



GROUNDWATER MONITORING REPORT – DRY SEASON 2025

RCRA CORRECTIVE ACTION PROGRAM
BOEING RENTON FACILITY

Prepared for:

THE BOEING COMPANY

Seattle, Washington

NOVEMBER 25, 2025



GROUNDWATER MONITORING REPORT – DRY SEASON 2025

RCRA CORRECTIVE ACTION PROGRAM
BOEING RENTON FACILITY

PROJECT # US0041831.2092

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November 25, 2025

This report was prepared by the staff of WSP USA Inc. under the supervision of the Hydrogeologist whose seal and signature appear hereon.

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LIST OF ABBREVIATIONS AND ACRONYMS

µg/L	micrograms per liter
µS/cm	microsiemens per centimeter
1,1-DCE	1,1-dichloroethene
AOC	area of concern
Boeing	The Boeing Company
CAP	Cleanup Action Plan
cis-1,2-DCE	cis-1,2-dichloroethene
CMP	Compliance Monitoring Plan
COC	constituent of concern
CPOC	conditional point of compliance
CUL	cleanup level
DNR	(Washington State) Department of Natural Resources
DO	dissolved oxygen
Ecology	Washington State Department of Ecology
EDR	Engineering Design Report
ERD	enhanced reductive dechlorination
Facility	Boeing Renton facility
MA	monitored attenuation
mg/L	milligrams per liter
MNA	monitored natural attenuation
Order	Agreed Order No. 8191
ORP	oxidation/reduction potential
PCE	tetrachloroethene
RCRA	Resource Conservation and Recovery Act
SU	Standard units
SVE	soil vapor extraction
SWMU	solid waste management unit
TCE	trichloroethene
TOC	total organic carbon
TPH	total petroleum hydrocarbons
VC	vinyl chloride
VOC	volatile organic compound
WSP	WSP USA Inc.

1 INTRODUCTION

This report provides progress reporting in conformance with Section VII.B.1 of Agreed Order Number 8191 (Order) and summarizes cleanup actions and monitoring conducted during the dry season of 2025 at The Boeing Company (Boeing) Renton facility (Facility) (Figure 1). This work is required under the Resource Conservation and Recovery Act (RCRA) Corrective Action Program being performed at the Facility. Corrective action activities are performed for those solid waste management units (SWMUs), areas of concern (AOCs), and other areas where cleanup actions are ongoing. Monitoring, cleanup activities, and reporting are being conducted as part of the final remedy implementation described in the Engineering Design Report (EDR) (Amec, 2014).

As approved by the Washington State Department of Ecology (Ecology) in a letter dated July 31, 2020, progress reporting is conducted on a semiannual basis in conjunction with monitoring, operations, and maintenance activities conducted pursuant to the Order and as outlined in the EDR.

The following documents summarize ongoing compliance activities conducted at the Facility:

- The original monitoring plan presented in Appendix D of the EDR (Amec, 2014) was superseded by the Compliance Monitoring Plan (CMP) (Amec Foster Wheeler, 2016a), which was subsequently revised in the first addendum to the CMP (CMP Addendum #1) (Amec Foster Wheeler, 2017).
- The groundwater monitoring program was further revised in the second addendum to the CMP (CMP Addendum #2) (Wood, 2019a), which removed selected areas or wells from the sampling program. Ecology approved these changes (Maeng, 2019).
- Boeing submitted the third addendum to the CMP (CMP Addendum #3) (CALIBRE, 2020) to Ecology on June 30, 2020. This addendum recommended further modifications to the groundwater monitoring program at the Facility. Ecology approved CMP Addendum #3 in July 2020.

Groundwater monitoring and cleanup actions are being conducted for the following areas (the ongoing remedies for each of these areas are noted in parentheses):

- SWMU-168: (monitored natural attenuation [MNA])
- SWMU-172 and SWMU-174: (bioremediation and monitored attenuation [MA]; the soil vapor extraction [SVE] system was shut down October 2022; decommissioning pending approval from Ecology)
- Building 4-78/79 SWMU/AOC Group: (bioremediation and MA; SVE has been discontinued per Ecology’s approval of the system decommissioning during the first quarter of 2019)
- Former Fuel Farm AOC Group: (MNA)
- AOC-001 and AOC-002: (bioremediation and MA)
- AOC-003: (MA)
- AOC-004: (MA)
- AOC-060: (bioremediation and MA)
- AOC-090: (bioremediation and MA)
- Apron A: (bioremediation and MA)

The background and investigation history for each affected unit or group of units is described in the Cleanup Action Plan (CAP) (Amec, 2012) or EDR (Amec, 2014).

Although Apron A was not included in the CAP or EDR, this report includes monitoring results for Apron A. Semiannual monitoring of Apron A started in the fourth quarter of 2016 (Amec Foster Wheeler, 2016b).

As described in the CAP, the goals for cleanup of groundwater at the Facility include protection of groundwater for drinking water beneficial use at all areas of the site and demonstration of protection of surface water beneficial uses at the conditional points of compliance for each SWMU and AOC. Cleanup goals and comparisons

with specific criteria are discussed in this report for each SWMU and AOC. Concentrations for protection of groundwater for beneficial use for each constituent of concern (COC) are based on site-specific cleanup levels (CULs) specified in the CAP. In June 2023, Ecology approved the implementation of an updated CUL of 8.0 micrograms per liter ($\mu\text{g}/\text{L}$) for arsenic (Cramer, 2023), which is the Puget Sound Basin background concentration according to Ecology's *Natural Background Groundwater Arsenic Concentrations in Washington State* guidance (Ecology, 2022). Previously, the CUL for arsenic was 1.0 $\mu\text{g}/\text{L}$. This CUL currently applies to SWMU-172/174. Otherwise, the measured COC concentrations in groundwater presented in this report are compared to the CULs specified in the CAP.

This semiannual report:

- Describes work completed during the reporting period.
- Describes any deviations from corrective action tasks required under the Order or CAP.
- Describes revisions to the corrective action schedule.
- Describes work projected to occur during the next semiannual sampling event, including any planned deviation from the CAP.
- Discusses remediation operation and maintenance activities conducted at the Facility during the reporting period.
- Documents monitoring activities conducted during the reporting period.
- Describes and discusses trends in monitoring data.
- Assesses remediation at each area.
- Assesses attainment of CULs at the conditional points of compliance.

This report presents information based on monitoring activities conducted during the dry season 2025 for the period from May 1, 2025, through October 31, 2025. In accordance with the requirements of the Order, corrective action activities were conducted at the Facility as described in this report.

1.1 WORK COMPLETED IN THE DRY SEASON OF 2025

The following work was completed during the dry season of 2025 (the period from May 1, 2025, through October 31, 2025):

- Boeing submitted the 2025 Groundwater Monitoring Report – Wet Season 2025 to Ecology and the City of Renton on May 22, 2025.
- WSP USA Inc. (WSP) completed the 2025 sitewide dry season sampling event between August 11 and 15, 2025.
- On August 12, 2025, a spill of approximately 600 gallons of a mixture of water and CHEMGUARD C301MS, an aqueous film forming foam product occurred on a circular concrete pad located northwest of Apron A. The spill was promptly addressed by Boeing by excavating the soil where the spill reached and disposing of the material off-site. Boeing notified Ecology of the spill by phone and email on September 9, 2025. A technical memorandum detailing the event was submitted to Ecology on November 6, 2025.
- The Boeing Project Manager transitioned from Nick Garson to William Cherry during this monitoring period. Ecology was notified on August 28, 2025.
- Ecology made progress on the Periodic Review for the facility. During the previous monitoring period, on March 11, 2025, Ecology provided the draft Boeing Renton Periodic Review and requested input from Boeing. On May 13, 2025, WSP provided comments on Ecology's draft of the Periodic Review on behalf of Boeing. On October 17, 2025, Ecology provided responses to the feedback that Boeing and WSP had provided on the document.

- The Draft On- and Off-Site Investigation of Apron R Work Plan was submitted to Ecology during the previous monitoring period, on March 31, 2025. Ecology provided comments on the work plan on April 21, 2025. WSP submitted responses to comments on the work plan on behalf of Boeing on May 13, 2025. Ecology provided final clarifications on the comments on September 11, 2025. The work plan is currently in review with the Washington State Department of Natural Resources (DNR). DNR is a state government agency which owns and manages the property between the Facility and Lake Washington. This DNR property is included in the next proposed stage of Apron R investigation.

1.2 DEVIATIONS FROM THE CAP

Collection of groundwater from Former Fuel Farm well GW211S was not possible because the well was dry and did not contain sufficient water for sample collection. No other deviations from tasks required in the CAP occurred during this reporting period.

1.3 SCHEDULE OF MONITORING

Ecology approved the modifications to the monitoring plan in CMP Addendum #3 (CALIBRE, 2020) on July 31, 2020, changing to a sitewide semiannual sampling program with sampling events to occur during the wet and dry seasons (in February and August, respectively). The current monitoring plan is detailed in Appendix A, Table A-1. Monitoring wells in AOC-001/002 were included in CMP Addendum #2, but monitoring was discontinued due to construction in the area from 2019 through 2023. Wells removed from AOC-001/002 (Wood, 2021) were replaced with new wells in July 2023 and were sampled during each semiannual event since their reinstallation.

1.4 WORK PROJECTED FOR THE NEXT REPORTING PERIOD

The following work is projected for the upcoming 2026 wet season (November 1, 2025, to April 30, 2026):

- Boeing will continue coordinating with DNR, including discussing the statement of work and access agreement requirements for the proposed off-site investigation on the DNR parcel between Apron R and Lake Washington.
- Based on evaluation of the semiannual monitoring data in this report and historical site data, the following areas are planned for an evaluation of the efficacy of enhanced reductive dechlorination (ERD) treatment of volatile organic compounds (VOCs) using carbon substrate injections in groundwater: SWMU-172/174, Building 4-78/79 SWMU/AOC Group, AOC-090, AOC-060, and AOC-001/002. Boeing and WSP will determine appropriate treatment options for each of these areas and communicate findings proposed next steps to Ecology.
- Reporting will be completed in accordance with the Order, CAP, EDR, and CMP Addendum #3.
- A CMP Addendum #4 will be submitted to Ecology for review. This document will contain an evaluation of the monitoring program and alterations to the program to optimize efficiency.
- Monitoring well GW211S in the Former Fuel Farm area will be redeveloped prior to the wet season compliance monitoring event. Details are available in Section 3.4.2.

2 GROUNDWATER SAMPLING METHODOLOGY

Groundwater was sampled and analyzed as described in Appendix A. These procedures are in accordance with the methods specified in the CMP (Amec Foster Wheeler, 2016a) and CMP Addendum #3 (CALIBRE, 2020). Table A-1 in Appendix A summarizes the current groundwater monitoring program and COCs specified in the CAP and revised in CMP Addendum #1 (Amec Foster Wheeler, 2017), CMP Addendum #2 (Wood, 2019a), and CMP Addendum #3 (CALIBRE, 2020) for all Facility corrective action areas. Table A-2 in Appendix A summarizes the current groundwater monitoring program for the corrective action areas that include MNA or MA as part of the cleanup remedy specified in the CAP. Tables A-1 and A-2 also specify monitoring requirements for Apron A, which was not included in the CAP. Any changes or exceptions to the sampling or analytical methods cited in Appendix A during the event are described in the applicable subsections in Section 3. The field data sheets, which document the groundwater sample collection and field parameter monitoring for each well sampled during this event, are included in Appendix B.

The analytical methods, field duplicate, lab duplicate, and matrix spike/matrix spike duplicate frequencies are specified in the Quality Assurance Project Plan (Amec Foster Wheeler, 2016c). The full analytical reports provided by the laboratory are provided separately on a secure online storage application, OneDrive. The data validation memoranda are included in Appendix C.

3 CORRECTIVE ACTION ACTIVITIES COMPLETED DURING THE REPORTING PERIOD

This section describes the corrective action activities conducted at the Facility during the dry season of 2025. Compliance monitoring was conducted in accordance with the CMP (Amec Foster Wheeler, 2016a) and CMP Addendum #3 (CALIBRE, 2020).

3.1 SWMU-168

This section describes corrective action activities conducted at this SWMU. Figure 2 shows the locations of the groundwater monitoring wells at SWMU-168 for which sampling was required under CMP Addendum #3 (CALIBRE, 2020) and the groundwater elevation at the remaining well measured during this monitoring event. The cleanup remedy for SWMU-168 is MNA; therefore, cleanup activities consist of monitoring only.

3.1.1 CLEANUP ACTION ACTIVITIES

No installation/construction activities were conducted for this cleanup action area during this reporting period.

3.1.2 CMP DEVIATIONS

No deviations from the CMP occurred for this area during this reporting period. The well monitored in this SWMU and the target COC list remained unchanged.

3.1.3 WATER LEVELS

The groundwater elevation measured during this groundwater monitoring event at SWMU-168 is provided in Table 1 and shown in Figure 2. Groundwater elevation contours are not shown because only one well, GW230I, is currently monitored in this SWMU. The general direction of groundwater flow depicted in Figure 2 is based on historical information.

3.1.4 GROUNDWATER MONITORING RESULTS

Results for primary geochemical indicators are presented in Table 2. The result for the single SWMU-168 COC, vinyl chloride (VC), is presented in Table 3. COC results for sampling events in recent years are presented in Appendix D.

3.1.4.1 Natural Attenuation/Geochemical Indicators

The geochemical indicator results from CPOC well GW230I indicate that conditions are conducive to natural attenuation of VC in this SWMU. The pH value measured was slightly acidic at 6.19 standard units (SU). The CPOC well GW230I showed reducing conditions, with low dissolved oxygen (DO) and a negative oxidation/reduction potential (ORP) reading. Reducing conditions are present in well GW230I, indicating conditions favorable for continued dechlorination of VOCs.

3.1.4.2 COC Results for Source Area

Groundwater samples were not collected from the source area well, GW228S, for SWMU-168 per CMP Addendum #3 (CALIBRE, 2020).

3.1.4.3 COC Results for CPOC Area

Table 3 lists the analytical result for the SWMU-168 area. The concentration of VC in the groundwater from CPOC area well GW230I was below the CUL of 0.11 µg/L, at 0.0810 µg/L. Historical trends for VC in GW230I are shown in Appendix D and depicted in Figure 3. VC concentrations observed in groundwater collected from this area have been exhibiting a downward trend since the dry season of 2022 and have been below the CUL for the last five reporting periods.

3.2 SWMU-172 AND SWMU-174

This section describes corrective action activities conducted at SWMU-172 and SWMU-174. The cleanup remedy for SWMU-172 and SWMU-174 is a combination of bioremediation and MA. SVE was used from 2015 through 2022. The SVE system has been shut down, as approved by Ecology, and Ecology approval for decommissioning is pending. Figure 4 shows the layout of the nine groundwater monitoring wells for which sampling is required under CMP Addendum #3 (CALIBRE, 2020) and the remediation system for these SWMUs.

3.2.1 CLEANUP ACTION ACTIVITIES

3.2.1.1 Installation/Construction Activities

No installation or construction activities were conducted in this SWMU group during this reporting period.

3.2.1.2 SVE and Bioremediation Operations

The SVE system was in operation between April 17, 2015, and October 24, 2022. SVE was discontinued on October 24, 2022, as approved by Ecology (Cramer, 2022). Permanent discontinuation of SVE and decommissioning of the SVE system are subject to Ecology's evaluation of the results of the sub-slab vapor sampling, which took place in May 2023. The SVE system equipment and infrastructure have been retained pending future discussions with Ecology regarding permanent discontinuation and removal.

The most recent injection of ERD treatment amendments was completed in December 2024.

3.2.2 CMP DEVIATIONS

No deviations from the CMP occurred for these SWMUs during this reporting period. The wells monitored in these SWMUs and the target COC list remained unchanged.

3.2.3 WATER LEVELS

The groundwater elevations measured during this groundwater monitoring event at SWMU-172 and SWMU-174 are summarized in Table 4 and shown in Figure 4. The groundwater elevation data show a flow direction generally to the east, toward the Cedar River Waterway; however, the sheet pile wall to the east of this area prevents a direct groundwater connection to the waterway, as depicted by the groundwater contours on Figure 4.

3.2.4 GROUNDWATER MONITORING RESULTS

Groundwater at these SWMUs is monitored following the analysis protocol presented in Tables A-1 and A-2 in Appendix A. Results for primary geochemical indicators are presented in Table 5; results for the SWMU-172 and SWMU-174 area COCs are presented in Table 6.

3.2.4.1 Monitored Attenuation/Geochemical Indicators

The geochemical indicator results are presented in Table 5. Specific conductivity in all wells ranged between 209 and 495 microsiemens per centimeter (µS/cm), which is consistent with previously observed values for the

groundwater in these SWMUs. The pH readings from all wells in this SWMU were slightly acidic, ranging between 5.59 and 6.33 SU. ORP was negative for all wells monitored, with the exception of source area well GW152S. Total organic carbon (TOC) concentrations in all wells in this SWMU ranged from 0.78 to 13.14 milligrams per liter (mg/L). DO concentrations ranged from 0.83 to 5.37 mg/L in all SWMU-172 and SWMU-174 monitoring wells.

3.2.4.2 COC Results for Source and Downgradient Plume Areas

Table 6 lists the analytical results for the SWMU-172 and SWMU-174 COCs. Historical trend plots for tetrachloroethene (PCE), trichloroethene (TCE), VC, and cis-1,2-dichloroethene (cis-1,2-DCE) in source area wells GW152S and GW153S are shown in Figures 5 and 6, in downgradient plume area wells GW172S and GW173S in Figure 7 and 8, and in downgradient plume area well GW226S in Figure 9. The source area groundwater characterized by wells GW152S and GW153S migrates downgradient toward plume area wells GW172S, GW173S, and GW226S. PCE and TCE are chlorinated solvents that were used at the Facility, while cis-1,2-DCE and VC are breakdown products resulting from biodegradation.

As shown in Figures 5 through 9 the concentrations of VOCs in groundwater from source area wells and downgradient plume area wells have generally remained either stable or have decreased over time.

Arsenic was detected above the CUL (8.0 µg/L) in source area well GW152S at a concentration of 66.2 µg/L but was not detected above the CUL in the groundwater at any other source area or downgradient plume area wells. As shown in Figure 10, the arsenic concentrations in groundwater from source and downgradient plume area wells have generally remained within historical range over the past two years, with the exception of source area well GW152S, which exhibits an apparent seasonal pattern of significantly higher concentrations during dry seasons, and its downgradient counterpart GW172S, which exhibited an increase in concentration during the dry season of 2023.

