-1
Q2011-4
Q2012-4
Q2013-4
Q2014-4
Q2015-4
Q2016-4
Q2017-4
Q2018-4
Q2019-4
Q2020-4
Q2021-4
Q2022-4
Q2023-4
Benzene (µg/L)
Cleanup Criteria (4.6 µg/L)
Depth to Groundwater (ft)
Screen Interval

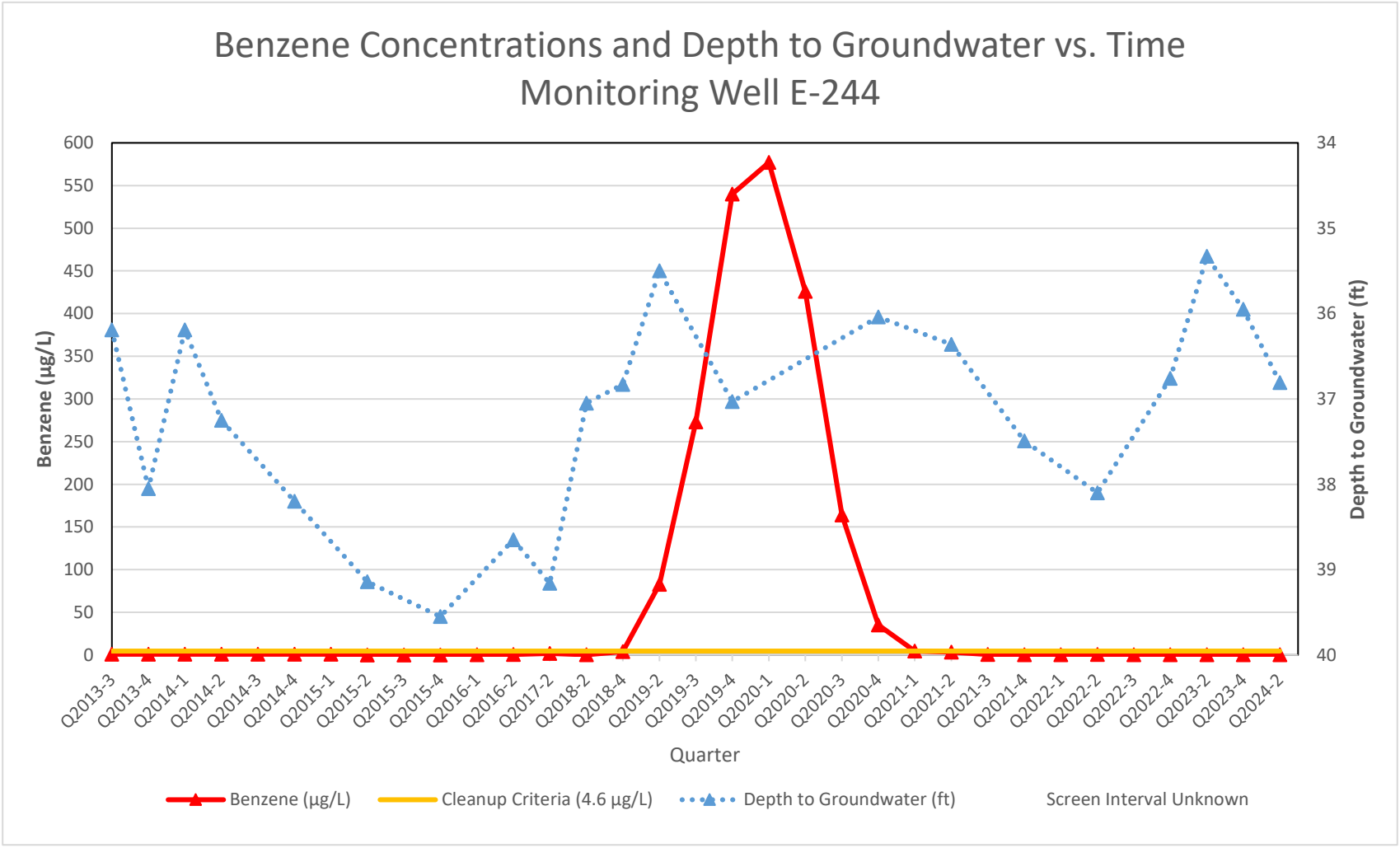

Benzene Concentrations and Depth to Groundwater vs. Time
Monitoring Well E-209
Benzene (µg/L)
Depth to Groundwater (ft)
Quarter
Q1999-4
Q2001-4
Q2002-4
Q2003-4
Q2004-4
Q2005-4
Q2006-4
Q2007-4
Q2008-4
Q2009-4
Q2010-4
Q2011-4
Q2012-4
Q2013-4
Q2014-4
Q2015-2
Q2015-4
Q2016-2
Q2016-4
Q2017-2
Q2017-4
Q2018-4
Q2019-4
Q2020-4
Q2021-4
Q2022-4
Q2023-4
Benzene (µg/L)
Cleanup Criteria (4.6 µg/L)
Depth to Groundwater (ft)
Screen Interval

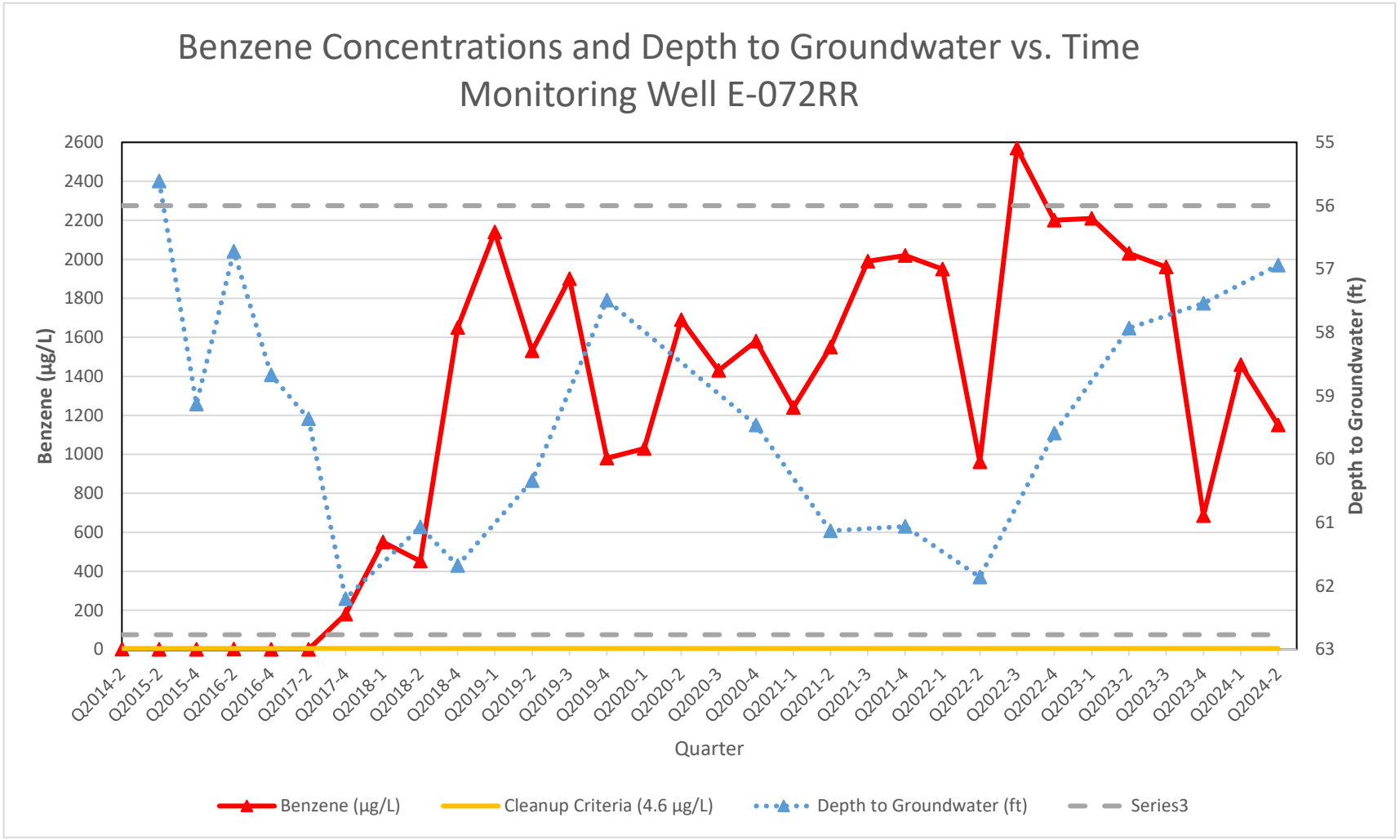

Benzene Concentrations and Depth to Groundwater vs. Time
Monitoring Well E-215
Benzene (µg/L)
13500
12000
10500
9000
7500
6000
4500
3000
1500
0
Depth to Groundwater (ft)
25
35
45
55
65
75
85
95
105
115
Q2000-2
Q2000-4
Q2002-2
Q2003-2
Q2004-2
Q2005-2
Q2006-2
Q2007-2
Q2008-2
Q2009-2
Q2010-2
Q2011-2
Q2012-2
Q2013-2
Q2014-2
Q2015-2
Q2016-2
Q2017-2
Q2018-2
Q2019-2
Q2020-2
Q2021-2
Q2022-2
Q2023-2
Q2024-2
Quarter
Benzene (µg/L)
Cleanup Criteria (4.6 µg/L)
Depth to Groundwater (ft)
Screen Interval