Source area groundwater CUL exceedances (Table 6) consisted of the following:

- **GW152S:** cis-1,2-DCE (1.41 µg/L); PCE (0.288 µg/L); TCE (0.119 µg/L); VC (0.364 µg/L); arsenic (66.2 µg/L); copper (210 µg/L); and lead (138 µg/L).
- **GW153S:** cis-1,2-DCE (0.302 µg/L) and TCE (0.239 µg/L).

Downgradient plume area groundwater site-specific CUL exceedances (Table 6) consisted of the following:

- **GW172S:** cis-1,2-DCE (0.635 µg/L); TCE (0.0619 µg/L); and VC (0.156 µg/L).
- **GW173S:** cis-1,2-DCE (0.227 µg/L); TCE (0.0272 µg/L); and VC (0.201 µg/L).
- **GW226S:** PCE (0.0328 µg/L).

3.2.4.3 COC Results for CPOC Area

As shown in Table 6, cis-1,2-DCE was detected above the CUL (0.03 µg/L) in the groundwater from CPOC area wells GW232S (0.315 µg/L), GW234S (0.130 µg/L), GW235I (0.343 µg/L), and GW236S (0.0575 µg/L). VC was detected above the CUL (0.11 µg/L) in the groundwater from GW232S (0.378 µg/L). VC was also detected in GW234S and GW235I, but below the CUL. TCE was detected slightly above the CUL (0.02 µg/L) in CPOC area well GW236S at 0.0215 µg/L. PCE was not detected in any CPOC wells. Trend charts for cis-1,2-DCE, TCE, and VC for all CPOC area wells are presented in Figure 11. Figure 11 shows that the COC concentrations in the CPOC area either have mostly decreased or stabilized over the past five years of sampling or have maintained concentrations below respective CULs, except for GW235I, which exhibited an increase in cis-1,2-DCE and VC concentrations during this monitoring periods.

Arsenic was detected above its CUL (8.0 µg/L) in groundwater collected from CPOC area well GW232S at a concentration of 9.31 µg/L. No other detections of metals were observed at concentrations above their respective CULs during this reporting period. Figure 12 shows arsenic, copper, and lead concentration trends in groundwater from the CPOC area wells since the beginning of compliance monitoring. As shown in Figure 12, the concentration of metal COCs in the CPOC area have exhibited a decreasing trend since 2020.

3.3 BUILDING 4-78/79 SWMU/AOC GROUP

This section describes corrective action activities conducted at the Building 4-78/79 SWMU/AOC Group. The cleanup remedy for this SWMU/AOC Group is bioremediation, MA, and excavation of soils contaminated with total petroleum hydrocarbons (TPH); discontinuation of SVE was approved by Ecology on November 1, 2018, and the system was decommissioned during the first quarter of 2019. Figure 13 shows the location of the September 2021 TPH source area soil excavation; seven groundwater monitoring wells for which sampling is required under CMP Addendum #3 (CALIBRE, 2020); extraction wells; decommissioned wells; horizontal SVE wells; and bioremediation injection wells for this area.

3.3.1 CLEANUP ACTION ACTIVITIES

3.3.1.1 Installation/Construction Activities

No installation or construction activities were conducted in this SWMU/AOC Group during this reporting period.

3.3.1.2 SVE and Bioremediation Activities

SVE operations were discontinued in late 2018. The current remediation method is carbon substrate addition leading to ERD treatment of VOCs. The most recent injection in this area occurred in November 2024. Carbon substrate injections were conducted in B78-12, B78-14, B78-15, and B78-16.

3.3.2 CMP DEVIATIONS

No deviations from the CMP occurred for this SWMU/AOC Group during this reporting period. The wells monitored in SWMU/AOC Group and the target COC list remained unchanged.

3.3.3 WATER LEVELS

The groundwater elevations measured during this groundwater monitoring event at Building 4-78/79 SWMU/AOC Group are summarized in Table 7 and shown in Figure 13. The contouring in Figure 13 indicates a seasonal groundwater flow direction to the southwest. Historical information shows the flow direction is generally toward the Cedar River Waterway to the northwest. The groundwater flow direction during this monitoring period is depicted in Figure 13.

3.3.4 GROUNDWATER MONITORING RESULTS

Groundwater in this area is monitored following the analysis protocol presented in Tables A-1 and A-2 in Appendix A. Results for primary geochemical indicators are presented in Table 8; results for Building 4-78/79 SWMU/AOC Group COCs are presented in Table 9.

3.3.4.1 Monitored Attenuation/Geochemical Indicators

The geochemical indicator results are presented in Table 8. In general, source area and CPOC area wells had levels of DO ranging from 1.19 to 5.06 µg/L and moderate specific conductivity. The pH measured in monitored wells was uniform and slightly acidic, ranging between 5.92 and 6.32 SU. ORP was negative in all wells monitored. TOC concentrations in source area and CPOC area wells ranged from 4.31 to 10.93 mg/L. Geochemical indicators were generally consistent in all wells monitored in this area, indicating conditions favorable for continued dechlorination of VOCs.

3.3.4.2 COC Results for Source Area

Table 9 lists the analytical results for Building 4-78/79 SWMU/AOC Group COCs. Figure 14 and Figure 15 show historical trends for COCs in source area wells.

VC was detected above the CUL (0.2 µg/L) in GW031S-R (0.510 µg/L), GW033S (0.540 µg/L), GW034S (0.400 µg/L), and GW244S-R (0.340 µg/L). Benzene was detected above the CUL (0.80 µg/L) in GW033S (3.70 µg/L). Cis-1,2-DCE was detected below the CUL (0.70 µg/L) in GW033S but was not detected in any other source area wells. TCE was not detected in any source area wells. TPH as gasoline was detected below the CUL (800 µg/L) in GW033S but was not detected in any other source area wells. The continued downward trend of TPH levels since 2021 is likely a result of the removal of TPH-contaminated soil that took place in September 2021.

Figures 14 and 15 present historical results for VOCs in source area wells GW031S and GW033S. GW031S-R results were added to the existing trend chart for GW031S. COCs in GW031S decreased following the excavation in 2021, and concentrations have remained in a consistent range. COCs detected in GW033S during this period have remained in historical ranges after a single-event decrease observed during the 2023 dry season.

Figures 16 and 17 present historical results for VOCs in source area wells GW034S and GW244S. GW244S-R results were added to the existing trend chart for GW244S. Concentrations of all COCs in GW034S have remained undetected for the last two years, with the exception detections of VC at concentrations above its respective CUL observed during this monitoring period and in the wet season of 2024. COCs in GW244S show a decreasing trend since the start of monitoring, and remained within concentration ranges observed since 2020.

3.3.4.3 COC Results for CPOC Area

As shown in Table 9, VC was detected above the CUL (0.20 µg/L) at 0.280 µg/L in groundwater collected from GW237S. No other detections of VC were observed in groundwater collected from any CPOC area wells sampled during this monitoring event. Cis-1,2-DCE was detected below its respective CUL (0.70 µg/L) in groundwater collected from GW143S but was not detected in groundwater collected from any other CPOC area wells. No detections of benzene or TPH as gasoline above their respective CULs were observed in groundwater collected from any CPOC area wells sampled during this reporting period.

Trend charts for CPOC area wells are shown in Figures 18 through 20.

Figure 18 shows that benzene and cis-1,2-DCE have been sporadically detected above the CUL in CPOC area wells GW237S and GW143S, respectively. A seasonal trend appears to be present for benzene in GW237S with higher concentrations detected during the wet season.

Figure 19 shows that TCE has not been detected in the CPOC area since the dry season of 2020, with the exception of a detection at GW143S during the 2022 dry season sampling. VC has remained below the CUL in GW143S and GW240D since 2020, but low level detections remain through the current event in GW237S. Figure 20 shows TPH as gasoline has only been detected in GW237S since compliance monitoring began and has been generally decreasing over time, with higher concentrations typically detected during the wet season.

3.4 FORMER FUEL FARM AOC GROUP

This section describes corrective action activities conducted at the Former Fuel Farm AOC Group. Figure 21 shows the layout of the three groundwater monitoring wells for which sampling is required under CMP Addendum #3 (CALIBRE, 2020). The final remedy for the Former Fuel Farm is MNA.

3.4.1 CLEANUP ACTION ACTIVITIES

No installation/construction activities were conducted for this AOC Group during this reporting period.

3.4.2 CMP DEVIATIONS

Groundwater sampling from monitoring well GW211S at the Former Fuel Farm was not conducted because groundwater was not recoverable from the well at the time of the sampling event. Several inches of thick mud were observed above the pump, preventing sample collection. A redevelopment of this well is planned prior to the next sampling event. No other deviations from the CMP occurred for this cleanup action area during this reporting period.

3.4.3 WATER LEVELS

The groundwater elevations measured during this groundwater monitoring event at the Former Fuel Farm AOC Group are summarized in Table 10 and shown in Figure 21. Groundwater elevation contours are not shown because only two wells were monitored in this group during this reporting period and data are too limited to produce accurate contours. Groundwater flow direction is generally toward the northeast and is based on historical information from this AOC.

3.4.4 GROUNDWATER MONITORING RESULTS

Groundwater at Former Fuel Farm AOC Group is monitored following the analysis protocol presented in Tables A-1 and A-2 in Appendix A. Results for primary geochemical indicators are presented in Table 11; results for the Former Fuel Farm AOC Group COCs are presented in Table 12.

3.4.4.1 MNA Indicators

The geochemical indicator results are presented in Table 11. Specific conductivity readings in groundwater from this AOC ranged from 213 to 237 $\mu\text{S}/\text{cm}$. Slightly acidic pH was observed in CPOC area wells ranging from 5.85 to 6.17 SU, with concentrations of DO ranging from 2.01 to 6.16 mg/L. The geochemical indicators indicate natural attenuation of the COCs for the Former Fuel Farm AOC Group is likely occurring.

3.4.4.2 COC Results for Source Area

The single source area well for this AOC Group was removed from the monitoring plan with Ecology's acceptance of CMP Addendum #3 (CALIBRE, 2020).

3.4.4.3 COC Results for CPOC Area

Table 12 presents the analytical results for the Former Fuel Farm AOC Group COCs. Figure 22 shows trend data for CPOC area wells GW211S, GW221S and GW224S. Samples were analyzed for TPH as diesel, as motor oil, and as Jet A. TPH as diesel was detected above its respective CUL (0.5 $\mu\text{g}/\text{L}$) in groundwater collected from GW221S and GW224S at 1.84 $\mu\text{g}/\text{L}$ and 0.865 $\mu\text{g}/\text{L}$ (estimated), respectively. Jet A was detected above its respective CUL (0.5 $\mu\text{g}/\text{L}$) in groundwater collected from GW221S and GW224S at 1.47 $\mu\text{g}/\text{L}$ and 1.48 $\mu\text{g}/\text{L}$, respectively. TPH as motor oil was not detected in groundwater collected from any CPOC area wells sampled during this monitoring period; no CULs are established for this analyte. Figure 22 shows that COC concentrations in GW221S and GW224S remain within historical ranges since 2020.

3.5 AOC-001/002

This section describes corrective action activities conducted at AOC-001/002. The monitoring and future/continued cleanup actions for this AOC will be determined in the next CMP Addendum prepared for Ecology approval. Figure 23 shows the layout of the 13 groundwater monitoring wells in this AOC.

3.5.1 CLEANUP ACTION ACTIVITIES

3.5.1.1 Installation/Construction Activities

No installation or construction activities were conducted in this AOC during this reporting period.

3.5.1.2 Bioremediation Activities

The current remediation method is carbon substrate addition leading to ERD treatment of VOCs. The most recent injection in this area occurred in November 2024. Carbon substrate injections were conducted in IPR-1, IPR-2, GW213S-R, GW214S-R, and GW215S-R. Wells GW213S-R, GW214S-R, and GW215S-R experienced issues receiving the planned injection volumes and received less substrate than was expected for injection. WSP is currently evaluating alternative locations for future injections within this AOC.

3.5.2 CMP DEVIATIONS

AOC-001/002 is not in the current CMP Addendum #3 (CALIBRE, 2020) because the area was under construction with wells decommissioned during the preparation of the altered monitoring plan (Wood, 2021). During construction, WSP (Wood) instructed Boeing (Holocene Drilling) to reinstall wells in this AOC in the approximate locations of the previously abandoned wells (Wood, 2021). Monitoring was resumed in this area following reinstallation of wells in July 2023 and is based on monitoring approved in CMP Addendum #2. Recent data will be used to evaluate conditions in this area.

3.5.3 WATER LEVELS

The groundwater elevations measured during this groundwater monitoring event at AOC-001 and AOC-002 are summarized in Table 13. Contours based on current groundwater elevation data are depicted on Figure 23.

3.5.4 GROUNDWATER MONITORING RESULTS

Groundwater at this area is monitored following the analysis protocol presented in Tables A-1 and A-2 in Appendix A. Results for geochemical indicators are presented in Table 14; results for the AOC-001 and AOC-002 COCs are presented in Table 15.

3.5.4.1 Monitored Attenuation/Geochemical Indicators

The geochemical indicator results are presented in Table 14. Moderate to high specific conductivity and negative ORP (with the exception of low positive ORP readings from cross-gradient wells GW214S-R and 215S-R) were observed at all monitoring locations in this AOC during this reporting period. Readings of pH varied from acidic to slightly basic, ranging from 3.98 to 8.89 SU. Measured concentrations of DO varied greatly, ranging from 0.32 to 4.86 mg/L. TOC measurements in groundwater collected from this AOC also varied greatly, ranging between 5.39 and 25,820 mg/L.

3.5.4.2 COC Results for Source Area, Cross-Gradient, and Downgradient Plume Area

Table 15 lists the analytical results for the AOC-001 and AOC-002 COCs. Samples from wells in this group were analyzed for benzene, 1,1-dichloroethene (1,1-DCE), cis-1,2-DCE, TCE, and VC. Analytes present in Table 15 are the COCs analyzed during the last sampling event that all wells in AOC-001 and AOC-002 were sampled before decommissioning for construction (Wood, 2019b).

Source area, cross-gradient, and downgradient well groundwater CUL exceedances (Table 15) consisted of the following:

- **GW193S-R:** cis-1,2-DCE (3.77 µg/L); TCE (0.142 µg/L); and VC (0.575 µg/L).

- **GW213S-R:** cis-1,2-DCE (0.128 µg/L) and TCE (0.0364 µg/L).
- **GW214S-R:** cis-1,2-DCE (0.0746 µg/L).
- **GW215S-R:** cis-1,2-DCE (0.0814 µg/L).
- **GW190S-R:** cis-1,2-DCE (0.188 µg/L [estimated]) and VC (0.0777 µg/L [estimated]).
- **GW191D-R:** cis-1,2-DCE (0.298 µg/L) and VC (0.079 µg/L).
- **GW192S-R:** cis-1,2-DCE (0.2.12 µg/L); TCE (0.0678 µg/L); and VC (0.1.17 µg/L).
- **GW246S-R:** cis-1,2-DCE (0.224 µg/L [estimated]) and VC (0.106 µg/L [estimated]).

Figures 24 and 25 show the historical trends of cis-1,2-DCE, TCE, and VC concentrations in source area well GW193S and downgradient plume area wells compared to the concentrations detected during this monitoring period. All replacement well results were added to the existing trend charts for this AOC.

3.5.4.3 COC Results for CPOC Area

The concentrations of analytes evaluated in this area can be found in Table 15. These are the same COCs that were analyzed during the last sampling event when all wells in AOC-001 and AOC-002 were sampled before decommissioning for construction (Wood, 2019b).

CPOC groundwater site-specific CUL exceedances (Table 15) consisted of the following:

- **GW185S-R:** cis-1,2-DCE (0.265 µg/L [estimated]) and VC (0.144 µg/L [estimated]).
- **GW195S-R:** cis-1,2-DCE (0.0909 µg/L) and VC (0.103 µg/L).
- **GW196D-R:** cis-1,2-DCE (0.0428 µg/L).
- **GW197S-R:** benzene (0.97 µg/L); cis-1,2-DCE (11.2 µg/L); TCE (0.161 µg/L); and VC (5.00 µg/L).
- **GW245S-R:** cis-1,2-DCE (0.219 µg/L) and VC (0.119 µg/L).

Figure 26 shows the historical trends of cis-1,2-DCE, TCE, and VC concentrations in all CPOC area wells. All replacement well results were added to the existing trend charts for this AOC. An overall downward trend in COC concentrations since August 2023 has been observed in all CPOC area wells.

3.6 AOC-003

This section describes corrective action activities conducted at AOC-003. The cleanup remedy for this AOC is MA. Figure 27 shows the location of wells formerly used for bioremediation substrate injection, the four groundwater monitoring wells for which sampling is required under CMP Addendum #3 (CALIBRE, 2020), and the groundwater elevations measured during this monitoring event.

3.6.1 CLEANUP ACTION ACTIVITIES

No installation/construction activities were conducted for this AOC during this reporting period.

3.6.2 CMP DEVIATIONS

No deviations from the CMP occurred in this AOC during this reporting period. The wells monitored and the target COC list remained the same for this AOC Group.

3.6.3 WATER LEVELS

The groundwater elevations measured during this groundwater monitoring event at AOC-003 are summarized in Table 16 and shown in Figure 27. Groundwater elevations measured during this event indicate a flow gradient generally toward the northwest, consistent with historical results.

3.6.4 GROUNDWATER MONITORING RESULTS

Groundwater at this AOC is monitored following the analysis protocol presented in Tables A-1 and A-2 in Appendix A. Results for geochemical indicators are presented in Table 17; results for the AOC-003 COCs are presented in Table 18.

3.6.4.1 Monitored Attenuation/Geochemical Indicators

The geochemical indicator results are presented in Table 17. Moderate specific conductivity and negative ORP were observed during this reporting period. DO concentrations measured in all wells from this area ranged from 0.51 to 3.94 mg/L. pH readings were slightly acidic for all wells, ranging between 6.21 and 6.40 SU. TOC concentrations ranged from 10.18 to 12.52 mg/L.

3.6.4.2 COC Results for Source Area and Downgradient Plume Area

Table 18 lists the analytical results for the AOC-003 COCs. Samples from wells in this group were analyzed for cis-1,2-DCE, TCE, PCE, and VC. VC was detected above the CUL (0.24 µg/L) in GW249S (0.338 µg/L) and below the CUL in GW188S. Cis-1,2-DCE was detected in both source area and downgradient plume wells below the CUL (0.78 µg/L). No detections of PCE or TCE were observed in groundwater collected from the source area or downgradient plume area wells above their CULs (0.02 µg/L and 0.16 µg/L, respectively). Figure 28 shows the historical trends for VC in source area well GW249S and downgradient plume area well GW188S. The trend chart shows the VC concentration in GW249S is fluctuating above and below the CUL in recent monitoring events, while in GW188S the VC concentration has been below the CUL for the past six monitoring events.

3.6.4.3 COC Results for CPOC Area

VC was detected above the CUL (0.24 µg/L) in groundwater collected from CPOC area wells GW247S-R (0.519 µg/L) and GW248I (0.478 µg/L) (Table 18). No detections of cis-1,2-DCE, TCE, or PCE were observed in groundwater collected from either of the CPOC area wells.

Figure 29 shows the historical trends for VC in CPOC area wells GW247S and GW248I. GW247S-R results were added to the existing trend chart for GW247S. Results from the newly installed well GW247S-R, beginning with the dry season 2023, appear to be within historical ranges of the initial GW247S. VC concentrations in GW248I appear to be decreasing overall since the wet season of 2024 with a seasonal pattern of higher concentrations observed during the dry seasons.

3.7 AOC-004

This section describes corrective action activities conducted at AOC-004. The cleanup remedy for this AOC is MA. Figure 30 shows the location of wells formerly used for bioremediation substrate injection, the groundwater monitoring well for which sampling is required under CMP Addendum #3 (CALIBRE, 2020), and the groundwater elevation measured during this monitoring event.

3.7.1 CLEANUP ACTION ACTIVITIES

No installation/construction activities were conducted for this AOC during this reporting period.

3.7.2 CMP DEVIATIONS

No deviations from the CMP occurred for this AOC during this reporting period and the target COC list remained the same for this AOC.

3.7.3 WATER LEVELS

The groundwater elevation measured during this groundwater monitoring event at AOC-004 is shown in Table 19 and in Figure 30. Groundwater contours cannot be drawn using the single groundwater elevation measurement for this AOC; however, Figure 28 shows a general groundwater flow direction toward the west based on historical data.

3.7.4 GROUNDWATER MONITORING RESULTS

Groundwater at AOC-004 is monitored following the analysis protocol presented in Tables A-1 and A-2 in Appendix A. Results for geochemical indicators are presented in Table 20; the result for the AOC-004 COC (lead) is presented in Table 21.

3.7.4.1 Monitored Attenuation/Geochemical Indicators

The geochemical indicator results are presented in Table 20. The pH reading was near neutral at 6.82 SU. Low specific conductivity, negative ORP, and high DO readings were observed during this monitoring event.

3.7.4.2 COC Results for Source Area

Table 21 lists the analytical result for the AOC-004 COC. Lead was not detected in groundwater collected from the single source area monitoring well GW250S. Figure 31 shows the historical trend chart for lead in GW250S, which has been below the CUL for the past five reporting periods.

3.8 AOC-060

This section describes corrective action activities conducted at AOC-060. The cleanup remedy for this AOC is bioremediation and MA. Figure 32 shows the location of the bioremediation wells, the eight groundwater monitoring wells for which sampling and water level measurements are required under CMP Addendum #3 (CALIBRE, 2020), and the groundwater elevations measured during this monitoring event.

3.8.1 CLEANUP ACTION ACTIVITIES

3.8.1.1 Installation/Construction Activities

No installation/construction activities were conducted for this AOC during this reporting period.

3.8.1.2 Bioremediation Activities

The current remediation method is carbon substrate addition leading to ERD treatment of VOCs. The most recent injection in this area occurred in November 2024. Substrate injections were conducted in B060-01, B060-02, and GW147S.

3.8.2 CMP DEVIATIONS

No deviations from the CMP occurred for this AOC during this reporting period. The wells monitored and the target COC list remained the same for this AOC.

3.8.3 WATER LEVELS

The groundwater elevations measured during this groundwater monitoring event at AOC-060 are summarized in Table 22 and shown in Figure 32. Groundwater flow direction is generally southwest toward the Cedar River Waterway.

3.8.4 GROUNDWATER MONITORING RESULTS

Groundwater at AOC-060 is monitored following the analysis protocol presented in Tables A-1 and A-2 in Appendix A. Results for geochemical indicators are presented in Table 23; results for the AOC-060 COCs are presented in Table 24.

3.8.4.1 Monitored Attenuation/Geochemical Indicators

The geochemical indicator results are presented in Table 23. Specific conductivity ranged from 393 to 710 $\mu\text{S}/\text{cm}$. DO concentrations ranged from 1.77 to 20.10 mg/L. The pH ranged from slightly acidic to acidic in this AOC, between 5.06 and 6.39 SU. TOC results from all wells ranged from 3.70 to 102.6 mg/L.

3.8.4.2 COC Results for Source, Cross-Gradient, and Downgradient Plume Areas

Table 24 lists the analytical results for the AOC-060 COCs. Wells in this group were analyzed for cis-1,2-DCE, TCE, and VC. COC concentrations observed in groundwater collected from source area well GW009S and wells GW012S, GW014S, and GW147S exceeded the respective CULs for all three COCs.

Figure 33 shows historical trends for COCs in source area well GW009S, which have remained within historical ranges since monitoring began. Figures 34 through 36 show historical trends for COCs in downgradient plume area wells. COC results in GW014S have been generally consistent and without large fluctuation since monitoring began. GW012S and GW147S exhibit more fluctuation in COC concentrations but appear to remain within a site-specific amplitude of historical range. This fluctuation may be associated with seasonal groundwater flow variations. TCE concentrations in GW012S remain within the historical range for this well while exhibiting a downward trend for the last five reporting periods.

3.8.4.3 COC Results for CPOC Area

As shown in Table 24, detected concentrations of cis-1,2-DCE exceeded the CUL (0.08 $\mu\text{g}/\text{L}$) in groundwater from CPOC area wells GW150S (0.122 $\mu\text{g}/\text{L}$) and GW253I (0.0.150 $\mu\text{g}/\text{L}$). TCE and VC were detected in groundwater from CPOC area wells GW150S and GW253I but did not exceed their CULs (0.02 $\mu\text{g}/\text{L}$ and 0.26 $\mu\text{g}/\text{L}$, respectively). Figures 37 and 38 show historical trends for COCs in CPOC area wells GW150S and GW253I. Considerable fluctuation is still present for cis-1,2-DCE and VC in GW150S; some stabilization appears to have occurred over the past five reporting periods for these COCs at GW253I. TCE appears to be stabilized below the CUL in both CPOC area wells.

3.9 AOC-090

This section describes corrective action activities conducted at AOC-090. The cleanup remedy for this AOC is bioremediation and MA. Figure 39 shows the location of the bioremediation wells, the five groundwater monitoring wells for which sampling is required under CMP Addendum #3 (CALIBRE, 2020), and the groundwater elevations measured during this monitoring event.

3.9.1 CLEANUP ACTION ACTIVITIES

3.9.1.1 INSTALLATION/CONSTRUCTION ACTIVITIES

No deviations from the CMP occurred for this AOC during this reporting period. The wells monitored and the target COC list remained the same for this AOC.

3.9.1.2 BIOREMEDIATION ACTIVITIES

The current remediation method is carbon substrate addition leading to ERD treatment of VOCs. The most recent injection in this area occurred in November 2024. Substrate injections were conducted in B090-01 and B090-02 and did not include GW189S because the most recent VC concentration was non-detect (< 0.02 µg/L). The need for continued/further treatment in this source area will be evaluated in the future as this area transitions to MA.

3.9.2 CMP DEVIATIONS

No deviations from the CMP occurred for this area during this reporting period. The wells monitored and target COC list remained the same for this AOC.

3.9.3 WATER LEVELS

The groundwater elevations measured during this groundwater monitoring event at AOC-090 are summarized in Table 25 and shown in Figure 39. Groundwater flow direction is to the west and northwest toward the Cedar River Waterway; however, the sheet pile wall to the west of this area prevents a direct groundwater connection to the waterway, as depicted by the contours.

3.9.4 GROUNDWATER MONITORING RESULTS

Groundwater at AOC-090 is monitored following the analysis protocol presented in Tables A-1 and A-2 in Appendix A. Results for geochemical indicators are presented in Table 26; results for the AOC-090 COCs are presented in Table 27.

3.9.4.1 Monitored Attenuation/Geochemical Indicators

The geochemical indicator results are presented in Table 26. Results showed moderate to high specific conductivity readings across this area. DO concentrations observed across the area are arranged from 1.6 to 4.7 mg/L. The pH was slightly acidic in this AOC, with all wells ranging between 5.9 and 6.3 SU. TOC was measured at 5.51 mg/L in source area well GW189S. The trend plot for TOC in GW189S (Figure 40) shows TOC has stayed consistent with a slight overall decrease since a substrate injection in 2017. Subsequent injections were completed in April and November 2024.

3.9.4.2 COC Results for Source and Downgradient Plume Areas

Table 27 lists the analytical results for the AOC-090 COCs in source area well GW189S. VC was detected at a concentration above its respective CUL (0.13 µg/L) in groundwater collected from source area well GW189S (1.53 h). Detected concentrations of TPH were below their carbon range's respective CUL. VC was also detected above the CUL in downgradient plume area well GW176S at 0.321 µg/L. Historical trends for GW189S show chlorinated VOCs have been trending downward since the start of monitoring (Figure 41).

3.9.4.3 COC Results for CPOC Area

VC was detected above the CUL in CPOC area wells GW178S (0.463 µg/L), GW207S (0.233 µg/L), and GW208S (0.250 µg/L).

3.10 APRON A AREA

This section describes corrective action activities conducted at the Apron A area. The cleanup remedy proposed for the Apron A area is bioremediation and MA. Figure 42 shows the locations of the three groundwater monitoring wells in the Apron A area for which sampling or water level measurements are required under CMP Addendum #3 (CALIBRE, 2020).

3.10.1 CLEANUP ACTION ACTIVITIES

The last injection in this area occurred in June 2022 and no further injections have been planned due to the downward trend in COCs in the area.

3.10.2 CMP DEVIATIONS

No deviations from the CMP occurred for this area during this reporting period. The wells monitored in this group and the target COC list remained the same.

3.10.3 WATER LEVELS

The groundwater elevation measurement from this groundwater monitoring event at Apron A is in Table 28 and shown in Figure 42. Groundwater elevation contours are not shown because only three wells are monitored in this group and the limited dataset and placement of the wells limit the ability to produce accurate contours. Groundwater flow in this area is expected to be east toward the Cedar River Waterway.

3.10.4 GROUNDWATER MONITORING RESULTS

Groundwater at Apron A is monitored following the analysis protocol presented in Tables A-1 and A-2 in Appendix A. Results for primary geochemical indicators presented in Table 29; results for the Apron A area COCs are presented in Table 30.

3.10.4.1 Monitored Attenuation/Geochemical Indicators

The geochemical indicator results are presented in Table 29. Observations included moderately high specific conductivity, low DO, acidic pH, and negative ORP reading. TOC was detected in GW264S at a concentration of 24.69 mg/L.

3.10.4.2 COC Results

Table 30 lists the analytical results for the Apron A area COCs (cis-1,2-DCE and VC). Cis-1,2-DCE was reported as non-detect (< 0.200 µg/L) and VC was detected at a concentration of 0.460 µg/L. Analytes from Apron A samples do not have established CULs because they were added to the monitoring program after the CAP was in place (CALIBRE, 2020). Additional monitoring of the soil and groundwater in Apron A was completed in 2016 and included installation of the monitoring wells in this area (Amec Foster Wheeler, 2016b).

Neither cis-1,2-DCE nor VC were detected in the groundwater from well GW264S during the 2016 monitoring. The trend plot for COCs in GW264S is shown in Figure 43. Cis-1,2-DCE has remained non-detect. The VC concentration in GW264S has decreased since February 2022.

3.11 APRON R INVESTIGATION

In July 2021, TPH concentrations were observed in an excavation in the Apron R area during site construction work. Samples were collected and work was stopped while Boeing informed Ecology (through a teleconference in July 2021) and discussed next steps for investigation work to be undertaken upon construction project completion. As discussed with Ecology during the July 2021 teleconference, Boeing installed a layered geotechnical membrane backfilled with granular activated carbon above and below the observed TPH to mitigate further migration of the in the Apron R excavation trench. This work was completed in parallel with site construction during July 2021. Boeing submitted to Ecology a technical memorandum which described the construction work in the Apron R vicinity, as well as initial characterization sampling results from the Apron R excavation trench (CALIBRE, 2021). Ecology provided comments in a letter dated August 10, 2021. Apron R construction work was completed in December 2023.

In February 2024, Boeing submitted an Apron R Investigation Work Plan (CALIBRE, 2024) for Ecology review and approval (Myers, 2024a; approved by Ecology in March 2024). Boeing conducted direct push probe sampling in ten

discrete Apron R locations on March 18 and 19, 2024; these direct push probe samples were collected in continuation of the potential TPH source investigation. A technical memorandum with results from this initial investigation was submitted to Ecology in September 2024 and a letter of approval was received from Ecology in November 2024 (Myers, 2024b).

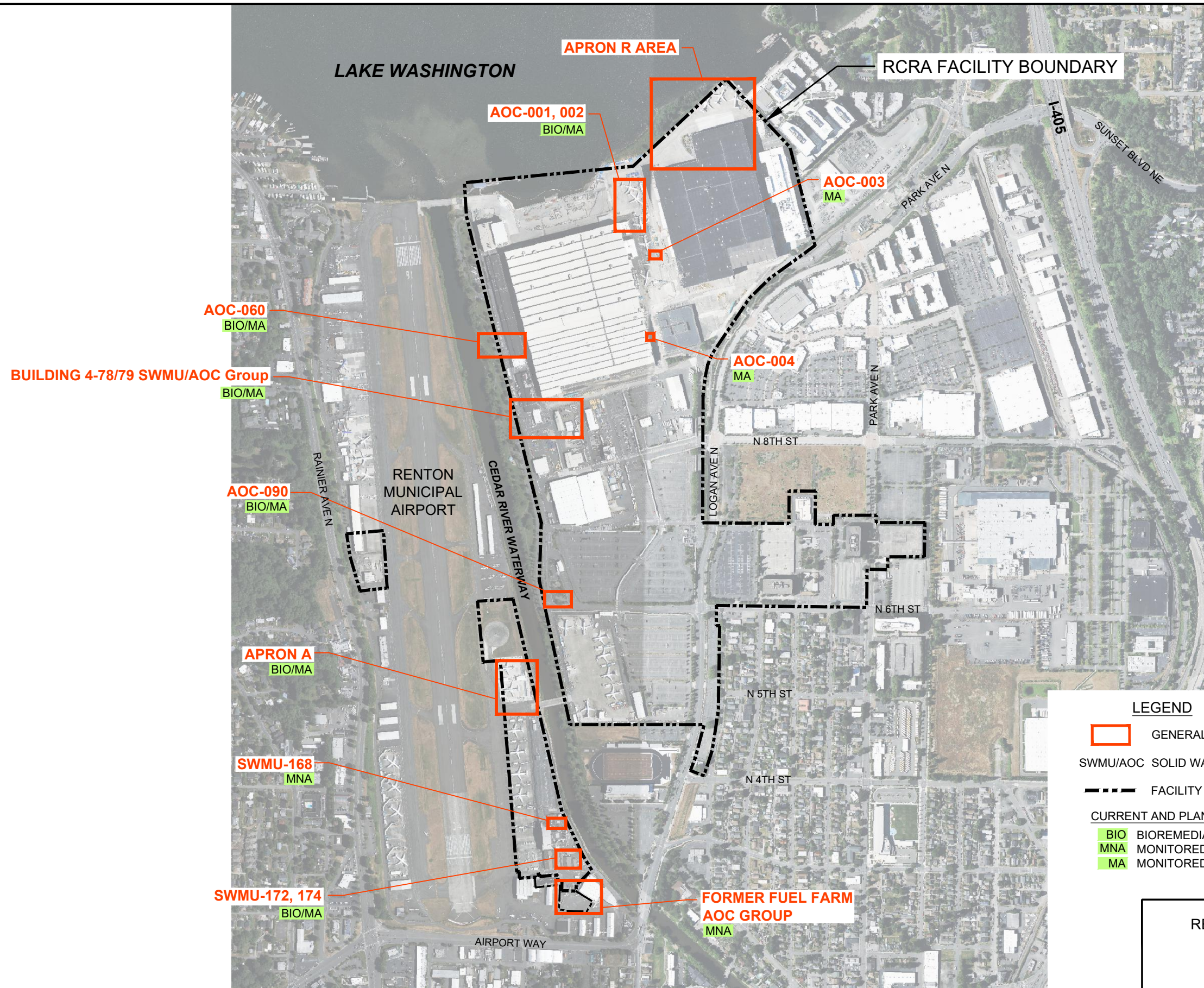
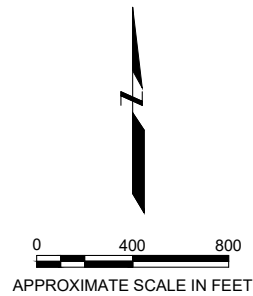
An On- and Off-Site Apron R Groundwater Investigation Work Plan, which proposes additional direct push sample locations to delineate the extent of the historical TPH contamination, was submitted to Ecology for review and approval in March 2025. WSP received comments from Ecology in April 2025 and submitted a revised work plan to Ecology in May 2025. Boeing, WSP, and Ecology settled the edits to the work plan in September 2025, and Boeing engaged with DNR regarding next steps of the investigation. WSP will conduct the investigation in accordance with the work plan upon Ecology and DNR approval.

4 REFERENCES

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- , 2021, Apron R Well Abandonment and Replacement: AOC-001 and AOC-002, Boeing Renton Corrective Action Program, Renton, Washington: Prepared for the Boeing Company, November 11.
- WSP USA, Inc (WSP). AFFF Spill – 08/12/25 - Boeing Renton Technical Memorandum. November 2025.