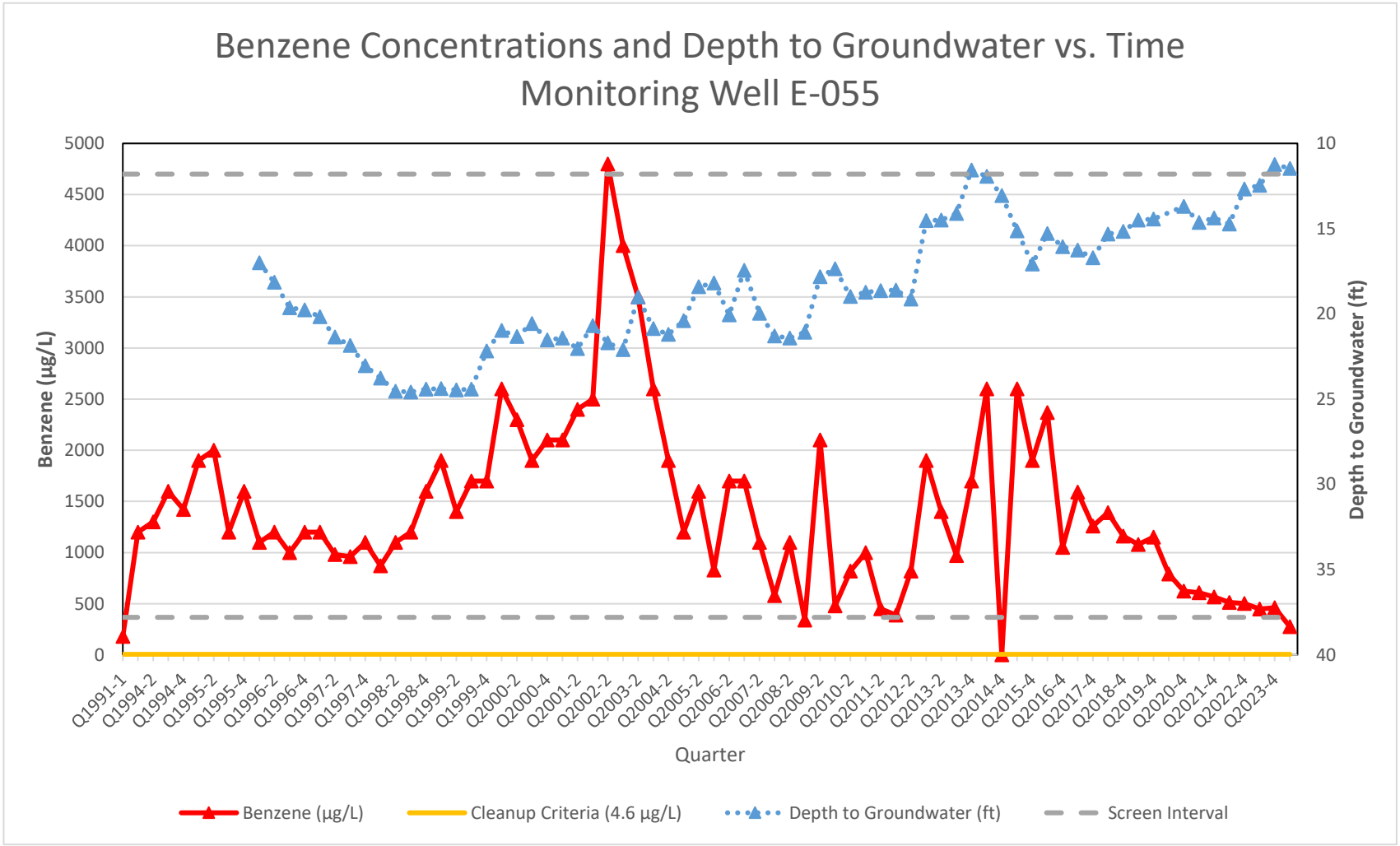

Benzene Concentrations and Depth to Groundwater vs. Time
Monitoring Well E-233
Benzene (µg/L)
2550
2400
2250
2100
1950
1800
1650
1500
1350
1200
1050
900
750
600
450
300
150
0
Depth to Groundwater (ft)
16
22
28
34
40
46
52
58
64
70
76
82
88
94
Q2004-1
Q2004-4
Q2005-2
Q2005-4
Q2006-2
Q2006-4
Q2007-2
Q2007-4
Q2008-2
Q2008-4
Q2009-2
Q2009-4
Q2010-2
Q2011-2
Q2012-2
Q2013-2
Q2014-2
Q2015-1
Q2015-3
Q2016-1
Q2016-3
Q2017-1
Q2017-3
Q2018-1
Q2018-4
Q2019-4
Q2020-4
Q2021-4
Q2022-4
Q2023-4
Q2024-2
Quarter
Benzene (µg/L)
Cleanup Criteria (4.6 µg/L)
Depth to Groundwater (ft)
Screen Interval


Benzene Concentrations and Depth to Groundwater vs. Time
Monitoring Well E-109
Benzene (µg/L)
Depth to Groundwater (ft)
Quarter
2100
1950
1800
1650
1500
1350
1200
1050
900
750
600
450
300
150
0
45
50
55
60
65
70
75
80
85
90
95
Q1995-3
Q1996-4
Q1997-3
Q1998-2
Q1999-2
Q2000-2
Q2001-2
Q2002-2
Q2003-2
Q2004-2
Q2005-2
Q2006-2
Q2007-2
Q2008-2
Q2009-2
Q2010-2
Q2011-2
Q2012-2
Q2013-2
Q2014-2
Q2015-2
Q2016-2
Q2017-2
Q2018-2
Q2019-2
Q2020-2
Q2021-2
Q2022-2
Q2023-2
Q2024-2
Benzene (µg/L)
Cleanup Criteria (4.6 µg/L)
Depth to Groundwater (ft)
Screen Interval


Benzene Concentrations and Depth to Groundwater vs. Time
Monitoring Well E-198
Benzene (µg/L)
Depth to Groundwater (ft)
Quarter
Benzene (µg/L)
Cleanup Criteria (4.6 µg/L)
Depth to Groundwater (ft)
Screen Interval


Benzene Concentrations and Depth to Groundwater vs. Time
Monitoring Well E-244
Benzene (µg/L)
Depth to Groundwater (ft)
600
550
500
450
400
350
300
250
200
150
100
50
0
34
35
36
37
38
39
40
Q2013-3
Q2013-4
Q2014-1
Q2014-2
Q2014-3
Q2014-4
Q2015-1
Q2015-2
Q2015-3
Q2015-4
Q2016-1
Q2016-2
Q2017-2
Q2018-2
Q2018-4
Q2019-2
Q2019-3
Q2019-4
Q2020-1
Q2020-2
Q2020-3
Q2020-4
Q2021-1
Q2021-2
Q2021-3
Q2021-4
Q2022-1
Q2022-2
Q2022-3
Q2022-4
Q2023-2
Q2023-4
Q2024-2
Quarter
Benzene (µg/L)
Cleanup Criteria (4.6 µg/L)
Depth to Groundwater (ft)
Screen Interval Unknown


Benzene Concentrations and Depth to Groundwater vs. Time
Monitoring Well E-072RR
Benzene (µg/L)
Depth to Groundwater (ft)
Quarter
2600
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
55
56
57
58
59
60
61
62
63
Q2014-2
Q2015-2
Q2015-4
Q2016-2
Q2016-4
Q2017-2
Q2017-4
Q2018-1
Q2018-2
Q2018-4
Q2019-1
Q2019-2
Q2019-3
Q2019-4
Q2020-1
Q2020-2
Q2020-3
Q2020-4
Q2021-1
Q2021-2
Q2021-3
Q2021-4
Q2022-1
Q2022-2
Q2022-3
Q2022-4
Q2023-1
Q2023-2
Q2023-3
Q2023-4
Q2024-1
Q2024-2
Benzene (µg/L)
Cleanup Criteria (4.6 µg/L)
Depth to Groundwater (ft)
Series3


Benzene Concentrations and Depth to Groundwater vs. Time
Monitoring Well E-055
Benzene (µg/L)
Depth to Groundwater (ft)
Quarter
Benzene (µg/L)
Cleanup Criteria (4.6 µg/L)
Depth to Groundwater (ft)
Screen Interval

APPENDIX D

INDEX OF QPR APPENDICES

APPENDIX D INDEX OF QPR APPENDICES

QPR NO.	QUARTER	APPENDIX
QPR 01	Nov-Dec 95-Jan 96	A - Laboratory Analytical Reports
		B - Groundwater Velocity Calculations
		C - Daily Ground Water Recovery Totals
		D - Biannual Assessment of Effectiveness of Corrective Actions
QPR 02	Feb-Mar-Apr 96	A - Laboratory Analytical Reports
		B - Daily Ground Water Recovery Totals
QPR 03	May-Jun-Jul 96	A - Boring Logs and Well Completion Diagrams for New Piezometers; Revised Permit Figures 3 and 4
		B - Boring Log and Well Completion Diagram for New Recovery Well R-45; Revised Permit Figure 2
		C - Laboratory Analytical Reports
		D - Groundwater Velocity Calculations
		E - Daily Ground Water Recovery Totals
		F - Workplans for Pilot Testing Alternate Groundwater Treatment Actions
		G - Biannual assessment of Effectiveness of Corrective Actions
QPR 04	Aug-Sep-Oct 96	A - Laboratory Analytical Reports and Data Validation Memoranda
		B - Groundwater Velocity Calculations
		C - Daily Ground Water Recovery Totals
		D - PRC Environmental Management, Inc. Correspondence and Response
QPR 05	Nov-Dec 96-Jan 97	A - Additional Gauging Data
		B - Data Validation Summary and Laboratory Reports
		C - Comparison of Sample Handling Methods on Dissolved Lead Concentrations
		D - Daily Groundwater and Product Recovery Totals
QPR 06	Feb-Mar-Apr 97	A - Data Validation Summary and Laboratory Reports
		B - Daily Groundwater and Product Recovery Totals
		C - Well E-72 Replacement and Abandonment Report
		D - Well E-103B Installation Report
		E - Piezometer P-45 Installation Report
		F - Revised Survey Data
		G - Notification Letters

QPR NO.	QUARTER	APPENDIX
		H - Revised Permit Tables and Figures
		I - Well E-17 Replacement and Abandonment Report
QPR 07	May-Jun-Jul 97	A - Additional Gauging Data
		B - Summary of Analytical Data
		C - Data Validation Summary and ARI Laboratory Reports
		D - Data Validation Summary and MAS Laboratory Reports
		E - Revised Groundwater Contour Maps
		F - Daily Groundwater and Product Recovery Totals
		G - ADEC Notification Letters
		H - New Survey Data
		I - Additional Analytical Data for E-122 and SPZ-3
		J - E-77 Investigation Borehole and Monitoring Well Location Map
		K - Responses to EPA Comments
		L - Revised Permit Tables and Figures
		M - Boring and Well Construction Logs (E-101B, E-121B, E-137B, E-168, 97B-23)
QPR-08	Aug-Sep-Oct 97	A - Additional Gauging Data
		B - Summary of Analytical Data
		C - Data Validation Summary and Laboratory Reports
		D - Daily Groundwater and Product Recovery Totals
		E - Notification Letter
		F - Interim Measures Data
		G - Beach Inspection Log
QPR-09	Nov-Dec 97-Jan 98	A - Quarterly Gauging Data
		B - Summary of Analytical Data
		C - Data Validation Summary and Laboratory Reports
		D - Daily Groundwater and Product Recovery Totals
		E - New Survey Data
		F - Notification Letter
		G - Interim Monitoring Program Data
		H - Boring and Well Construction Logs (E-173, E-174)
QPR-10	Feb-Mar-Apr 98	A - Quarterly Gauging Data
		B - Summary of Analytical Data
		C - Data Validation Summary and Laboratory Reports

QPR NO.	QUARTER	APPENDIX
		D - Daily Groundwater and Product Recovery Totals
		E - SPZ-1 and SPZ-2 Well Construction Diagrams
		F - ADEC Notification Letters
		G - Interim Monitoring Program Data
		H - New Survey Data
		I - Well Installation Report (R-46 To R-49; P-46 To P-49; E-173, -175, -176)
		J - Response to EPA Comments (regarding QPR 7)
QPR 11	May-Jun-Jul 98	A - Quarterly Gauging Data
		B - Summary of Analytical Data
		C - Data Validation Summary and Laboratory Reports
		D - Daily Groundwater and Product Recovery Totals
		E - SI Area Laboratory Reports
		F - Well Installation Report (E-177A/B; SMW-29, -30)
		G - ADEC Notification Letters
		H - Interim Measures Monitoring Data and Beach Logs
		I - PM Area Lab Reports
		J - Revised Permit Figures
QPR 12	Aug-Sep-Oct 98	A - Quarterly Gauging Data
		B - Summary of Analytical Data
		C - Data Validation Summary and Laboratory Reports
		D - Daily Groundwater and Product Recovery Totals
		E - Interim Monitoring Program Data
		F - Well Installation Report (E-178 To E-183)
		G - ADEC Notice of Violation #98-075
		H - Revised Permit Figure 4 and Table 1B
QPR 13	Nov-Dec 98-Jan 99	A - Quarterly Gauging Data
		B - Summary of Analytical Data
		C - Data Validation Summary and Laboratory Reports
		D - Daily Groundwater and Product Recovery Totals
		E - Interim Monitoring Program Data
		F - ADEC Notification Letter
		G - Well Installation & Abandonment Report (E-182 to E-194; Abandon E-39)
		H - Revised Permit Figure 4 and Permit Table 1D
QPR 14	Feb-Mar-Apr 99	A - Quarterly Gauging Data
		B - Summary of Analytical Data

QPR NO.	QUARTER	APPENDIX
		C - Data Validation Summary and Laboratory Reports
		D - Daily Groundwater and Product Recovery Totals
		E - Expanded Interim Monitoring Program Data
		F - Well Installation Report (E-195 to E-201)
		G - Sheetpile Wall Monitoring Points Survey Data
		H - Boardwalk Plume Corrective Action Modification Plan
		I - Revised Permit Figure 4
		J - Revised Permit Attachment DD - Security Plan
		K - Revised Permit Attachment EE - Inspection Plan
		J - Revised Permit Attachment FF - Training Plan
QPR 15	May-Jun-Jul 99	A - Quarterly Gauging Data
		B - Summary of Analytical Data
		C - Data Validation Summary and Laboratory Reports
		D - Daily Groundwater and Product Recovery Totals
		E - Expanded Interim Monitoring Program Data
		F - ADEC Notification Letters
		G - Well Installation Report (E-202 to E-208)
		H - Revised Permit Tables
		I - Revised Permit Figures
		J - Boardwalk Plume Corrective Action Modification Report
		K - E-77 Area Investigation Report
QPR 16	Aug-Sep-Oct 99	A - Quarterly Gauging Data
		B - Summary of Analytical Data
		C - Data Validation Summary and Laboratory Reports
		D - Daily Groundwater and Product Recovery Totals
		E - Expanded Interim Monitoring Program Data
		F - ADEC Notification Letters
		G - Revised Permit Table 1B
		H - Well Installation Report (E-209, -210; TW-5)
		I - Revised Permit Attachment GG - Contingency Plan
QPR 17	Nov-Dec 99-Jan 2000	A - Quarterly Gauging Data
		B - Summary of Analytical Data
		C - Data Validation Summary and Laboratory Reports
		D - Daily Groundwater and Product Recovery Totals
		E - Expanded Interim Monitoring Program Data

QPR NO.	QUARTER	APPENDIX
		F - ADEC Compliance Reports
		G - Well Installation Report (E-211 to E-214; I-1 to I-5; PI-1, -4, -5)
		H - Response to EPA Comments
		I - Revised Permit Figure 4
		J - Revised Permit Attachment EE - Inspection Plan
QPR 18	Feb-Mar-Apr 2000	A - Quarterly Gauging Data
		B - Summary of Analytical Data
		C - Data Validation Summary and Laboratory Reports
		D - Daily Groundwater and Product Recovery Totals
		E - Expanded Interim Monitoring Program Data
		F - ADEC Compliance Reports
		G - SI Area Supplemental Sampling Report
		H - Injection System Startup Report - E-150 Lobe Area
		I - Well Installation Report (DW-1; O-1 to O-7)
		J - Revised Permit Figure 4
		K - Revised Permit Attachment GG - Contingency Plan
QPR 19	May-Jun-Jul 2000	A - Quarterly Gauging Data
		B - Summary of Analytical Data
		C - Data Validation Summary and Laboratory Reports
		D - Daily Groundwater and Product Recovery Totals
		E - Expanded Interim Monitoring Program Data
		F - UCA Potentiometric Surface Elevation Correction Procedures
		G - ADEC Notification Letters
		H - Monitoring Well Installation Report (E-215 to E-218A/B)
		I - Corrective Action Modification Assessment Report; Boardwalk Plume
		J - E-77 Supplemental Monitoring Report
		K - Wharf Lobe Supplemental Sampling Report
		L - Revised Permit Figure 4
		M - Revised Permit Attachment FF - Training Plan
QPR 20	Aug-Sep-Oct 2000	A - Quarterly Gauging Data
		B - Summary of Analytical Data
		C - Data Validation Summary and Laboratory Reports
		D - Daily Groundwater and Product Recovery Totals
		E - Expanded Interim Monitoring Program Data
		F - ADEC Notification Letters

QPR NO.	QUARTER	APPENDIX
QPR 21	Nov-Dec 2000-Jan 01	A - Quarterly Gauging Data B - Summary of Analytical Data C - Data Validation Summary and Laboratory Reports D - Daily Groundwater and Product Recovery Totals E - Expanded Interim Monitoring Program Data F - ADEC Compliance Reports G - Monitoring Well Installation Report (E-224 - E-227; R-50 - R-53; P-50 - P-53; TW-5A; I-6 - I-9; PI-6A - PI-9) H - Revised Permit Figure 4
Separate Submittal	Nov. 16, 2000	*B-Aquifer Interim Corrective Measures Plan* [EPA approval dated Jan. 30, 2001]
QPR 22	Feb-Mar-Apr 01	A - Quarterly Gauging Data B - Summary of Analytical Data C - Data Validation Summary and Laboratory Reports D - Daily Groundwater and Product Recovery Totals E - Expanded Interim Monitoring Program Data F - ADEC Notification Letters G - B-Aquifer Interim Corrective Measures Startup Report H - A-Aquifer Supplemental Corrective Measures Plan I - Revised Permit Tables and Figures
QPR 23	May-Jun-Jul 01	A - Data Validation and Lab Reports B - Well Installation Report (E-228, RR2AS to RR-6AS, RR-8AS to RR-17AS, RR-14SVE C - Well Decommissioning Report (E-E, E-13, E-113, E-124, DW-1, O-1, O-3, O-6, O-7) D - Revised Permit Documents E - B-Aquifer Corrective Measure and Monitoring Plan [EPA approval dated May 27, 2003] F - UCA Natural Attenuation Supplemental Sampling Report and Work Plan [EPA approval dated Feb. 18, 2003]
QPR 24	Aug-Sep-Oct 01	A - Data Validation and Lab Reports B - Revised Permit Documents