FIGURES

Plot Date: 10/18/24 - 10:31am, Plotted by: USSD715014
 Drawing Path: X:\USUSPD\800-POR\ClientData\AMEC-US OFFICES\KIRKLAND\PS2020\2024\50 - Boeing Renton\dwg\GWMR_Second_Half_2024\, Drawing Name: Figure 1 - Site Map.dwg



LEGEND

- GENERAL LOCATION OF SWMUs, AOCs AND OTHER AREAS
- SWMU/AOC SOLID WASTE MANAGEMENT UNIT/AREA OF CONCERN
- FACILITY BOUNDARY

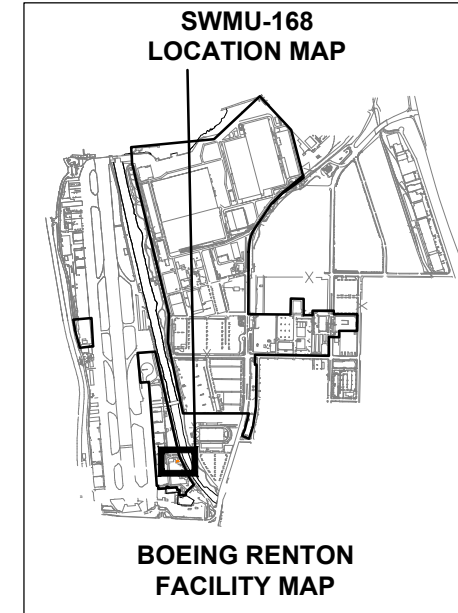
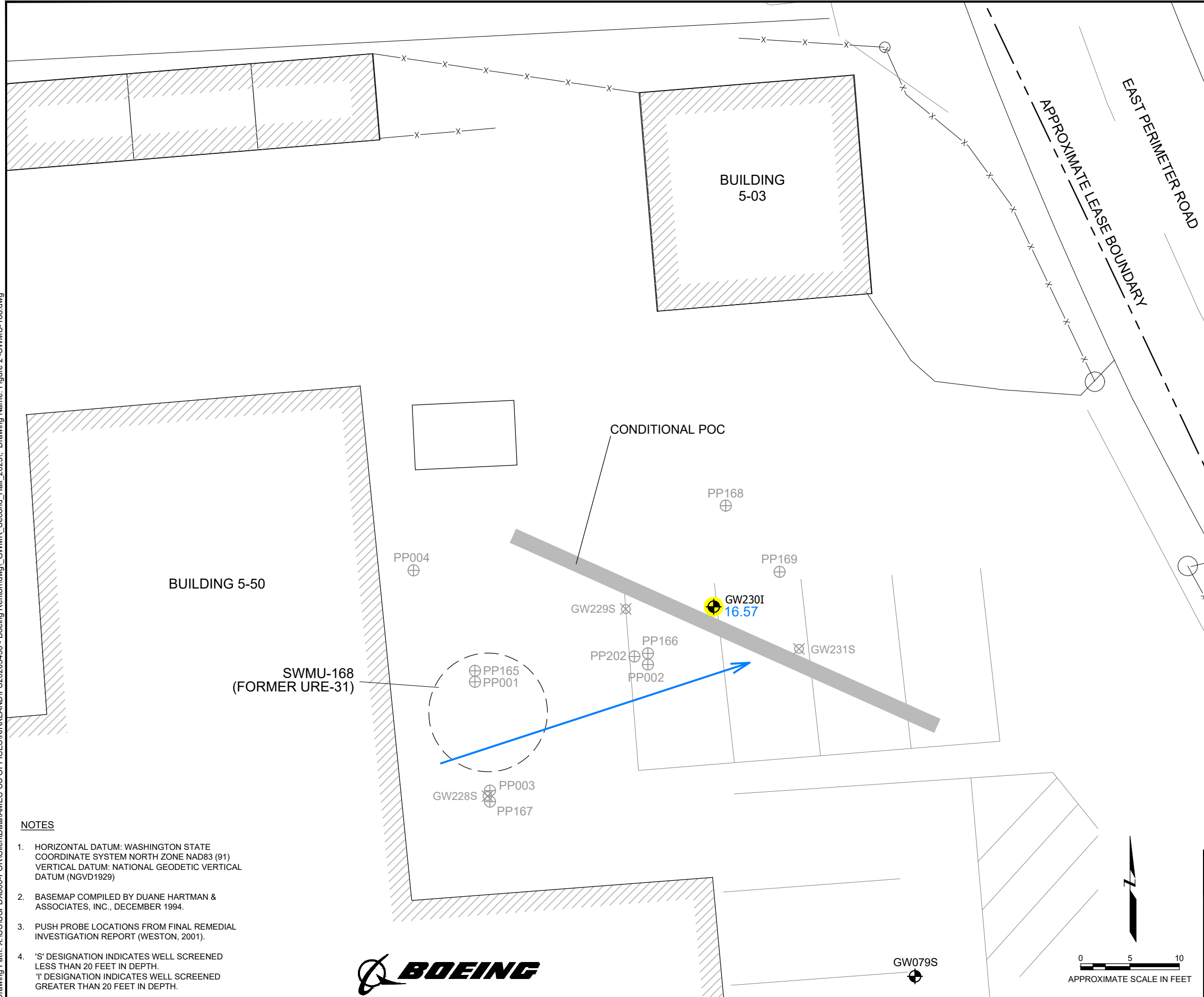
CURRENT AND PLANNED CLEANUP REMEDIES:

- BIO BIOREMEDIATION
- MNA MONITORED NATURAL ATTENUATION
- MA MONITORED ATTENUATION

RENTON SWMU AND AOC LOCATIONS		
Boeing Renton Facility Renton, Washington		
By: APS/SD	Date: 10/18/24	Project No. PS24206850
WSP USA, Inc.		Figure 1

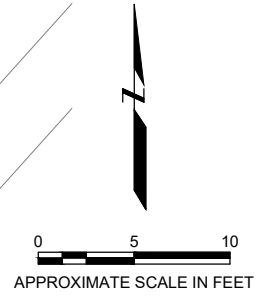


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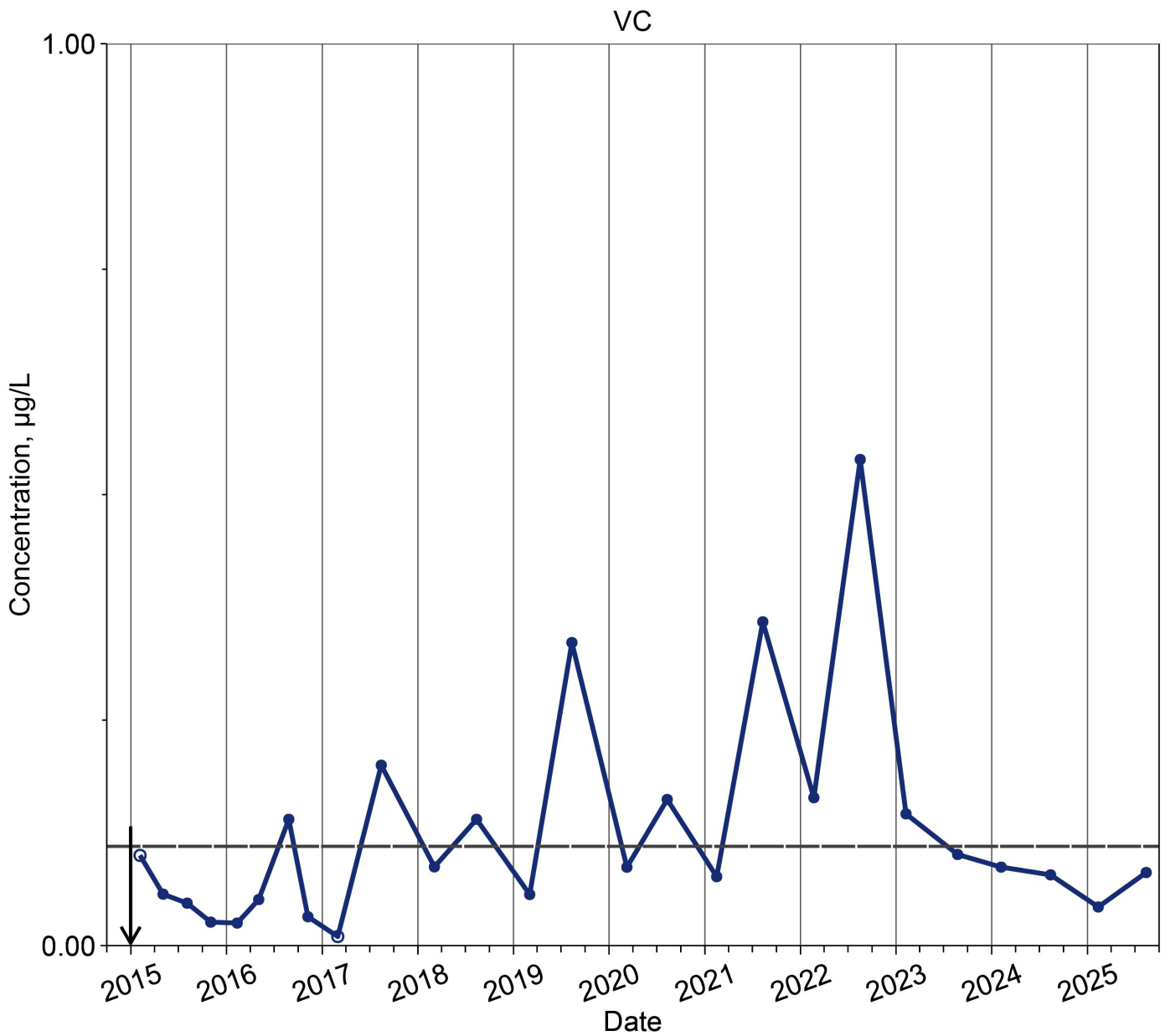


- LEGEND**
- GW230I 16.57 MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION (NGVD-FEET)
 - GENERAL DIRECTION OF GROUNDWATER FLOW BASED ON HISTORICAL INFORMATION
 - GW228S DECOMMISSIONED MONITORING WELL
 - PP171 PUSH-PROBE SAMPLE LOCATION
 - LIMITS OF FORMER EXCAVATION (SECOR 1994)
 - APPROXIMATE PROPERTY LINE
 - FENCE
 - CONDITIONAL POINT OF COMPLIANCE
 - HIGHLIGHTED** WELLS INCLUDED IN MONITORING NETWORK

- NOTES**
1. HORIZONTAL DATUM: WASHINGTON STATE COORDINATE SYSTEM NORTH ZONE NAD83 (91)
VERTICAL DATUM: NATIONAL GEODETIC VERTICAL DATUM (NGVD1929)
 2. BASEMAP COMPILED BY DUANE HARTMAN & ASSOCIATES, INC., DECEMBER 1994.
 3. PUSH PROBE LOCATIONS FROM FINAL REMEDIAL INVESTIGATION REPORT (WESTON, 2001).
 4. 'S' DESIGNATION INDICATES WELL SCREENED LESS THAN 20 FEET IN DEPTH.
'I' DESIGNATION INDICATES WELL SCREENED GREATER THAN 20 FEET IN DEPTH.



SWMU-168 MONITORING WELL LOCATIONS AND GROUNDWATER ELEVATIONS AUGUST 13, 2025 Boeing Renton Facility Renton, Washington		
By: AT	Date: 10/24/25	Project No. US0041831.2092
WSP USA, Inc.		Figure 2



Compound — VC

ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

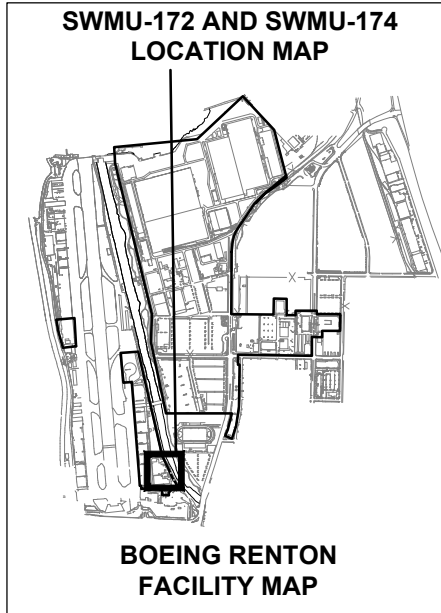
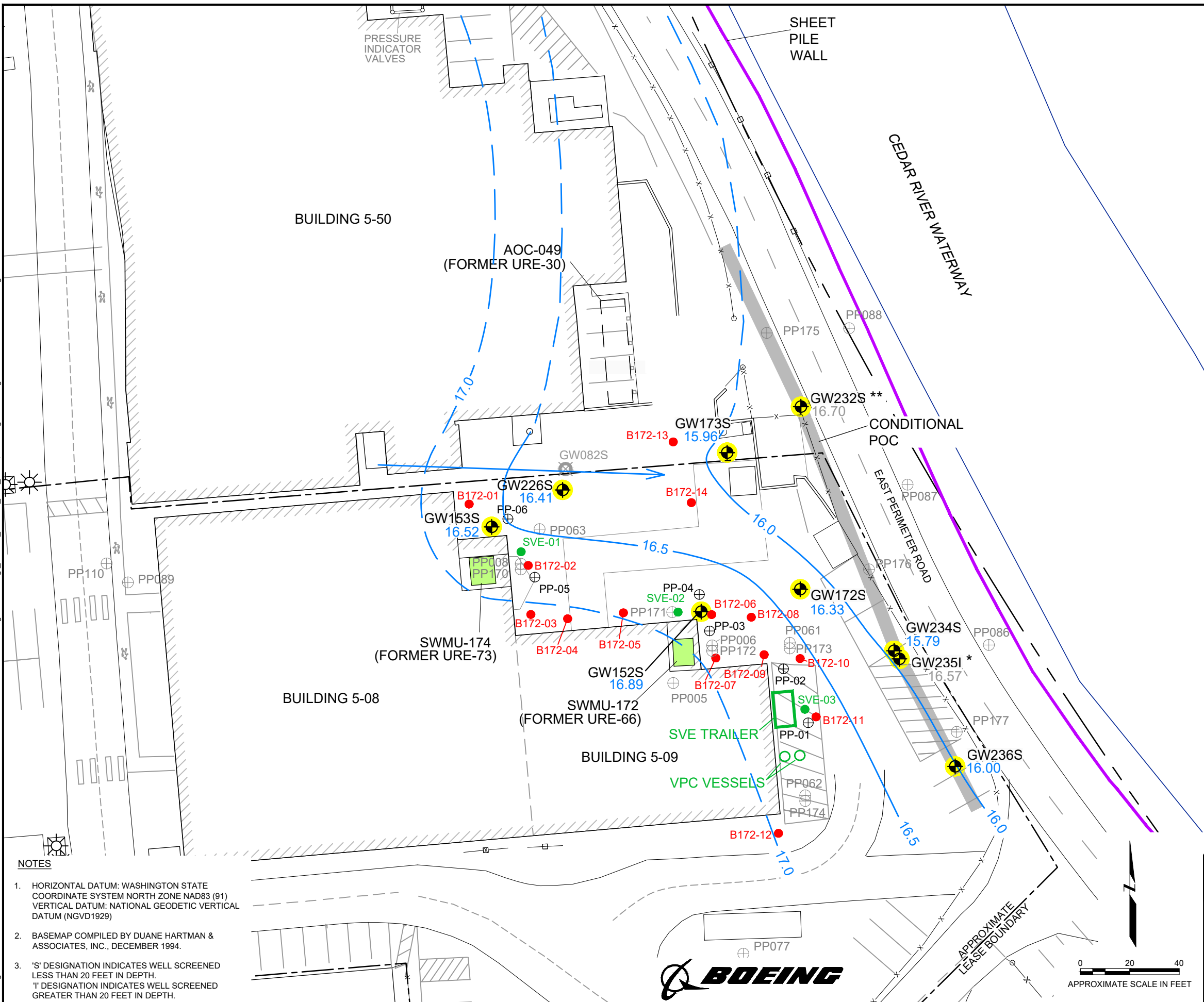
System Action ↓ Compliance Monitoring Start

SWMU-168
Vinyl Chloride Trend Plot for CPOC Area
Well GW230I



By: AT	Date: 11/04/25	Project No. US0041831.2092
WSP USA Inc.		Figure 3

Plot Date: 11/07/25 - 12:02pm, Plotted by: USAS719374
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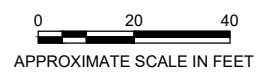


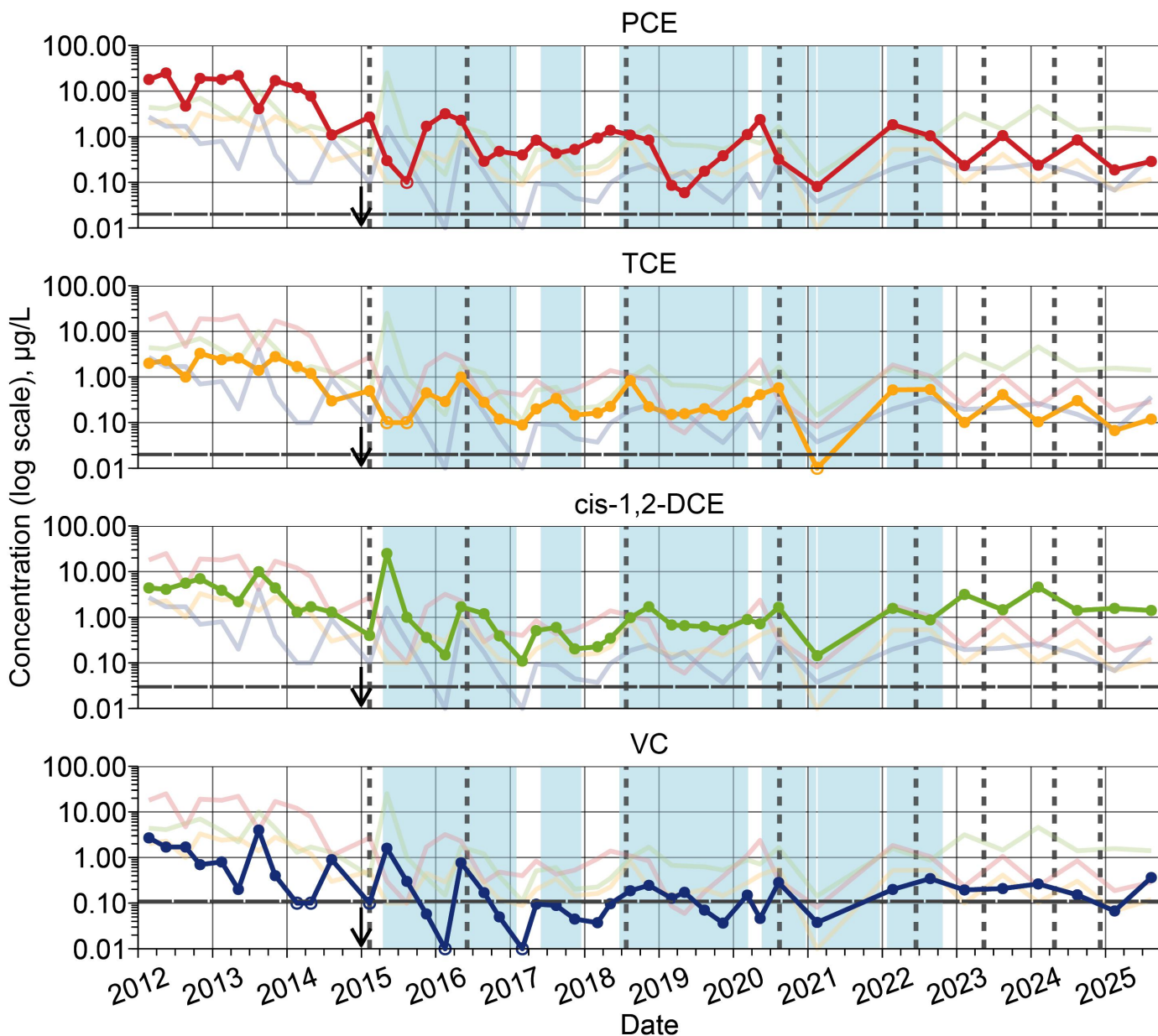
- LEGEND**
- GW173S 15.96 MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION (NGVD-FEET)
 - * WELL SCREENED IN LOWER PORTION OF AQUIFER - WATER LEVEL IS NOT USED FOR CONTOURING
 - ** POTENTIALLY ANOMALOUS READING - WATER LEVEL IS NOT USED FOR CONTOURING
 - 16.5 GROUNDWATER ELEVATION CONTOUR (IN FEET) (DASHED WHERE INFERRED)
 - GENERAL GROUNDWATER FLOW DIRECTION
 - GW082S DECOMMISSIONED MONITORING WELL
 - - - - - APPROXIMATE PROPERTY LINE
 - x - x - x - FENCE
 - CONDITIONAL POINT OF COMPLIANCE
 - APPROXIMATE LOCATION OF SHEET PILE WALL
 - SOLID WASTE MANAGEMENT UNIT (SWMU)
 - HIGHLIGHTED** WELLS INCLUDED IN MONITORING NETWORK
 - SVE-02 SVE WELL
 - B172-10 BIOREMEDIATION INJECTION WELL
 - PP171 PUSH PROBE SAMPLING LOCATION
 - PP-01 PUSH PROBE SAMPLE LOCATION COMPLETED IN JUNE 2018

- NOTES**
1. HORIZONTAL DATUM: WASHINGTON STATE COORDINATE SYSTEM NORTH ZONE NAD83 (91)
VERTICAL DATUM: NATIONAL GEODETIC VERTICAL DATUM (NGVD1929)
 2. BASEMAP COMPILED BY DUANE HARTMAN & ASSOCIATES, INC., DECEMBER 1994.
 3. 'S' DESIGNATION INDICATES WELL SCREENED LESS THAN 20 FEET IN DEPTH.
'I' DESIGNATION INDICATES WELL SCREENED GREATER THAN 20 FEET IN DEPTH.

**SWMU-172 AND SWMU-174
 MONITORING WELL LOCATIONS
 AND GROUNDWATER ELEVATIONS
 AUGUST 15, 2025
 Boeing Renton Facility
 Renton, Washington**

By: AT	Date: 11/07/25	Project No. US0041831.2092
WSP USA, Inc.		Figure 4





Compound — PCE — TCE — cis-1,2-DCE — VC

ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ⋮ Substrate Injection ■ SVE active ↓ Compliance Monitoring Start

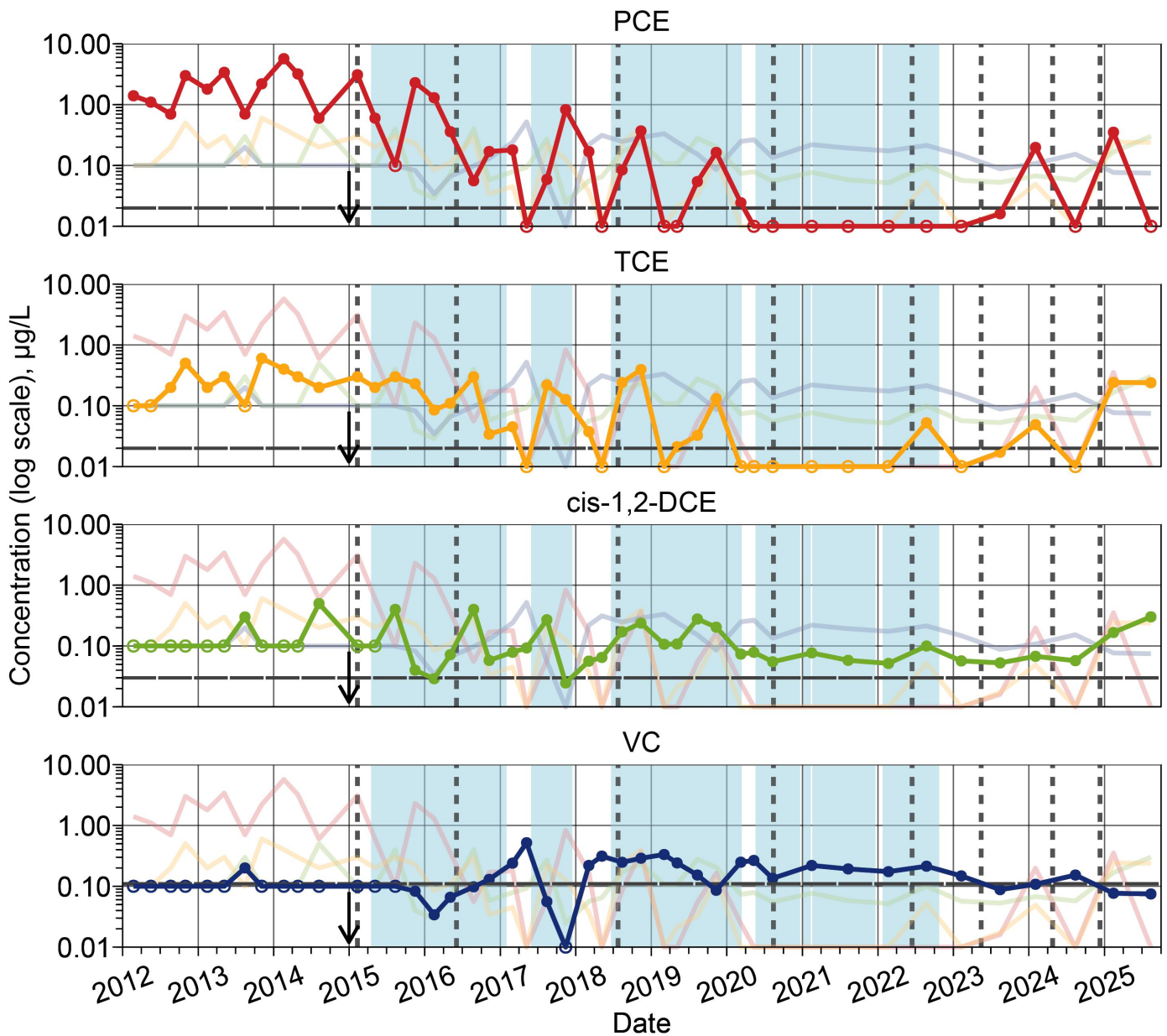
SWMU-172 and SWMU-174
 CVOC Trend Plots for Source Area
 Well GW152S

By: AT Date: 11/04/25 Project No. US0041831.2092

WSP USA Inc.

Figure 5





Compound — PCE — TCE — cis-1,2-DCE — VC

ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ⋮ Substrate Injection ■ SVE active ↓ Compliance Monitoring Start

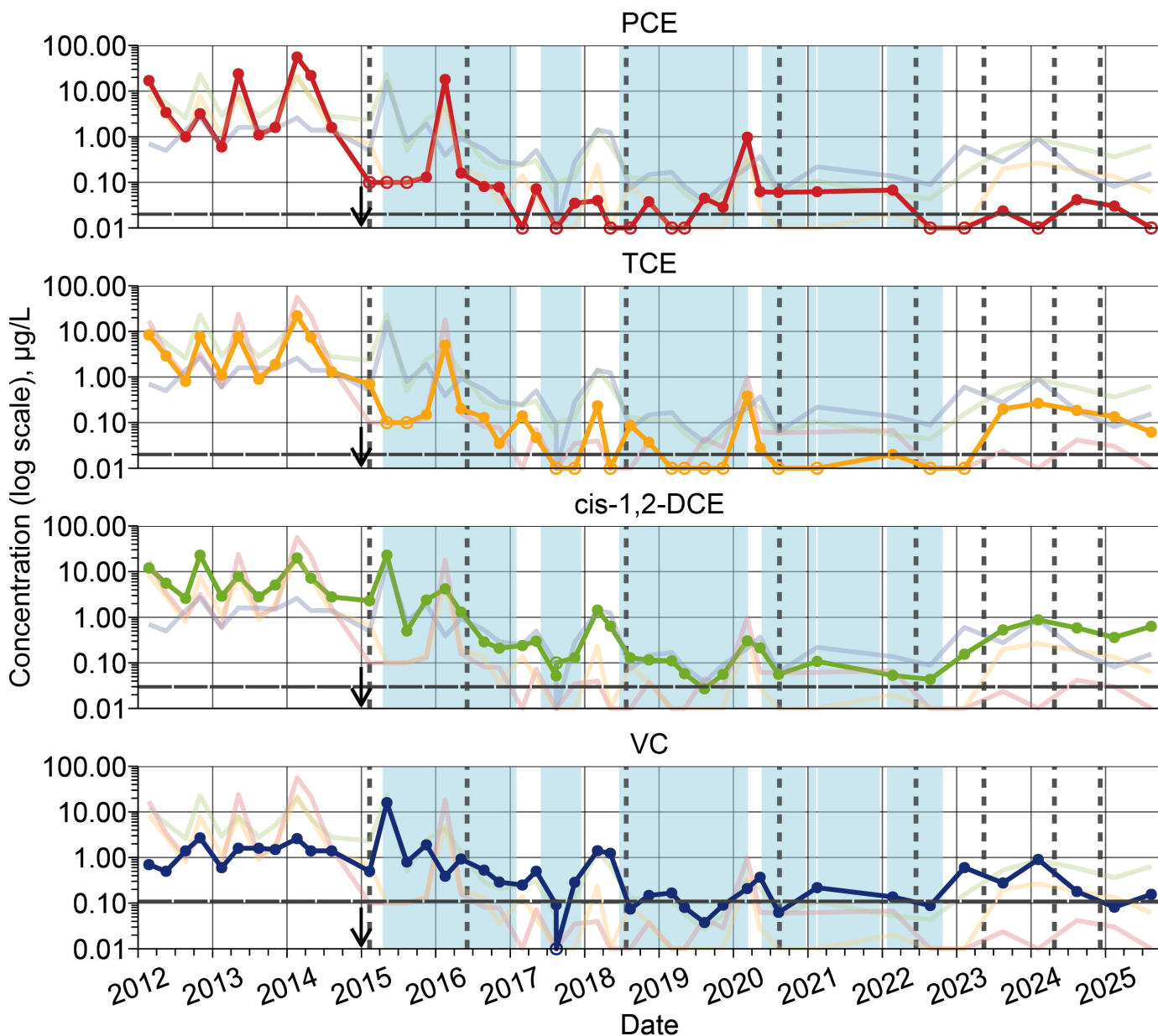
SWMU-172 and SWMU-174
 CVOC Trend Plots for Source Area
 Well GW153S

By: AT Date: 11/04/25 Project No. US0041831.2092

WSP USA Inc.

Figure 6





Compound — PCE — TCE — cis-1,2-DCE — VC

ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ⋮ Substrate Injection ■ SVE active ↓ Compliance Monitoring Start

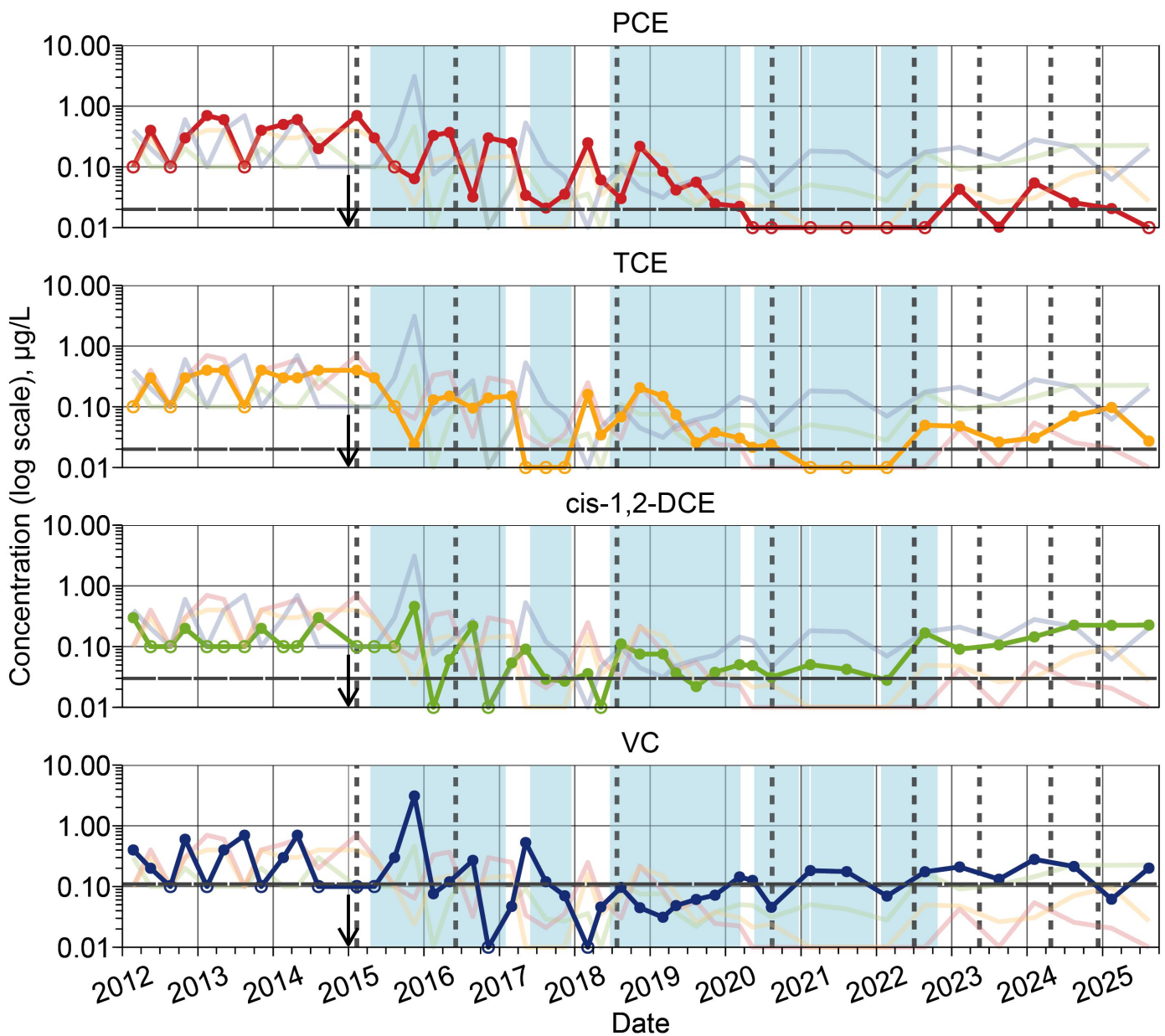
SWMU-172 and SWMU-174
 CVOC Trend Plots for Downgradient Plume Area
 Well GW172S

By: AT Date: 11/04/25 Project No. US0041831.2092

WSP USA Inc.

Figure 7





Compound — PCE — TCE — cis-1,2-DCE — VC

ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ⋮ Substrate Injection ■ SVE active ↓ Compliance Monitoring Start

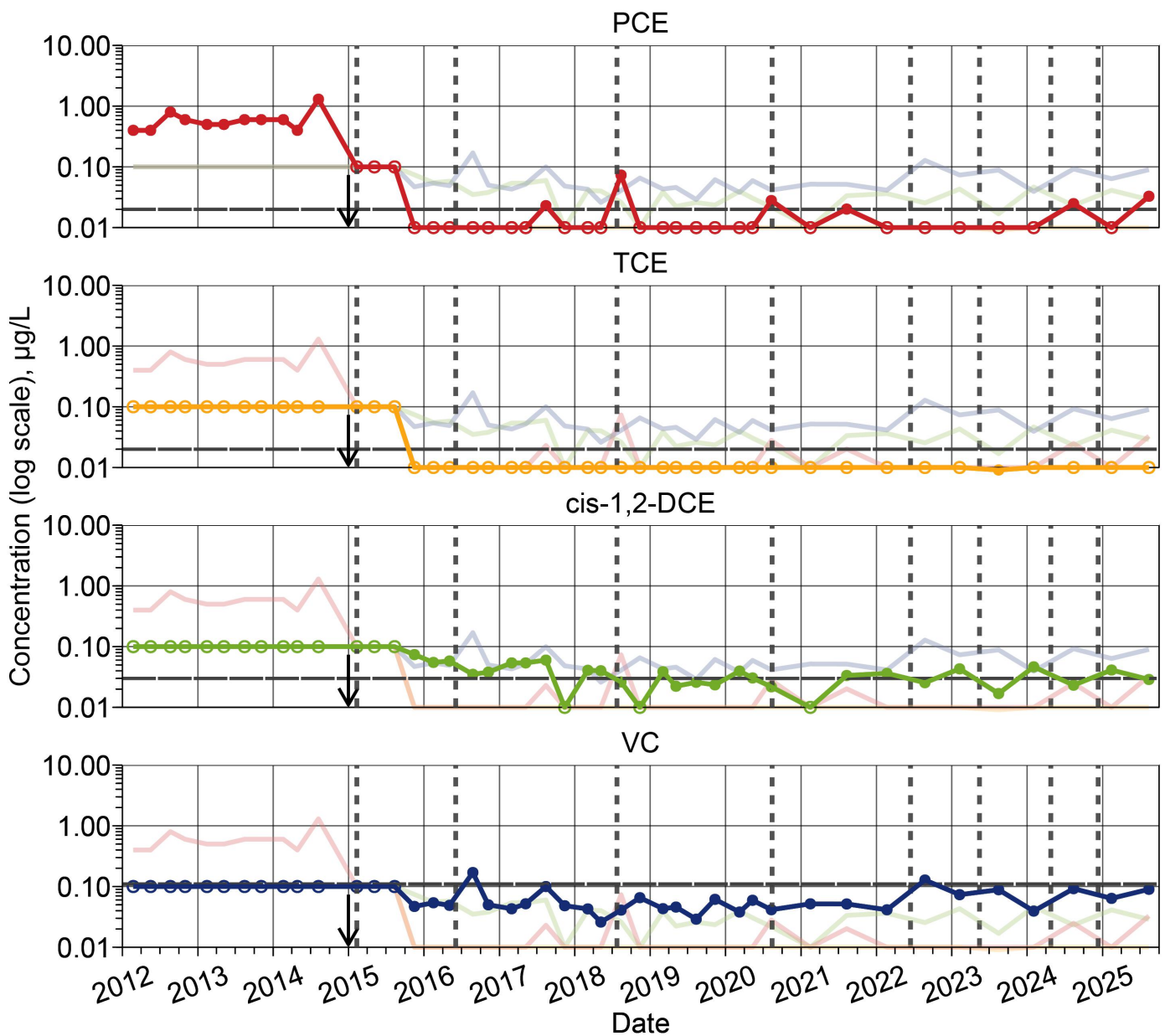
SWMU-172 and SWMU-174
 CVOC Trend Plots for Downgradient Plume Area
 Well GW173S

By: AT Date: 11/04/25 Project No. US0041831.2092

WSP USA Inc.