QPR NO.	QUARTER	APPENDIX
QPR 25	Nov-Dec 01-Jan 02	A - Data Validation and Lab Reports B - Well Installation Report C - E-228 Investigation Report
QPR 26	Feb-Mar-Apr 02	A - Data Validation and Lab Reports B - E-228 CAMP Investigation Status Report C - Startup Monitoring Report for Lower Tank Farm (LTF) Supplemental Corrective Measure (SCM)
QPR 27	May-Jun-Jul 02	A - Data Validation and Lab Reports B - Well Installation Report for Wells E-231 and E-232A/B and Borehole 02B-01 C - E-228 Corrective Action Modification Plan (CAMP) Report D - Research of Sample E-38 (Collected on 9/12/01) for the Presence of 1,2-Dichloroethane (1,2-DCA)
QPR 28	Aug-Sep-Oct 02	A - Data Validation and Lab Reports B - Revised Permit Documents C - Research of Sample E-38 (Collected on 9/12/01) for the Presence of 1,2-Dichloroethane (1,2-DCA)
QPR 29	Nov-Dec 02-Jan 03	A - Data Validation and Lab Reports B - Assessment of Quarter 28 Analytical Data from Wells E-137B and E-161
QPR 30	Feb-Mar-Apr 03	A - Data Validation and Lab Reports B - Revised Permit Table 4
QPR 31	May-Jun-Jul 03	A - Data Validation and Lab Reports
QPR 32	Aug-Sep-Oct 03	A - Data Validation and Lab Reports B - Compilation of Historical Analytical Data for Selected Wells
QPR 33	Nov-Dec 03-Jan 04	A - Data Validation and Lab Reports B - Compilation of Historical Analytical Data for Selected Wells
QPR 34	Feb-Mar-Apr 04	A - Data Validation and Lab Reports B - Compilation of Historical Analytical Data for Selected Wells C - Response of Unconfined Aquifer to the Shut Down of the SI Corrective Measure D - Environmental Indicator Determination Information

QPR NO.	QUARTER	APPENDIX
QPR 35	May-Jun-Jul 04	A - Data Validation and Lab Reports B - Well E-112 Abandonment Report
QPR 36	Aug-Sep-Oct 04	A - Data Validation and Lab Reports
Separate Submittal	Aug. 4, 2004	*No-Purge Groundwater Sampling Evaluation and Plan* [EPA approval dated Feb. 14, 2005]
QPR 37	Nov-Dec 04-Jan 05	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter
QPR 38	Feb-Mar-Apr 05	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Supplemental Corrective Measure Work Plan, SI Area Air Sparging System [EPA approval dated Aug. 11, 2005]
QPR 39	May-Jun-Jul 05	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Well Installation Report (SMW31, -32, -33, and SAS-01 Through -25)
QPR 40	Aug-Sep-Oct 05	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - FFS for the SI Air Sparge Supplemental System
QPR 41	Nov-Dec 05-Jan 06	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter
QPR 42	Feb-Mar-Apr 06	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Response of Unconfined Aquifer to the Shut Down of the SI Corrective Measure D - Revised Permit Table 4 E - Well Abandonment Report (IWS-1, IWS-2, SMW-I-3)
QPR 43	May-Jun-Jul 06	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Well Installation Report for PIRM Air Sparge Wells PAS-01 through PAS-15

QPR NO.	QUARTER	APPENDIX
QPR 44	Aug-Sep-Oct 06	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Response of Unconfined Aquifer to the Shut Down of the PIRM Corrective Measure
QPR 45	Nov-Dec 06-Jan 07	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter
QPR 46	Feb-Mar-Apr 07	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Corrected Permit figure 5
QPR 47	May-Jun-Jul-07	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Well Installation Report for Injection Wells I-6A through I-9A
QPR 48	Aug-Sep-Oct-07	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Monitored Natural Attenuation Implementation Plan, Wharf Lobe Corrective Measure [EPA approval dated Feb. 25, 2008] D - Revised Permit Table 5 and Permit Figure 12
QPR 49	Nov-Dec 07-Jan 08	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter
QPR 50	Feb-Mar-Apr 08	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Revised Permit Table 4 and Permit Figure 6
QPR 51	May-Jun-Jul 08	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - PIRM Air Sparging Startup Report D - Well Installation Report – Recovery Wells R-50R, R-51R, and R-52R
QPR 52	Aug-Sep-Oct-08	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Well Installation Report – Production Well TW-8 D - Progress Report – B-Aquifer CAMP
Separate Submittal	Aug. 21, 2008	*Corrective Action Modification Plan for the B-Unconfined Aquifer* [EPA approval dated Aug. 28, 2008]

QPR NO.	QUARTER	APPENDIX
QPR 53	Nov-Dec 08-Jan 09	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - 2009 SI Corrective Action Modification and Monitored Natural Attenuation Validation Plan D - 2009 PIRM Air Sparge Transition Plan E - Class 1 Permit Modifications, Revised Table D-6
QPR 54	Feb-Mar-Apr 09	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Corrective Action Modification Plan (CAMP) for UCA Well E-198 D - Revised Permit tables 5 and D-6
QPR 55	May-Jun-Jul 09	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - 2009 SI Corrective Action Modification and Monitored Natural Attenuation Validation Plan (Revised 7/29/09) [EPA approval dated Aug. 6, 2009] D - Beach Seep Sample Location Map
QPR 56	Aug-Sep-Oct 09	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Well Installation Report: Monitoring Wells E-234A&B, E-235A&B, & E-236 and Air Sparge Wells HAS-01 through HAS-17
Separate submittal	Feb 4, 2010	*2009 PIRM Air Sparge Media Transfer Evaluation Report*
QPR 57	Nov-Dec 09-Jan 10	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - *2009 PIRM Air Sparge Media Transfer Evaluation Report* (previously submitted Feb. 4, 2010)
Separate submittal	May 7, 2010	*2009 PIRM SVE System and Air Sparge System Expansion Work Plan* [EPA comments dated May 27, 2010]
QPR 58	Feb-Mar-Apr 10	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - *SI 2010 TCE Corrective Action Modification Plan (CAMP)* [EPA comments and conditional approval, dated August 25, 2010] (Plan revised & re-submitted in QPR 60)
-		D - *PM 2010 Highway AS/SVE Interim Measures Plan (IMP)*

QPR NO.	QUARTER	APPENDIX
		E - *PIRM 2010 AS/SVE Pilot Test Plan* [EPA comments and conditional approval, dated August 9, 2010]
		F - *Wharf 2010 Standby Plan*
QPR 59	May-Jun-Jul 10	A - Data Validation and Lab Reports
		B - Historical Data for the Monitoring Wells Sampled this Quarter
		C - *SI Well Installation Report* – Monitoring Wells SMW-34 and SMW-35
		D - *PM/PIRM Well Installation Report* – Monitoring Wells E-237 and E-238; Soil Vapor Extraction Wells HSVE-1 through HSVE-6 and PSVE-6; Soil Vapor Monitoring Points (HMVP-1 through HMVP-3); and Air Sparge Wells PAS-16 through PAS-2
		E - *Revised PIRM 2010 SVE Pilot Test and Air Sparge System Expansion Work Plan*, (red-lined version submitted on August 13, 2010) [EPA approval dated August 23, 2010]
		F - Revised Table 5B (Quarterly Progress Report 54) and Table 5C (Quarterly Progress Report 58)
Separate submittal	August 13, 2010	*Revised PIRM 2010 SVE Pilot Test and Air Sparge System Expansion Work Plan (redline version) and Response to EPA Comments dated August 9, 2010* [EPA approval dated August 23, 2010]
QPR 60	Aug-Sep-Oct 10	A - Data Validation and Lab Reports
		B - Historical Data for the Monitoring Wells Sampled this Quarter
		C - *REVISED SI 2010 Potassium Permanganate In-Situ Chemical Oxidation (ISCO) Pilot Test,* (originally submitted in QPR 58) [EPA comments and conditional approval, dated August 25, 2010]
QPR 61	Nov-Dec 10-Jan 11	A - Data Validation and Lab Reports
		B - Historical Data for the Monitoring Wells Sampled this Quarter
		C - *SI 2010 TCE Potassium Permanganate In-situ Chemical Oxidation (ISCO) Report*
		D - *PM 2011 Highway AS/SVE System Installation and Operation Work Plan*
Separate submittal	May 27, 2011	*Soil Vapor Extraction System Startup Report, PIRM Area*, dated May 25, 2011.
QPR 62	Feb-Mar-Apr 11	A - Data Validation and Lab Reports
		B - Historical Data for the Monitoring Wells Sampled this Quarter
		C - *Soil Vapor Extraction System Startup Report, PIRM Area* dated May 25, 2011 (submitted previously on May 27, 2011). [EPA comments dated October 21, 2011]