Figure 8





Compound — PCE — TCE — cis-1,2-DCE — VC

ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ⋮ Substrate Injection ↓ Compliance Monitoring Start

SWMU-172 and SWMU-174
 CVOC Trend Plots for Downgradient Plume Area
 Well GW226S

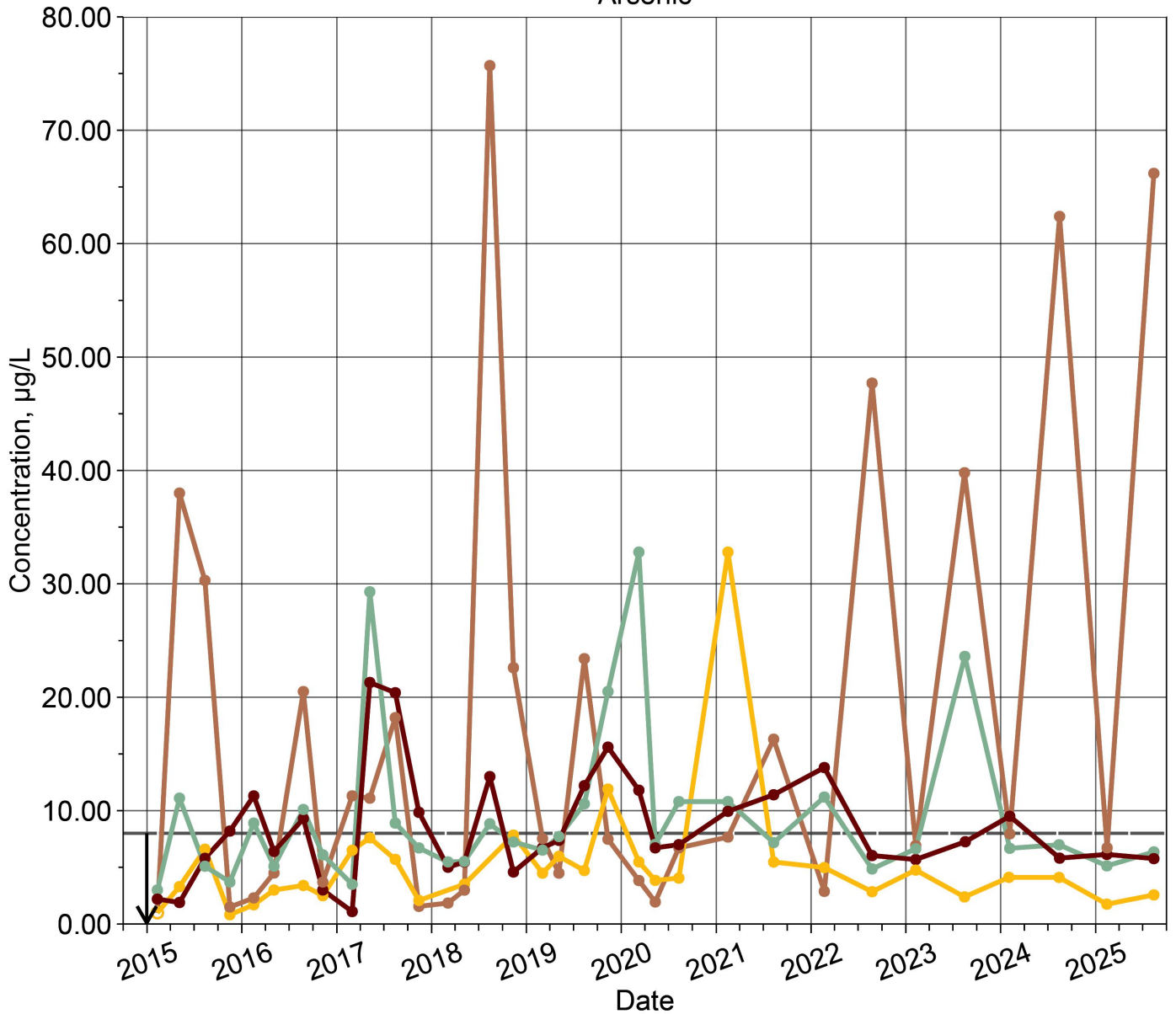
By: AT Date: 11/04/25 Project No. US0041831.2092

WSP USA Inc.

Figure 9



Arsenic



Well — GW152S — GW153S — GW172S — GW173S

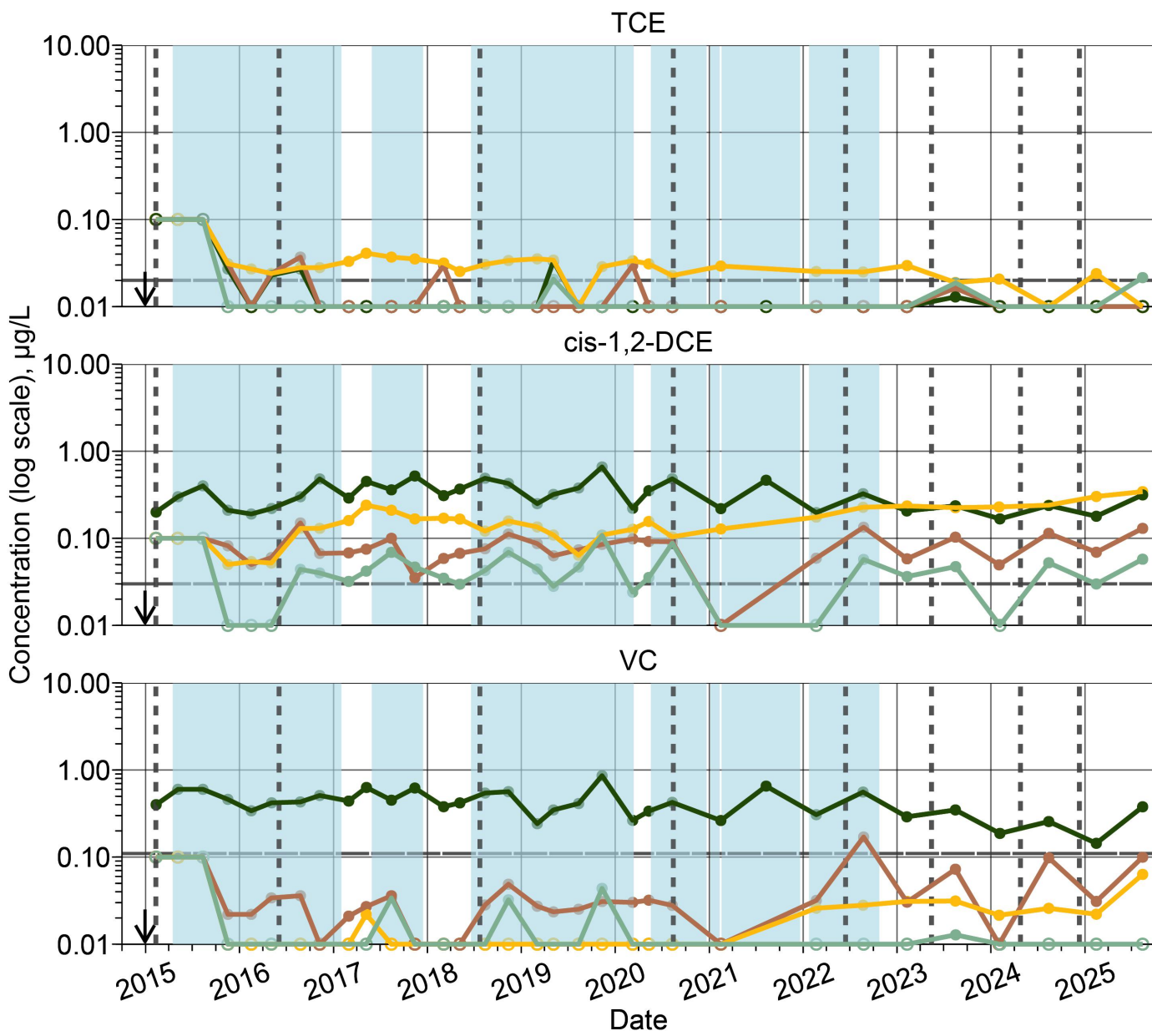
ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ↓ Compliance Monitoring Start

SWMU-172 and SWMU-174
Arsenic Trend Plots in Source and
Downgradient Plume Area
Wells GW152S, GW153S, GW172S, and GW173S



By: AT	Date: 11/04/25	Project No. US0041831.2092
WSP USA Inc.		Figure 10



Well — GW232S — GW234S — GW235I — GW236S

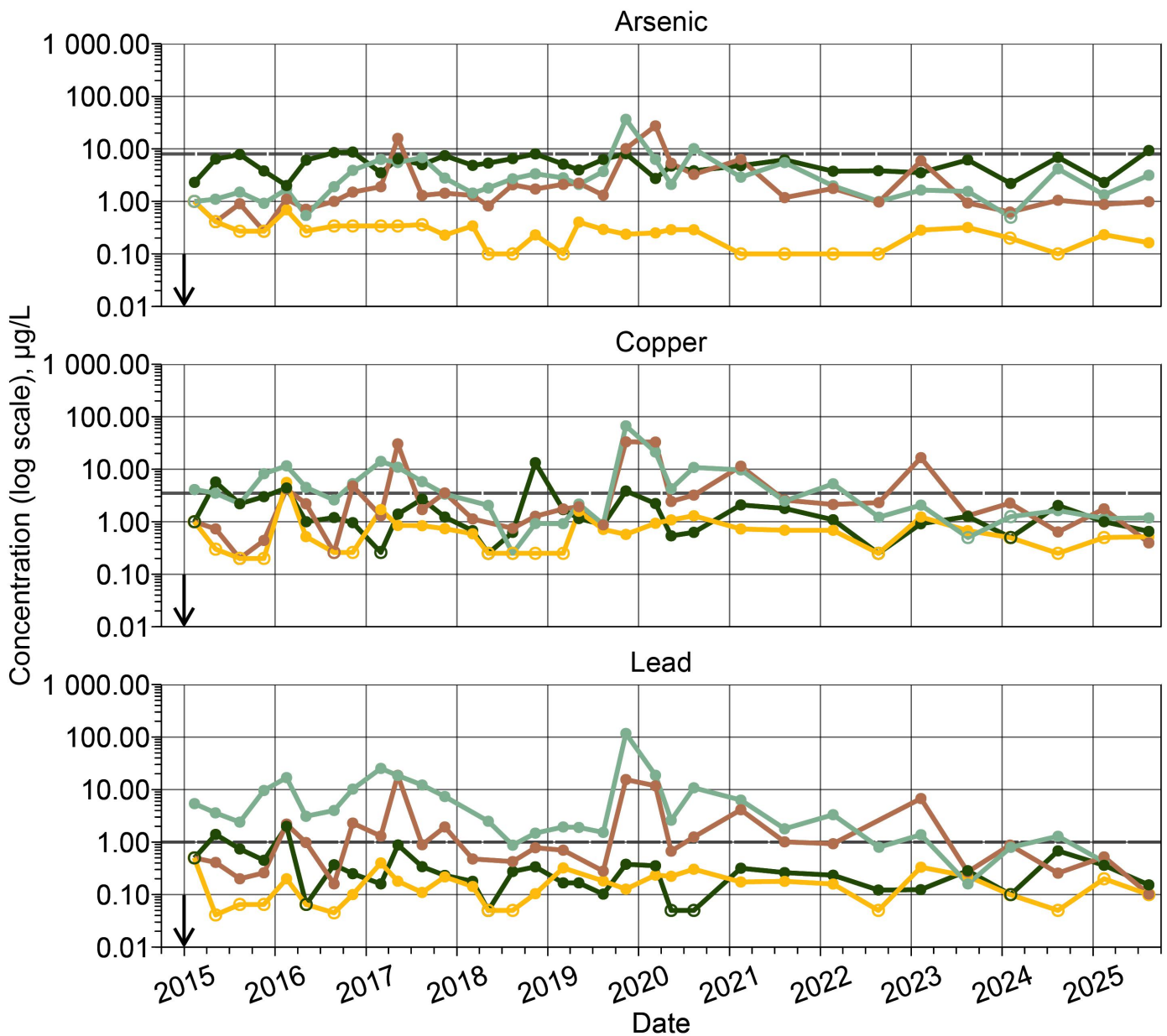
ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ▨ Substrate Injection ■ SVE active ↓ Compliance Monitoring Start

SWMU-172 and SWMU-174
 CVOC Trend Plots for CPOC Area
 Wells GW232S, GW234S, GW235I, and GW236S



By: AT	Date: 11/04/25	Project No. US0041831.2092
WSP USA Inc.		Figure 11



Well — GW232S — GW234S — GW235I — GW236S

ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ↓ Compliance Monitoring Start

SWMU-172 and SWMU-174
 Arsenic, Copper and Lead Trend Plots for CPOC Area
 Wells GW232, GW234S, GW235I, and GW236S

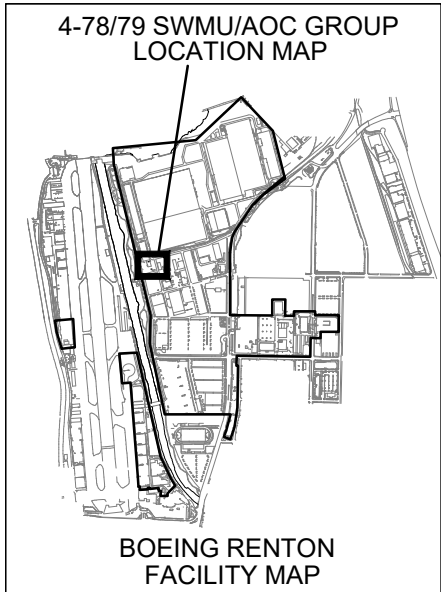
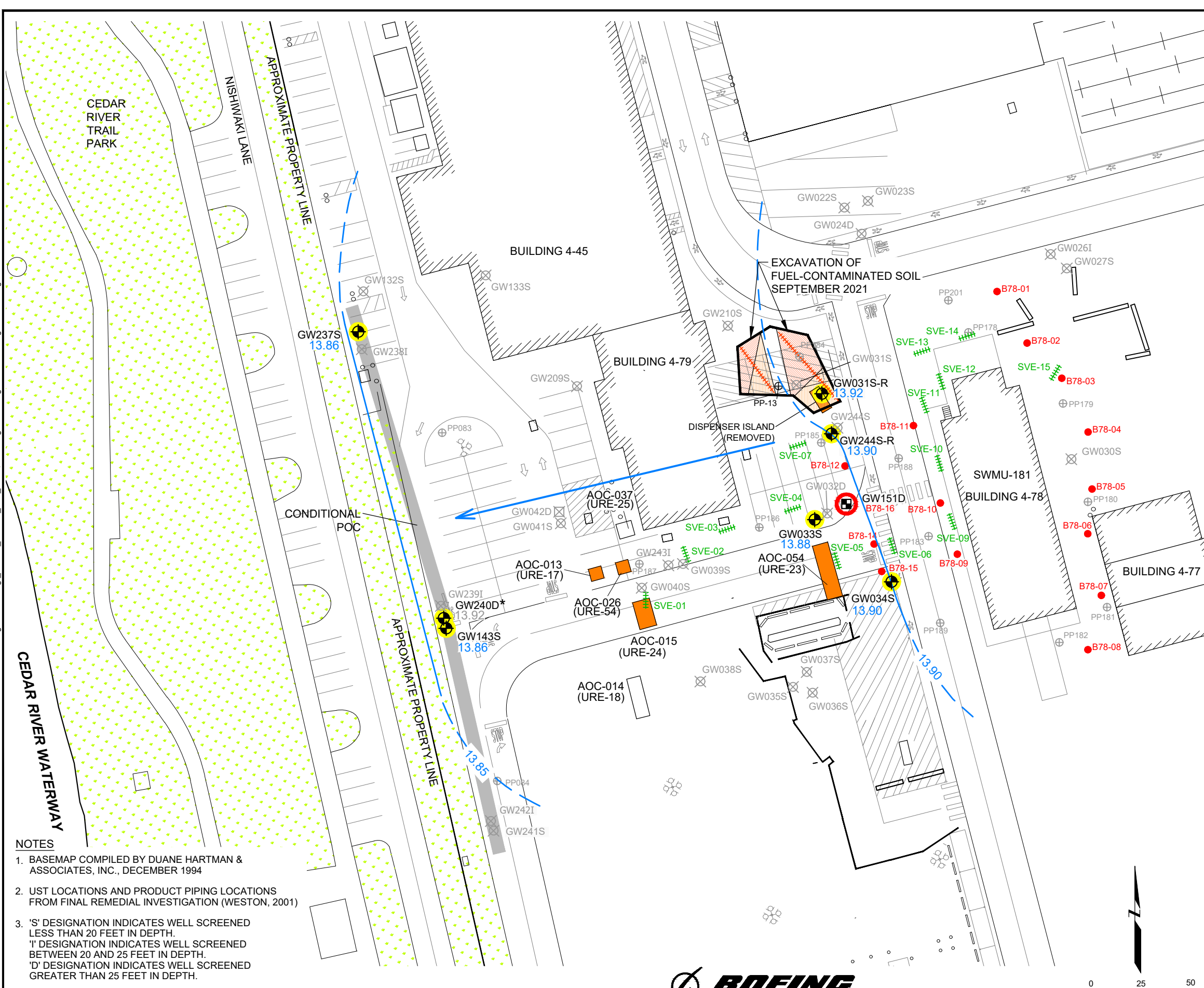
By: AT Date: 11/04/25 Project No. US0041831.2092

WSP USA Inc.