QPR NO.	QUARTER	APPENDIX
Separate submittal	July 26, 2011	*Final PM 2011 Highway Area ASSVE System Installation and Operation Work Plan – Phase 1*, dated July 25, 2011.
QPR 63	May-Jun-Jul 11	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - *Final PM 2011 Highway Area ASSVE System Installation and Operation Work Plan – Phase 1* dated July 25, 2011 (previously submitted on July 26, 2011) [EPA approval dated July 28, 2011]
QPR 64	Aug-Sep-Oct 11	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - *Well Abandonment Report, SI Monitoring Well SMW-13*
QPR 65	Nov-Dec 11-Jan 12	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - *Final PM 2011 Highway Area AS/SVE System Installation and Operation Work Plan – Phase 1 (submitted February 6, 2012)*
Separate submittal	February 6, 2012	*Final PM 2011 Highway Area AS/SVE System Installation and Operation Work Plan – Phase 1*
Separate submittal	May 16, 2012	*PM Highway Area AS/SVE System Phase 1 Startup Report*
QPR 66	Feb-Mar-Apr 2012	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - *PM Highway Area AS/SVE System Phase 1 Startup Report*
QPR 67	May-Jun-Jul 2012	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - B-Aquifer Potentiometric Surface Elevation Maps, June 5 and June 28, 2012 D - Revised Permit Figures 2, 3, and 4
Separate submittal	October 9, 2012	*Memorandum: PIRM Area Deep Benzene Plume (DBP) Update,* (electronically submitted to EPA on October 16, 2012). [EPA comments and conditional approval, dated November 6, 2012]
QPR 68	Aug-Sept-Oct 2012	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - *2012 SI TCE Corrective Action Modification Plan (CAMP)* D - PIRM SVE Capture Evaluation Data

QPR NO.	QUARTER	APPENDIX
QPR 69	Nov-Dec 12-Jan 13	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - *Well Installation Report: E-239, E-240, E-242, E-243, PAS-21 through PAS-32, PAS-21R, PSVE-7, PVMP-1*
QPR 70	Feb-Mar-Apr 2013	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - *Well Installation Report: Production Well TW-2B* D - Revised Permit Table 4
Separate submittal	May 14, 2013	Letter to EPA with proposed deep benzene plume (DBP) interim measures [EPA approval and additional comments, dated August 14, 2013]
QPR 71	May-Jun-Jul 2013	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - *Well Installation Report: E-244, E-245A/B, PAS-34, PSVE-8* D - *2013 Deep Benzene Plume (DBP) Response Report*
QPR 72	Aug-Sept-Oct 2013	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter
Separate submittal	September 12, 2013	*Response to EPA Comments Dated August 14, 2013, Tesoro PIRM Deep Benzene Plume*
QPR 73	Nov-Dec 13-Jan 14	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - *Well Installation Report: Highway System Wells: E-246A/B, HAS-18 through HAS-21, HSVE-8, HVMP-10 and HVMP-11* D - *PM Swamp Corrective Action Modification Plan (CAMP)*
QPR 74	Feb-Mar-Apr 2014	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - *Well Installation and Abandonment Report: Highway System Wells: Monitoring Wells E-077RR, E-247A/B, and E-248A/B, Air Sparge Wells HAS-23 and HAS-24, and Abandoned Well E-077R*
Separate submittal	April 21, 2014	*PM Swamp CAMP Update* [EPA approval and additional comments, dated June 5, 2014]

QPR NO.	QUARTER	APPENDIX
Class 2 Permit Mod Request	May 28, 2014	*Request for Class 2 Permit Modification* for allowing A-aquifer groundwater to be treated in the Calgon granulated activated carbon (GAC) unit [EPA approval, dated September 16, 2014]
Class 1 Permit Modification	July 24, 2014	*Class 1 Permit Modification* for change in company name to Tesoro Alaska Company, LLC
Separate submittal	August 8, 2014	*PM Swamp CAMP Update*
QPR 75	May-Jun-Jul 2014	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - *PM Swamp CAMP Report*
Separate submittal	August 11, 2014	*August PM Swamp CAMP Memo* to EPA
QPR 76	Aug-Sept-Oct 2014	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - *E-219 CAMP, Restarting the Lower Tank Farm (LTF) Air Sparge and Soil Vapor Extraction (AS/SVE) System*
QPR 77	Nov-Dec 14-Jan 15	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - SI Potentiometric Contour Maps D - Revised Permit Table 4 E - *Well Installation Report – Monitoring Wells MW-93A/B, Recovery Wells R-54 and R-55* F - *2015 B-Aquifer Corrective Action Modification Plan (CAMP)*
QPR 78	Feb-Mar-Apr 2015	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - *SI Potentiometric Surface Contour Map, April 2015* D - Revised Permit Table 4
QPR 79	May-Jun-Jul 2015	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - SI Potentiometric Surface Contour Map
QPR 80	Aug-Sept-Oct 2015	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter
Separate submittal	November 5, 2015	*R-21 Replacement Well Screen Depth* [EPA approval e-mail dated November 5, 2015]

QPR NO.	QUARTER	APPENDIX
Separate submittal	January 13, 2016	*Recovery Well R-21R and R-56 Installation Work Plan*
Separate submittal	January 22, 2016	*Work Plan for Well Installation: E-249 to E-254, TPZ-1 to TPZ-4, and Replacement for E-064*
QPR 16-1 (81)	Nov-Dec 15, Jan 16	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - SI Area Data Review and Plan for Remedy Enhancement D - Modeling Feasibility Study of B-aquifer Plume Capture Alternatives
QPR 16-2	Feb-Mar-Apr 2016	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - *SI Potentiometric Surface Contour Map, March 2016* D - Decommissioning Report E - R-21R Aquifer Testing Work Plan
QPR 16-3	May-Jun-Jul 2016	A - Data Validation and Lab Reports B - Historical Analytical Data C - Well Installation Report D - R-21R Aquifer Testing Report
Separate Submittal	September 29, 2016	*RCRA Post-Closure Permit 10-year Renewal Application*
Separate Submittal	October 5, 2016	*Proposal for SVE System Shut-Down*
QPR 16-4	Aug-Sep-Oct 2016	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Air Optimization Test Results for SI Area D - Maps and Hydrographs for Injection Trench Area
QPR 17-1	Nov-Dec '16, Jan '17	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Well Installation Information
QPR 17-2	Feb-Mar-Apr 2017	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - LTF CAMP
QPR 17-3	May-June-July 2017	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter

QPR NO.	QUARTER	APPENDIX
Separate Submittal	September 7, 2017	SI Area Pilot Study Work Plan Approval [EPA/ADEC approval e-mail dated September 7, 2017]
Separate Submittal	October 31, 2017	Treated Groundwater Injection Plan [ADEC approval e-mail dated October 31, 2017]
QPR 17-4	Aug-Sept-Oct 2017	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Installation Report D - Decommissioning Report E - 2017 B-Aquifer CAMP
QPR 18-1	Nov-Dec 17, Jan 18	A - Data Validation and Lab Reports
QPR 18-2	Feb-Apr 2018	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter
QPR 18-3	May-July 2018	A - Data Validation and Lab Reports B - SI Area Remedy Enhancement Pilot Study Interim Report C - R-51RR Well Replacement Installation Report
QPR 18-4	May-July 2018	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - SI Area Remedy Enhancement Pilot Study Interim Report
Separate Submittal	Feb 7, 2019	Cook Inlet Bluff Sheet Pile Wall Inspection, Maintenance and Pending Repair or Replacement
QPR 19-1	May-July 2018	A - Data Validation and Lab Reports B - Southern Plume Review
Separate Submittal	March 26, 2019	Sheet Pile Wall Beach Sheet Notification Letter
Separate Submittal	April 15, 2019	Table 2B Revision for Quarterly Report 18-2
Separate Submittal	May 7, 2019	Sheet Pile Wall Beach Sheen 60-Day Report

QPR NO.	QUARTER	APPENDIX
QPR 19-2	Feb-Apr 2019	A - Data Validation and Lab Reports
		B - SI Area Remedy Enhancement Pilot Study Interim Report
		C - Time Plots
		D - SI Interim Report
		E - LTF Report
QPR 19-3	May-July 2019	A - Data Validation and Lab Reports
QPR 19-4	Aug-Oct 2019	B - Historical Data for the Monitoring Wells Sampled this Quarter
		C - Time Plots
		D - Well Installation Site Plans
QPR 20-1	Nov 2019-Dec 2020	A - Data Validation and Lab Reports
		B - Well Installation and Decommissioning Report
		C - Kenai Beach Sheen
QPR 20-2	Feb-Apr 2020	A - Data Validation and Lab Reports
		B - Historical Data for the Monitoring Wells Sampled this Quarter
		C - Concentrations/Depth to Groundwater verses Time Graphs
		D - SI Interim Report
QPR 20-3	May-July 2020	A - Data Validation and Lab Reports
QPR 20-4	Aug-Oct 2020	A - Data Validation and Lab Reports
		B - Historical Data for the Monitoring Wells Sampled this Quarter
		C - Concentrations/Depth to Groundwater verses Time Graphs
		D - SI Interim Report
QPR 21-1	Nov 2020-Jan 2021	A - Data Validation and Lab Reports
		B - SI Area Mass Flux Evaluation
Separate Submittal	November 13, 2020	Updated Conceptual Site Model and Remedial Alternatives Evaluation for the 1987 Hot Oil Pipeline Release
QPR 21-2	Feb-Apr 2021	A - Data Validation and Lab Reports
		B - Historical Data for the Monitoring Wells Sampled this Quarter
		C - Concentrations/Depth to Groundwater verses Time Graphs
		D - R-56 Well Replacement Installation Report
Separate Submittal	April 22 2021	Updated Conceptual Site Model and Remedial Alternatives Evaluation for the 1987 Hot Oil Pipeline Release Revision 2
QPR 21-3	May-July 2021	A - Data Validation and Lab Reports
Separate Submittal	November 9,2021	Biosparge Pilot Study 1987 Hot Oil Pipeline Release Work Plan Revision 1