Figure 12



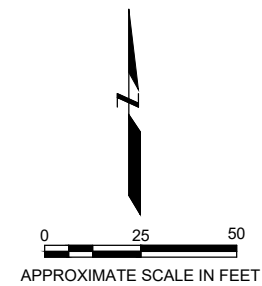
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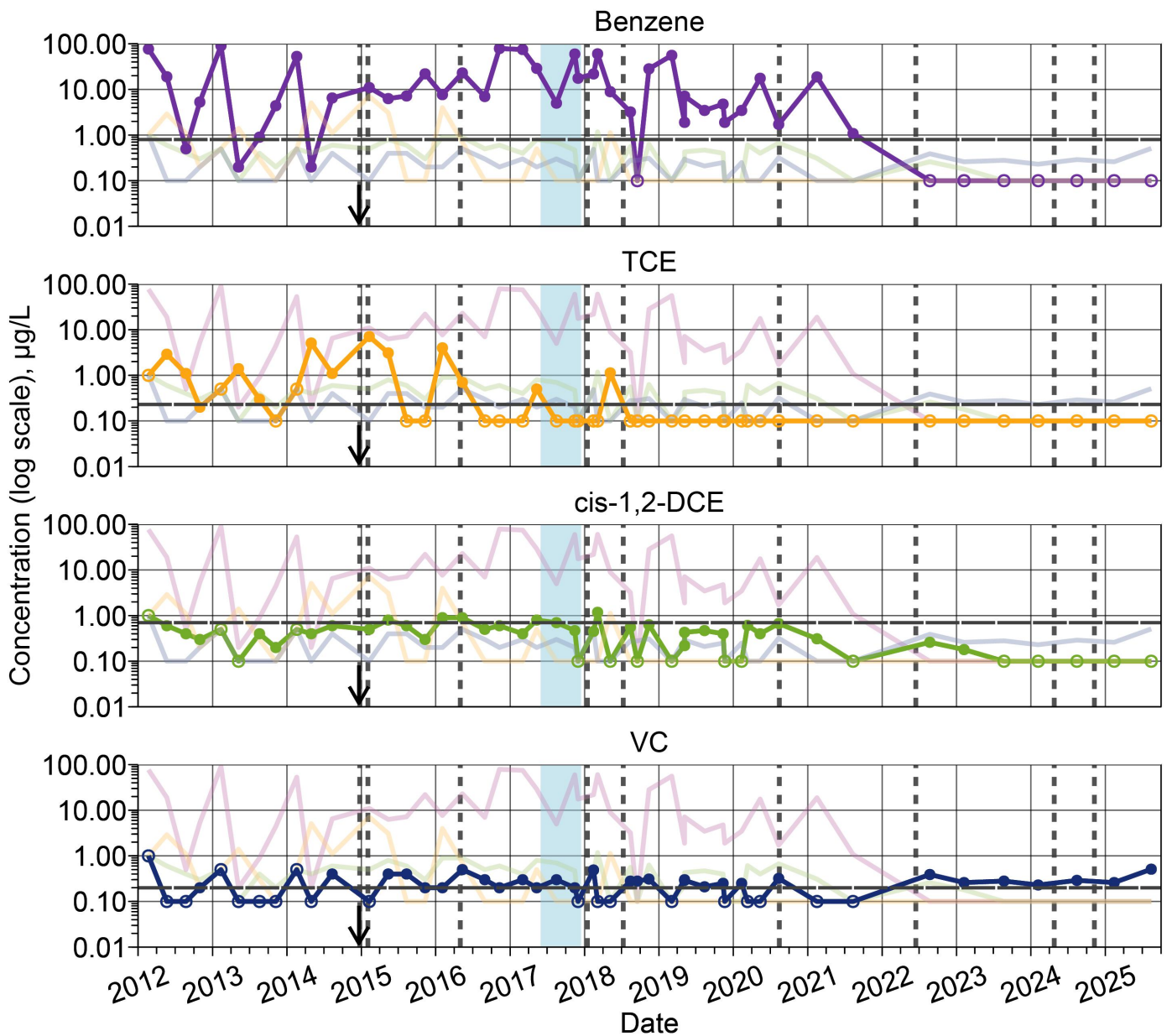
LEGEND

- GW033S 13.88 MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION (NGVD-FEET)
- * WELL SCREENED IN LOWER PORTION OF AQUIFER - WATER LEVEL IS NOT USED FOR CONTOURING
- 13.90 GROUNDWATER ELEVATION CONTOUR (IN FEET) (DASHED WHERE INFERRED)
- GENERAL GROUNDWATER FLOW DIRECTION
- GW042D DECOMMISSIONED EXTRACTION WELL
- GW032D DECOMMISSIONED MONITORING WELL
- SVE-15 HORIZONTAL SVE WELL
- HORIZONTAL BIOREMEDIATION INJECTION WELL
- B78-12 BIOREMEDIATION INJECTION WELL
- EXTRACTION WELL CONVERTED TO INJECTION WELL
- PP083 PUSH-PROBE SAMPLE LOCATION
- x - FENCE
- APPROXIMATE FUEL AND NON-CHLORINATED VOC SOURCE AREAS
- REMOVED UST (WESTON, 2001)
- CONDITIONAL POINT OF COMPLIANCE
- HIGHLIGHTED** WELLS INCLUDED IN MONITORING NETWORK

- NOTES**
1. BASEMAP COMPILED BY DUANE HARTMAN & ASSOCIATES, INC., DECEMBER 1994
 2. UST LOCATIONS AND PRODUCT PIPING LOCATIONS FROM FINAL REMEDIAL INVESTIGATION (WESTON, 2001)
 3. 'S' DESIGNATION INDICATES WELL SCREENED LESS THAN 20 FEET IN DEPTH.
 'I' DESIGNATION INDICATES WELL SCREENED BETWEEN 20 AND 25 FEET IN DEPTH.
 'D' DESIGNATION INDICATES WELL SCREENED GREATER THAN 25 FEET IN DEPTH.
 4. THE GROUNDWATER FLOW DIRECTION SHOWN IS BASED ON HISTORICAL GROUNDWATER DATA.



BUILDING 4-78/79 SWMU/AOC GROUP MONITORING WELL LOCATIONS AND GROUNDWATER ELEVATIONS AUGUST 14, 2025 Boeing Renton Facility Renton, Washington		
By: AT	Date: 11/05/25	Project No. US0041831.2092
WSP USA, Inc.		Figure 13



Compound — Benzene — TCE — cis-1,2-DCE — VC

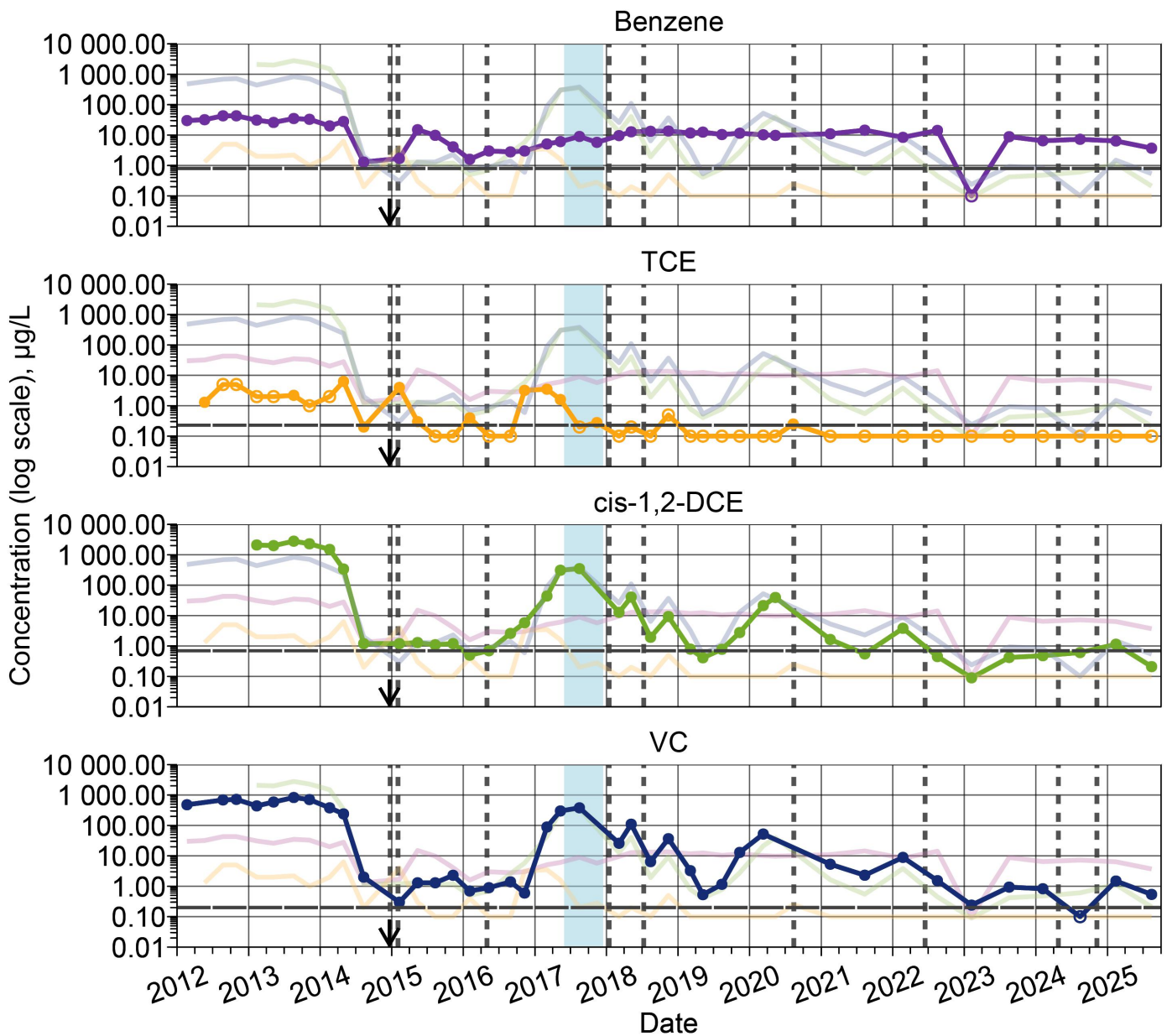
ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ⋮ Substrate Injection SVE active ↓ Compliance Monitoring Start

Building 4-78/79 SWMU/AOC Group
VOC Trend Plots for Source Area
Well GW031S

By: AT	Date: 11/04/25	Project No. US0041831.2092
WSP USA Inc.		Figure 14





Compound — Benzene — TCE — cis-1,2-DCE — VC

ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ⋮ Substrate Injection ■ SVE active ↓ Compliance Monitoring Start

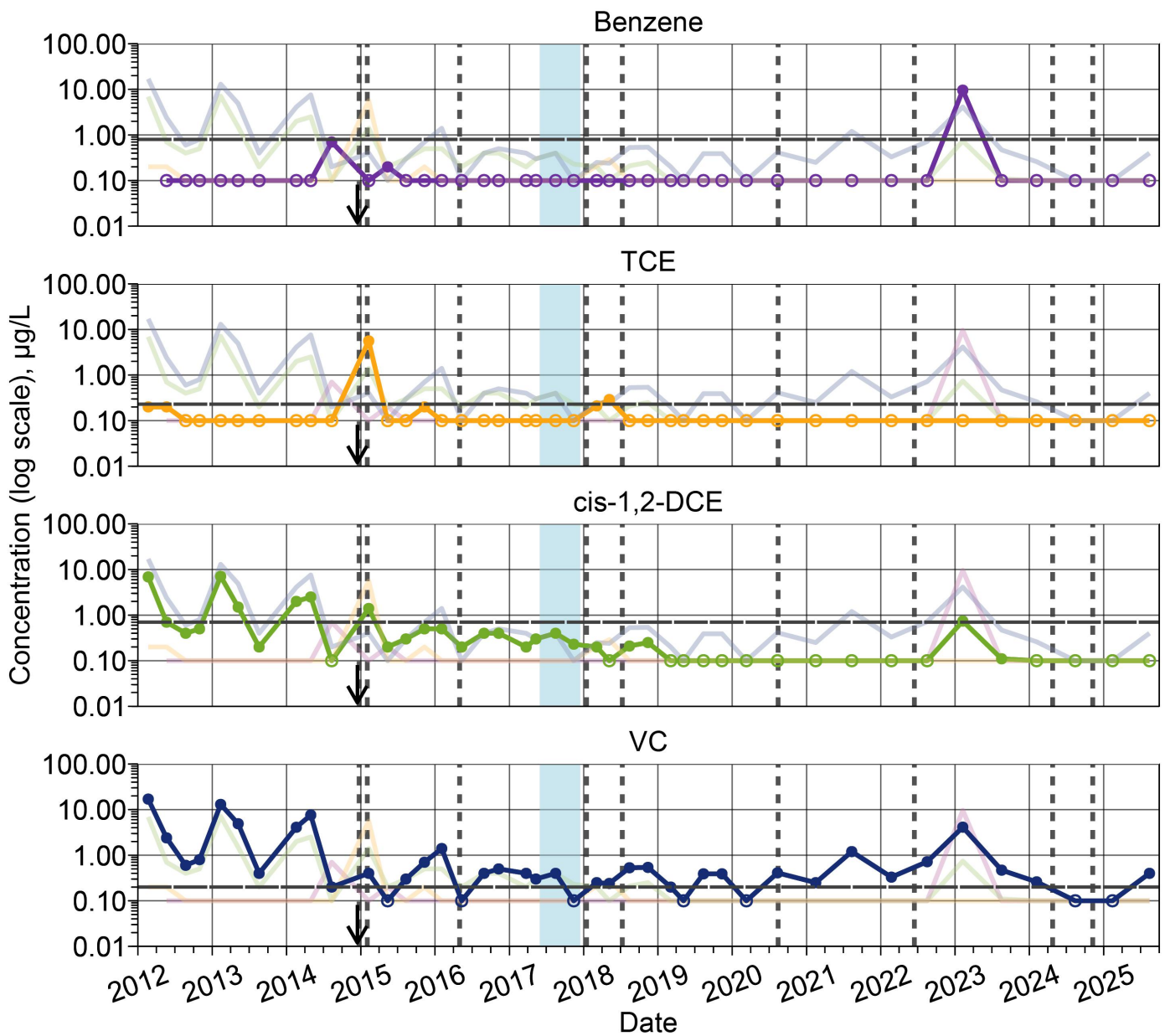
Building 4-78/79 SWMU/AOC
VOC Trend Plots for Source Area
Well GW033S

By: AT Date: 11/04/25 Project No. US0041831.2092

WSP USA Inc.

Figure 15





Compound — Benzene — TCE — cis-1,2-DCE — VC

ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ⋮ Substrate Injection SVE active ↓ Compliance Monitoring Start

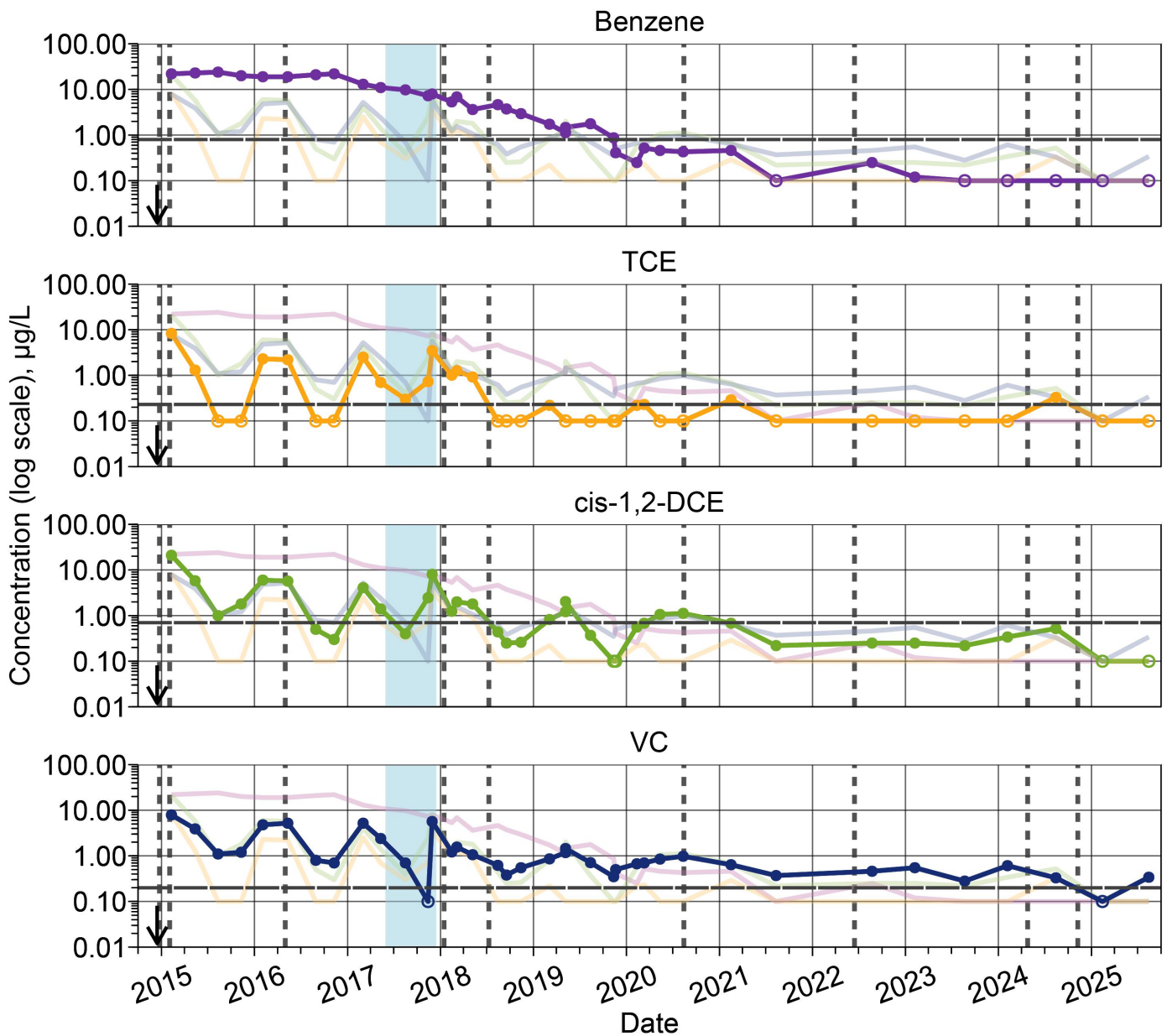
Building 4-78/79 SWMU/AOC
VOC Trend Plots for Source Area
Well GW034S

By: AT	Date: 11/04/25	Project No. US0041831.2092
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WSP USA Inc.