QPR NO.	QUARTER	APPENDIX
QPR 21-4	Aug-Oct 2021	A - Data Validation and Lab Reports
		B - Historical Data for the Monitoring Wells Sampled this Quarter
		C - Concentrations/Depth to Groundwater verses Time Graphs
		D - SI Area Remedy Evaluation and Recommendation
QPR 22-1	Nov 2021 – Jan 2022	A - Data Validation and Lab Reports
		B - Well Installation and Decommissioning Report
QPR 22-2	Feb-Apr 2022	A - Data Validation and Lab Reports
		B - Historical Data for the Monitoring Wells Sampled this Quarter
		C - Concentrations/Depth to Groundwater verses Time Graphs
QPR 22-3	May – July 2022	A - Data Validation and Lab Reports
Separate Submittal	September 19, 2022	SI Area Supplemental Groundwater Pilot Study Remedial Action Plan
QPR 22-4	Aug-Oct 2022	A - Data Validation and Lab Reports
		B - Historical Data for the Monitoring Wells Sampled this Quarter
		C - Concentrations/Depth to Groundwater verses Time Graphs
QPR 23-1	Nov 2022 – Jan 2023	A -Data Validation and Lab Reports
		B -Well Installation Report
QPR 23-2	Feb-Apr 2023	A - Data Validation and Lab Reports
		B - Historical Data for the Monitoring Wells Sampled this Quarter
		C - Concentrations/Depth to Groundwater verses Time Graphs
		D - Carbon Barrier Assessment Monitoring
QPR 23-3	May – July 2023	A -Data Validation and Lab Reports
		B - Index of QPR Appendices
QPR 23-4	Aug-Oct 2023	A - Data Validation and Lab Reports
		B - Historical Data for the Monitoring Wells Sampled this Quarter
		C - Concentrations/Depth to Groundwater verses Time Graphs
		D. - Index of QPR Appendices
		E. - Carbon Barrier Assessment Monitoring
		F - Well Installation and Decommissioning Report
		G - Bio-Sparge Effectiveness Monitoring Report

QPR NO.	QUARTER	APPENDIX
QPR 24-1	Nov 2023 – Jan 2024	A -Data Validation and Lab Reports
QPR 24-2	Feb -Apr 2024	A - Data Validation and Lab Reports
		B - Historical Data for the Monitoring Wells Sampled this Quarter
		C - Concentrations/Depth to Groundwater verses Time Graphs
		D. - Index of QPR Appendices
		E. - Carbon Barrier Assessment Monitoring

APPENDIX E

CARBON BARRIER ASSESSMENT MONITORING

E-1. SI FIELD PARAMETER SUMMARY

E-2. SI ANALYTICAL SUMMARY

APPENDIX E-1

SI FIELD PARAMETER SUMMARY

TABLE E-1. SI FIELD PARAMETER SUMMARY
TESORO ALASKA COMPANY, KENAI REFINERY
KENAI, ALASKA

Monitoring Well	Location	Date Sampled	Temperature (°C)	pH (Std Units)	Conductivity @25°C (mS/cm[c])	Oxidation-Reduction Potential (mV)	Oxygen, Dissolved (mg/L)	Turbidity (NTU)
SMW-09	Downgradient sample locations	12/7/2022	4.6	6.44	0.328	66.3	1.9	71.29
		3/28/2023	5.49	6.48	0.302	48.5	2.54	60.78
		6/20/2023	5.34	6.42	0.346	50.8	3.02	2.1
		9/7/2023	5.2	7.34	0.52	-124.9	1.78	7.2
		11/29/2023	5	6.48	0.651	77.3	9.1	0
		3/21/2024	8.3	6.47	0.834	14.2	1.43	12.21
SMW-29		12/7/2022	2.3	6.19	1.843	-49.9	0.44	8.63
		3/29/2023	4.55	6.55	1.334	-2.7	1.15	3.99
		6/21/2023	10.79	6.01	1.885	-9.5	-0.21	233
		9/7/2023	7.27	7.08	0.507	-127.5	2.17	12.84
		11/30/2023	3.7	6.36	0.391	51.3	0.42	0
		3/20/2024	4.8	6.45	0.399	0.3	0.4	69.13
SMW-36		12/8/2022	4.6	6.48	0.678	-34.8	0.74	43
		3/28/2023	5.56	6.56	0.802	48.1	1.46	36.06
		6/21/2023	11.56	6.47	0.967	-30.6	0.57	35.7
		9/7/2023	7.05	7.36	0.494	-123.7	0.36	22.47
		11/30/2023	5.7	6.63	0.388	4.2	0.31	19.03
		3/19/2024	3.4	6.66	0.368	-36.8	0.34	41.52

TABLE E-1. SI FIELD PARAMETER SUMMARY
TESORO ALASKA COMPANY, KENAI REFINERY
KENAI, ALASKA

Monitoring Well	Location	Date Sampled	Temperature (°C)	pH (Std Units)	Conductivity @25°C (mS/cm[c])	Oxidation-Reduction Potential (mV)	Oxygen, Dissolved (mg/L)	Turbidity (NTU)
SMW-37	Downgradient sample locations	12/7/2022	0.7	6.51	0.754	7.9	1.51	83.69
		3/29/2023	4.58	6.8	1.103	4	1.56	22.34
		6/21/2023	10.22	6.6	1.455	-39.8	0.29	105
		9/7/2023	7.19	7.44	0.958	-122.6	1.54	37.24
		11/30/2023	3.2	6.59	0.61	-8.2	0.51	120.5
		3/21/2024	2.3	6.41	0.618	57.7	0.67	123.2
SMW-31	Injection area/near injection area sample locations	12/8/2022	2.5	7.22	0.537	-167.9	0.34	35.94
		3/28/2023	3.83	6.73	0.654	55.1	3.75	12.71
		6/20/2023	10.19	6.93	0.802	-80.8	1.13	16.8
		9/6/2023	11.65	7.55	0.614	-108.5	0.43	7.97
		11/29/2023	3.6	6.81	0.741	5.3	0.85	4.08
		3/19/2024	3.7	6.34	0.87	34.4	0.72	138
SMW-35		12/8/2022	4.8	6.86	0.468	-109.9	0.4	6.78
		3/30/2023	4.15	6.28	0.718	68.9	4.58	13.87
		6/21/2023	10.4	6.55	0.533	-29.9	0.11	27
		9/8/2023	8.54	7.44	1.377	-134.9	5.52	14.82
		11/30/2023	4.6	6.8	0.622	-53.6	0.45	10.69
		3/20/2024	6.3	6.51	0.792	17.1	0.25	4.33

TABLE E-1. SI FIELD PARAMETER SUMMARY
TESORO ALASKA COMPANY, KENAI REFINERY
KENAI, ALASKA

Monitoring Well	Location	Date Sampled	Temperature (°C)	pH (Std Units)	Conductivity @25°C (mS/cm[c])	Oxidation-Reduction Potential (mV)	Oxygen, Dissolved (mg/L)	Turbidity (NTU)
SMW-21A	Injection area/near injection area sample locations	NM	NM	NM	NM	NM	NM	NM
		3/29/2023	5.49	9.34	0.257	14.6	1.01	NM
		6/20/2023	9.37	9.27	0.322	68	0.76	52.6
		9/6/2023	11.82	9.55	0.492	-105.7	0.75	28.15
		11/29/2023	4	9.46	0.385	61.6	0.28	16.31
		3/20/2024	4.9	9.4	0.502	6.4	0.2	16.02
IWS-6	Upgradient sample locations	12/8/2022	3.5	6.73	0.497	-192.6	0.35	22.29
		3/29/2023	5.21	6.94	0.498	-12.2	1.42	23.5
		6/21/2023	9.97	6.4	0.725	-2.2	0.71	90.5
		9/8/2023	7.6	7.41	1.27	-152.1	1.68	15.85
		11/30/2023	5.2	6.5	1.025	-35.9	0.19	39.27
		3/19/2024	4.3	6.56	1.4	-3.5	0.28	26.38
SMW-06		12/7/2022	4.7	5.01	0.37	123	3.11	12.25
		3/28/2023	5.02	5.01	0.816	95.3	7.11	211.6
		6/20/2023	5.55	5.25	0.96	138	6.85	23.2
		9/6/2023	5.78	7.09	0.415	-119.8	3.23	6.54
		11/30/2023	5.2	5.97	0.578	10.1	1.79	10.48
		3/18/2024	5.4	6.03	0.797	101.9	2.61	31.4

Notes:
std units - standard units
mV - millivolts
°C - degrees celsius
mS/cm - millisiemens per centimeter
ntu - nephelometric turbidity units
mg/L - milligrams per liter
NM - data not recorded due to high turbidity and Carbon in the well

APPENDIX E-2

SI ANALYTICAL SUMMARY

TABLE E-2. SI ANALYTICAL SUMMARY
TESORO ALASKA COMPANY, KENAI REFINERY
KENAI, ALASKA

Monitoring Well	Location	Date Sampled	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)	Trichloro- ethene (ug/L)	Vinyl Chloride (ug/L)
SMW-09	Downgradient sample locations	12/07/22	0.955	ND(1)	ND(1)	ND(3)	ND(0.5)	**1.25**
		03/28/23	0.763	ND(1)	ND(1)	ND(3)	ND(0.5)	**1.23**
		06/20/23	0.774	ND(1)	ND(1)	ND(3)	ND(0.5)	**1.89**
		09/07/23	0.59	ND(1)	ND(1)	ND(3)	0.54	**0.75**
		11/29/23	0.67	ND(1)	ND(1)	ND(3)	0.77	**0.6**
		03/21/24	0.54	ND(1)	ND(1)	ND(3)	0.74	**0.43**
SMW-29		12/07/22	0.735	ND(1)	ND(1)	ND(3)	2.23	ND(0.15)
		03/29/23	0.861	ND(1)	ND(1)	ND(3)	2.55	ND(0.15)
		06/21/23	0.828	ND(1)	ND(1)	ND(3)	1.45	**0.195**
		09/07/23	0.71	ND(1)	ND(1)	ND(3)	**3.37**	ND(0.15)
		11/30/23	1.02	ND(1)	ND(1)	ND(3)	**3.05**	ND(0.15)
		03/20/24	1	ND(1)	ND(1)	ND(3)	**1.96**	ND(0.15)
SMW-36		12/08/22	0.751	ND(1)	ND(1)	ND(3)	**5.38**	**0.314**
		03/28/23	0.623	ND(1)	ND(1)	ND(3)	**4.67**	ND(0.15)
		06/21/23	0.511	ND(1)	ND(1)	ND(3)	**3.97**	ND(0.15)
		09/07/23	0.84	ND(1)	ND(1)	ND(3)	**4.83**	ND(0.15)
		11/30/23	0.95	ND(1)	ND(1)	ND(3)	**4.87**	ND(0.15)
		03/19/24	0.84	ND(1)	ND(1)	ND(3)	**3.62**	ND(0.15)
SMW-37		12/07/22	ND(0.4)	ND(1)	ND(1)	ND(3)	**7.22**	**0.797**
		03/29/23	ND(0.4)	ND(1)	ND(1)	ND(3)	**4.88**	**0.527**
		06/21/23	ND(0.4)	ND(1)	ND(1)	ND(3)	**7.11**	**0.496**
		09/07/23	0.56	ND(1)	ND(1)	ND(3)	**8.08**	0.15
		11/30/23	0.92	ND(1)	ND(1)	ND(3)	**11.1**	**0.27**
		03/21/24	0.93	ND(1)	ND(1)	ND(3)	**9.21**	**0.23**

TABLE E-2. SI ANALYTICAL SUMMARY
TESORO ALASKA COMPANY, KENAI REFINERY
KENAI, ALASKA

Monitoring Well	Location	Date Sampled	Calcium, Total (ug/L)	Calcium, Dissolved (ug/L)	Iron, Total (ug/L)	Iron, Dissolved (ug/L)	Magnesium, Total (ug/L)	Magnesium, Dissolved (ug/L)	Manganese, Total (ug/L)
SMW-09	Downgradient sample locations	12/07/22	38400	39300	28800	21500	10800	10900	1590
		03/28/23	NA	NA	NA	NA	NA	NA	NA
		06/20/23	35700	35300	18500	17800	9730	9300	1520
		09/07/23	47800	49100	28200	22800	14100	15400	2340
		11/29/23	75800	77200	37200	38300	20900	19600	3110
		03/21/24	96100	89800	48400	38600	29700	24800	4290
SMW-29		12/07/22	194000	NS	167000	162000	129000	122000	14100
		03/29/23	NA	NA	110000	115000	NA	85200	NA
		06/21/23	178000	194000	178000	176000	95200	103000	12500
		09/07/23	38000	37700	24000	22100	26300	24900	2800
		11/30/23	29600	30200	23300	24000	18200	18100	1890
		03/20/24	26600	26700	26200	22300	16300	15900	1890
SMW-36		12/08/22	103000	112000	46000	49300	32100	35000	3870
		03/28/23	116000	112000	42500	40700	35200	35000	3910
		06/21/23	106000	100000	40200	38200	32700	31300	3200
		09/07/23	48700	48200	26400	23900	20200	19300	2160
		11/30/23	41400	40900	22300	20900	15900	14700	1710
		03/19/24	38100	38300	20200	19700	15300	13200	1640
SMW-37		12/07/22	86400	93600	53500	47500	25100	27000	3330
		03/29/23	161000	159000	64100	61300	44800	44700	4460
		06/21/23	182000	172000	70000	63100	58300	53300	4840
		09/07/23	98700	96800	45400	42100	40300	38700	3170
		11/30/23	68600	65300	45500	35700	26300	23100	2310
		03/21/24	58400	58600	46000	40800	23100	19900	2290

TABLE E-2. SI ANALYTICAL SUMMARY
TESORO ALASKA COMPANY, KENAI REFINERY
KENAI, ALASKA

Monitoring Well	Location	Date Sampled	Manganese, Dissolved (ug/L)	Sulfate (mg/L)	Nitrate & Nitrite (mg/L)	Total Organic Carbon, Average (mg/L)	Alkalinity (mg/L)	Hardness as CaCO3 (mg/L)
SMW-09	Downgradient sample locations	12/07/22	1600	29.1	0.236	7.04	109	140
		03/28/23	NA	NA	NA	NA	NA	NA
		06/20/23	1570	18.3	ND(0.2)	2.9	99.1	129
		09/07/23	2100	123	ND(0.2)	23.7	110	177
		11/29/23	3360	240	ND(0.2)	3.07	93.1	275
		03/21/24	3980	308	ND(0.2)	8.02	85.6	362
SMW-29		12/07/22	13900	1600	ND(0.2)	13.3	42.8	1020
		03/29/23	9310	798	0.328	1.37	NA	NA
		06/21/23	13800	1030	0.262	3.74	34.3	837
		09/07/23	2860	139	ND(0.2)	1.44	84.2	203
		11/30/23	1980	68.2	ND(0.2)	1.78	103	149
		03/20/24	1910	39	ND(0.2)	ND(2.0)	100	134
SMW-36		12/08/22	4250	377	ND(0.2)	7.81	51.1	389
		03/28/23	3640	284	ND(0.2)	3.03	2.5	435
		06/21/23	3150	360	ND(0.2)	2.8	74	400
		09/07/23	2000	54.1	ND(0.2)	3.15	155	205
		11/30/23	1610	19.6	ND(0.2)	3.23	152	169
		03/19/24	1750	14.2	ND(0.2)	3.36	136	158
SMW-37		12/07/22	3520	255	ND(0.2)	25.9	82	319
		03/29/23	4410	561	ND(0.2)	2.6	40.9	587
		06/21/23	4220	758	ND(0.2)	2.74	42.1	695
		09/07/23	3240	358	ND(0.2)	2.84	90.3	412
		11/30/23	2190	116	ND(0.2)	5.58	150	280
		03/21/24	2260	148	ND(0.2)	ND(2.0)	87.8	241

TABLE E-2. SI ANALYTICAL SUMMARY
TESORO ALASKA COMPANY, KENAI REFINERY
KENAI, ALASKA

Monitoring Well	Location	Date Sampled	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)	Trichloro- ethene (ug/L)	Vinyl Chloride (ug/L)
SMW-31	Injection area/near injection area sample locations	12/08/22	ND(0.4)	ND(1)	ND(1)	ND(3)	ND(0.5)	ND(0.15)
		03/28/23	ND(0.4)	ND(1)	ND(1)	ND(3)	ND(0.5)	ND(0.15)
		06/20/23	ND(0.4)	ND(1)	ND(1)	ND(3)	ND(0.5)	**0.21**
		09/06/23	ND(0.4)	ND(1)	ND(1)	ND(3)	ND(0.5)	ND(0.15)
		11/29/23	ND(0.4)	ND(1)	ND(1)	ND(3)	ND(0.5)	ND(0.15)
		03/19/24	ND(0.4)	ND(1)	ND(1)	ND(3)	ND(0.5)	ND(0.15)
SMW-35		12/08/22	3.48	ND(1)	ND(1)	ND(3)	**31.5**	**0.997**
		03/30/23	2.94	ND(1)	ND(1)	ND(3)	**36.3**	**0.766**
		06/21/23	3.13	ND(1)	ND(1)	ND(3)	**33.4**	**0.946**
		09/08/23	0.94	ND(1)	ND(1)	ND(3)	**36.1**	ND(0.15)
		11/30/23	0.94	ND(1)	ND(1)	ND(3)	**44.7**	ND(0.15)
		03/20/24	1.15	ND(1)	ND(1)	ND(3)	**42.7**	ND(0.15)
SMW-21A		NM	NM	NM	NM	NM	NM	NM
		03/29/23	ND(0.4)	ND(1)	ND(1)	ND(3)	ND(0.5)	ND(0.15)
		06/20/23	ND(0.4)	ND(1)	ND(1)	ND(3)	ND(0.5)	ND(0.15)
		09/06/23	ND(0.4)	ND(1)	ND(1)	ND(3)	ND(0.5)	ND(0.15)
		11/29/23	ND(0.4)	ND(1)	ND(1)	ND(3)	ND(0.5)	ND(0.15)
		03/20/24	ND(0.4)	ND(1)	ND(1)	ND(3)	ND(0.5)	ND(0.15)

TABLE E-2. SI ANALYTICAL SUMMARY
TESORO ALASKA COMPANY, KENAI REFINERY
KENAI, ALASKA

Monitoring Well	Location	Date Sampled	Calcium, Total (ug/L)	Calcium, Dissolved (ug/L)	Iron, Total (ug/L)	Iron, Dissolved (ug/L)	Magnesium, Total (ug/L)	Magnesium, Dissolved (ug/L)	Manganese, Total (ug/L)
SMW-31	Injection area/near injection area sample locations	12/08/22	69200	11/65400	24100	23100	19000	17800	3480
		03/28/23	88500	90000	31400	33000	22200	22700	4690
		06/20/23	108000	111000	33400	34300	29200	29100	2850
		09/06/23	NM	NM	23400	26400	NM	NM	3070
		11/29/23	98900	99000	23100	25200	28900	27200	3910
		03/19/24	109000	108000	26200	17000	36100	36900	4470
SMW-35		12/08/22	63100	61000	15500	23700	17800	16700	2280
		03/30/23	109000	108000	36900	37100	27800	27300	3210
		06/21/23	65200	66900	23600	22700	17800	17900	2320
		09/08/23	91900	94900	27000	26900	31800	31100	1000
		11/30/23	95600	109000	24900	24500	29200	34200	1220
		03/20/24	95000	95200	19400	19000	32900	30000	2220
SMW-21A		NM	NM	NM	NM	NM	NM	NM	NM
		03/29/23	NA	17300	6490	4630	85200	5630	124
		06/20/23	28800	29400	4720	1610	9320	9500	99.8
		09/06/23	49800	46000	40700	3820	21700	19400	298
		11/29/23	39600	38500	4070	464	16900	16300	89.8
		03/20/24	47900	46500	3240	1290	23600	22300	82.8

TABLE E-2. SI ANALYTICAL SUMMARY
TESORO ALASKA COMPANY, KENAI REFINERY
KENAI, ALASKA

Monitoring Well	Location	Date Sampled	Manganese, Dissolved (ug/L)	Sulfate (mg/L)	Nitrate & Nitrite (mg/L)	Total Organic Carbon, Average (mg/L)	Alkalinity (mg/L)	Hardness as CaCO3 (mg/L)
SMW-31	Injection area/near injection area sample locations	12/08/22	3030	86.9	ND(0.2)	74.4	144	251
		03/28/23	4180	178	ND(0.2)	13.2	102	312
		06/20/23	2940	347	ND(0.2)	3.06	69.4	391
		09/06/23	1790	192	3.37 J	1.79	NM	NM
		11/29/23	3840	380	0.524	2.18	124	366
		03/19/24	3910	367	1.05	2.2	77.9	421
SMW-35		12/08/22	2270	111	ND(0.2)	1.78	106	231
		03/30/23	3500	280	ND(0.2)	1.98	85.5	388
		06/21/23	2340	124	ND(0.2)	1.61	101	236
		09/08/23	1300	246	ND(0.2)	2.57	132	360
		11/30/23	1490	193	ND(0.2)	2.48	143	359
		03/20/24	2070	231	ND(0.2)	ND(2.0)	134	373
SMW-21A		NM	NM	NM	NM	NM	NM	NM
		03/29/23	103	7.47	ND(0.2)	242	NA	NA
		06/20/23	78.8	5.72	ND(0.2)	14.9	104	110
		09/06/23	139	110	ND(0.2)	34.2	136	214
		11/29/23	63.4	65.3	ND(0.2)	4.59	117	169
		03/20/24	72	137	ND(0.2)	3.48	92.5	217

TABLE E-2. SI ANALYTICAL SUMMARY
TESORO ALASKA COMPANY, KENAI REFINERY
KENAI, ALASKA

Monitoring Well	Location	Date Sampled	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes, Total (ug/L)	Trichloro- ethene (ug/L)	Vinyl Chloride (ug/L)
IWS-6	Upgradient sample locations	12/08/22	ND(0.4)	ND(1)	ND(1)	ND(3)	**8.92**	ND(0.15)
		03/29/23	1.74	ND(1)	ND(1)	ND(3)	**22.3**	ND(0.15)
		06/21/23	1.32	ND(1)	ND(1)	ND(3)	**23.6**	**0.491**
		09/08/23	0.66	ND(1)	ND(1)	ND(3)	**17.7**	0.18
		11/30/23	1.11	ND(1)	ND(1)	ND(3)	**25.3**	**0.26**
		03/19/24	ND(0.4)	ND(1)	ND(1)	ND(3)	**10.3**	ND(0.15)
SMW-06		12/07/22	ND(0.4)	ND(1)	ND(1)	ND(3)	1.92	ND(0.15)
		03/29/23	ND(0.4)	ND(1)	ND(1)	ND(3)	1.42	ND(0.15)
		06/20/23	ND(0.4)	ND(1)	ND(1)	ND(3)	1.51	ND(0.15)
		09/06/23	1.1	ND(1)	ND(1)	ND(3)	1.93	ND(0.15)
		11/30/23	2.53	ND(1)	ND(1)	ND(3)	1.83	ND(0.15)
		03/18/24	0.7	ND(1)	ND(1)	ND(3)	1.37	ND(0.15)
		TGPS	**4.6**	**1,100**	**15**	**190**	**2.8**	**0.19**

Notes:
ug/L - micorgrams per liter
NM - data not recorded due to high turbidity and Carbon in the well
NA - analyte not analyzed due to field/laboratory error
TGPS - Target groundwater protection standard

TABLE E-2. SI ANALYTICAL SUMMARY
TESORO ALASKA COMPANY, KENAI REFINERY
KENAI, ALASKA

Monitoring Well	Location	Date Sampled	Calcium, Total (ug/L)	Calcium, Dissolved (ug/L)	Iron, Total (ug/L)	Iron, Dissolved (ug/L)	Magnesium, Total (ug/L)	Magnesium, Dissolved (ug/L)	Manganese, Total (ug/L)
IWS-6	Upgradient sample locations	12/08/22	71800	70700	7260	6870	20200	19500	1360
		03/29/23	79400	72100	21700	18100	20000	18400	1930
		06/21/23	101000	96800	27000	17900	27800	25400	2810
		09/08/23	83700	80100	18200	14800	25200	25000	2290
		11/30/23	158000	154000	31900	26600	48100	47000	4220
		03/19/24	211000	206000	9780	5020	65200	62300	1530
SMW-06		12/07/22	43900	41300	1600	826	15400	14300	850
		03/29/23	139000	138000	15000	1600	40100	41300	9060
		06/20/23	138000	132000	4320	568	39600	44800	1670
		09/06/23	43100	42600	ND(500)	ND(500)	17200	17500	265
		11/30/23	71700	76900	456	ND(250)	25300	26200	365
		03/18/24	104000	94000	2440	288	40200	35800	957
		TGPS	--	--	--	--	--	--	--

Notes:
ug/L - micorgrams per liter
NM - data not recorded due to high turbidity and Carbon in the well
NA - analyte not analyzed due to field/laboratory error
TGPS - Target groundwater protection standard

TABLE E-2. SI ANALYTICAL SUMMARY
TESORO ALASKA COMPANY, KENAI REFINERY
KENAI, ALASKA

Monitoring Well	**Location**	Date Sampled	Manganese, Dissolved (ug/L)	Sulfate (mg/L)	Nitrate & Nitrite (mg/L)	Total Organic Carbon, Average (mg/L)	Alkalinity (mg/L)	Hardness as CaCO3 (mg/L)
IWS-6	Upgradient sample locations	12/08/22	1350	74.9	ND(0.2)	23.2	179	263
		03/29/23	1770	103	ND(0.2)	4.96	121	281
		06/21/23	2620	215	ND(0.2)	3.07	107	367
		09/08/23	1990	112	ND(0.2)	5.95	224	313
		11/30/23	4240	391	ND(0.2)	5.45	201	593
		03/19/24	1550	610	ND(0.2)	6.51	166	796
SMW-06		12/07/22	732	175	ND(0.2)	4.56	ND(10)	173
		03/29/23	1270	464	0.865	2.98	ND(10)	511
		06/20/23	314	512	0.542	2.02	ND(10)	493
		09/06/23	134	106	ND(0.2)	5.26	89	178
		11/30/23	298	213	ND(0.2)	5.23	94.4	283
		03/18/24	548	236	0.216	7.11	129	426
		TGPS	--	--	--	--	--	--

Notes:
ug/L - micorgrams per liter
NM - data not recorded due to high turbidity and Carbon in the well
NA - analyte not analyzed due to field/laboratory error
TGPS - Target groundwater protection standard