Figure 16





Compound — Benzene — TCE — cis-1,2-DCE — VC

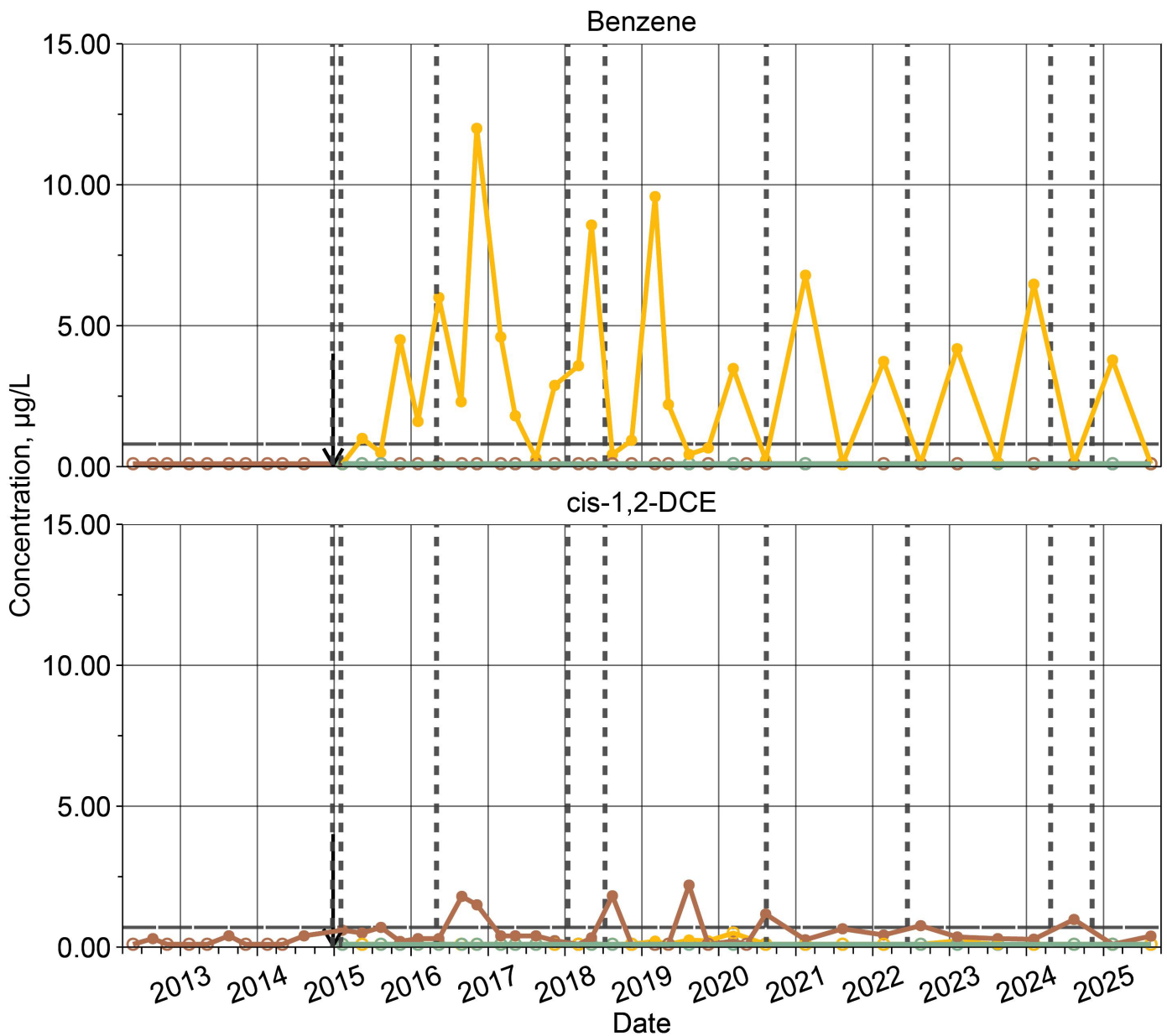
ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ⋮ Substrate Injection ■ SVE active ↓ Compliance Monitoring Start

Building 4-78/79 SWMU/AOC
 VOC Trend Plots for Source Area
 Well GW244S



By: AT	Date: 11/04/25	Project No. US0041831.2092
WSP USA Inc.		Figure 17



Well — GW143S — GW237S — GW240D

ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ▨ Substrate Injection ↓ Compliance Monitoring Start

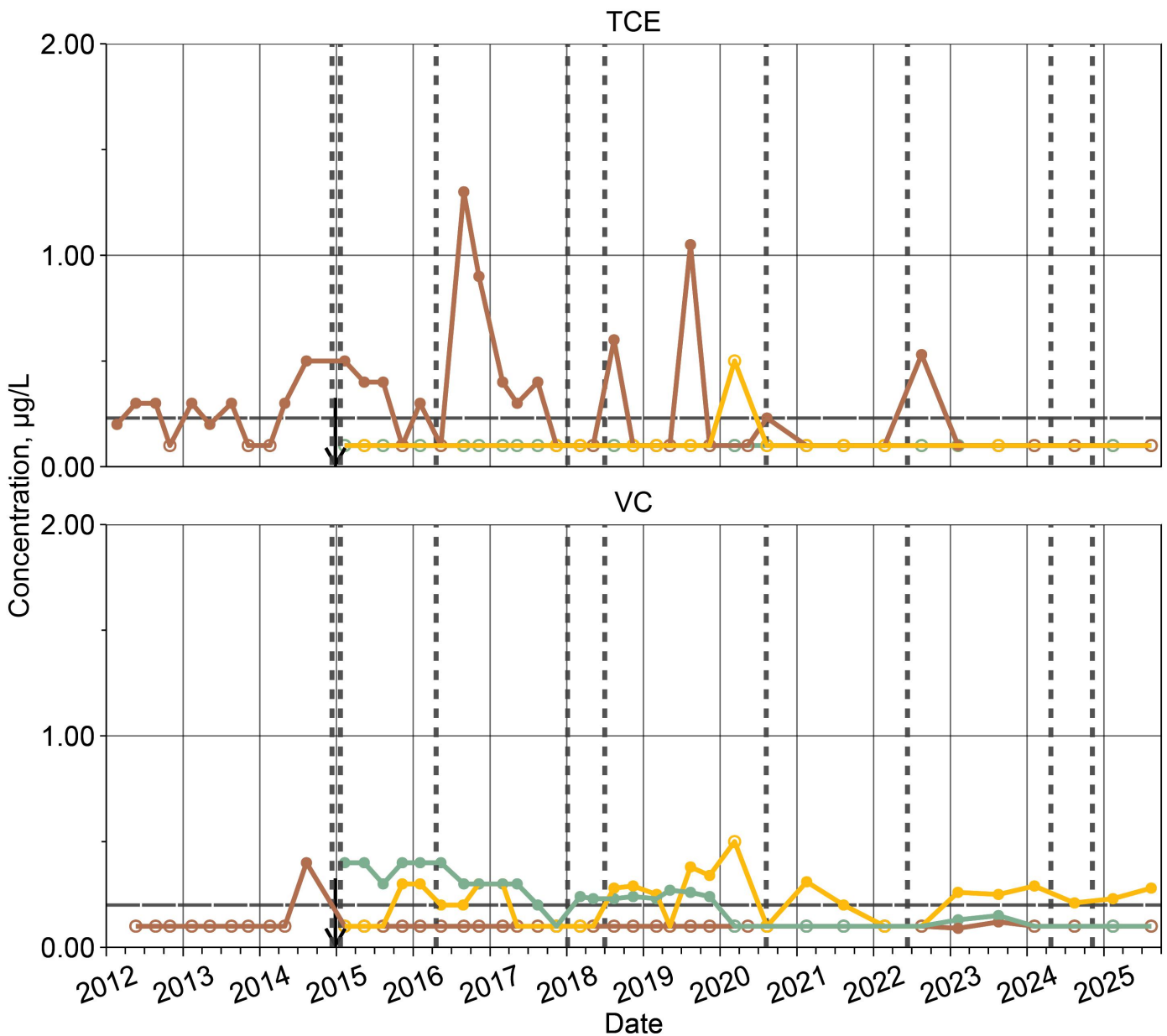
Building 4-78/79 SWMU/AOC
Benzene and cis-1,2-Dichloroethene
Trend Plots for CPOC Area
Wells GW143S, GW237S, and GW240D

By: AT Date: 11/04/25 Project No. US0041831.2092

WSP USA Inc.

Figure 18





Well — GW143S — GW237S — GW240D

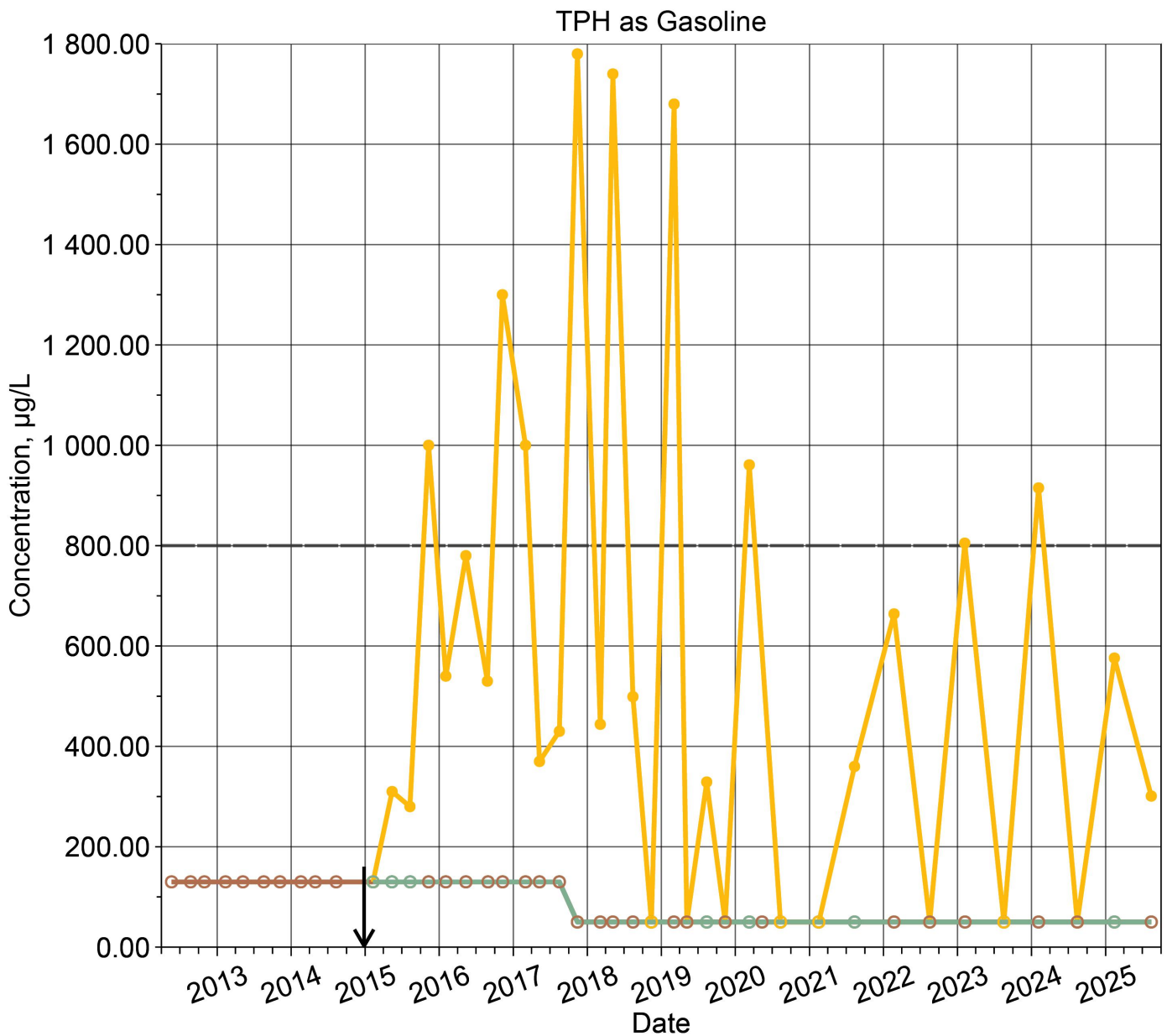
ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ⋮ Substrate Injection ↓ Compliance Monitoring Start

Building 4-78/79 SWMU/AOC
 Trichloroethene and Vinyl Chloride
 Trend Plots for CPOC Area
 Wells GW143S, GW237S, and GW240D



By: AT	Date: 11/04/25	Project No. US0041831.2092
WSP USA Inc.		Figure 19



Well — GW143S — GW237S — GW240D

ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

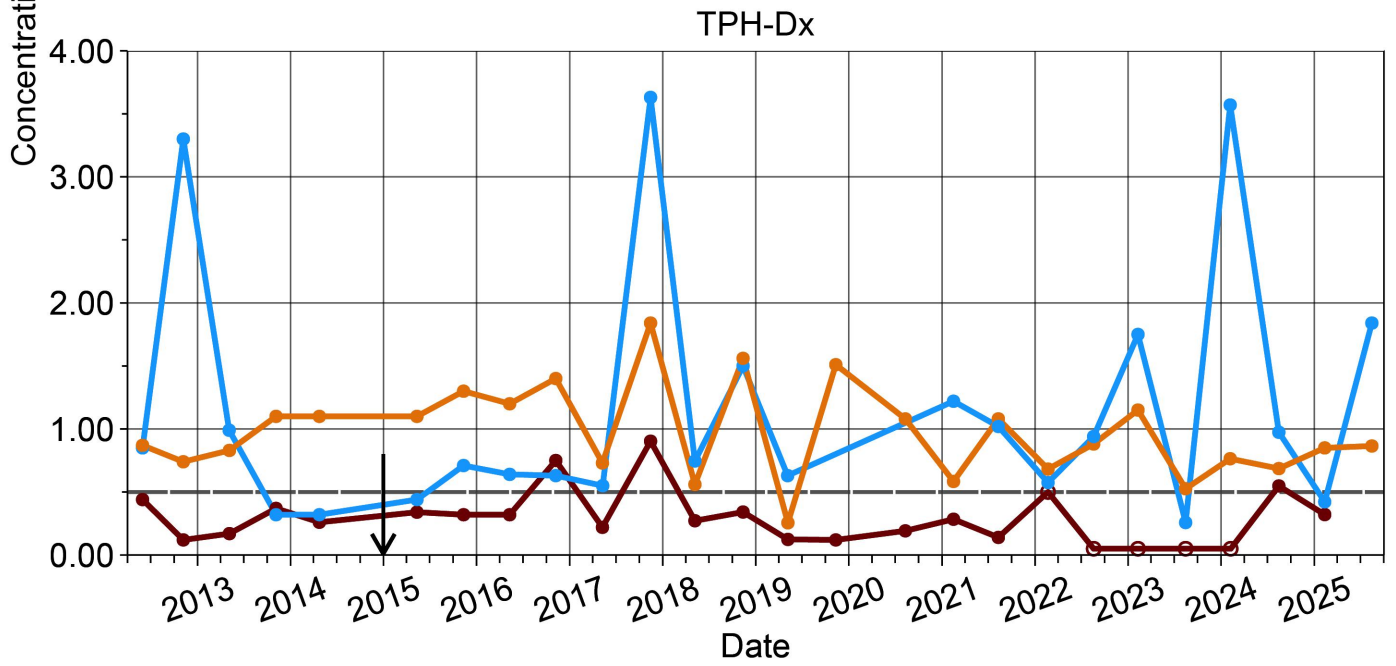
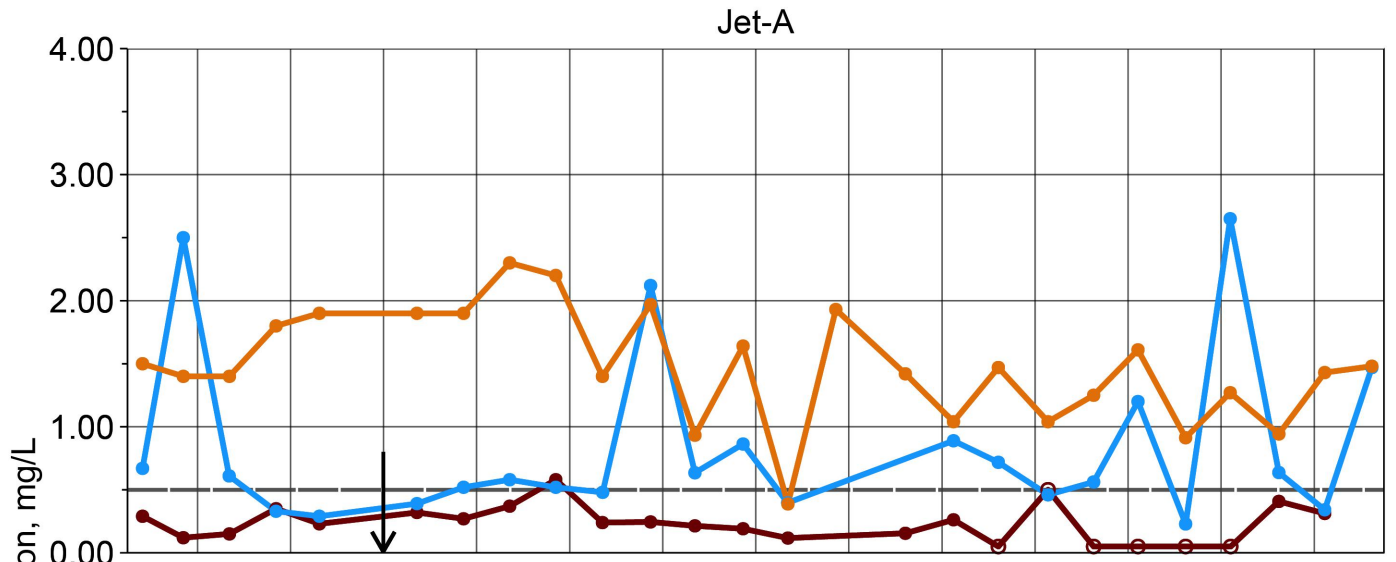
System Action ↓ Compliance Monitoring Start

Building 4-78/79 SWMU/AOC
 TPH as Gasoline Trend Plot for CPOC Area
 Wells GW143S, GW237S, and GW240D

By: AT	Date: 11/04/25	Project No. US0041831.2092
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WSP USA Inc.	Figure 20
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Well — GW211S — GW221S — GW224S
ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level
System Action ↓ Compliance Monitoring Start

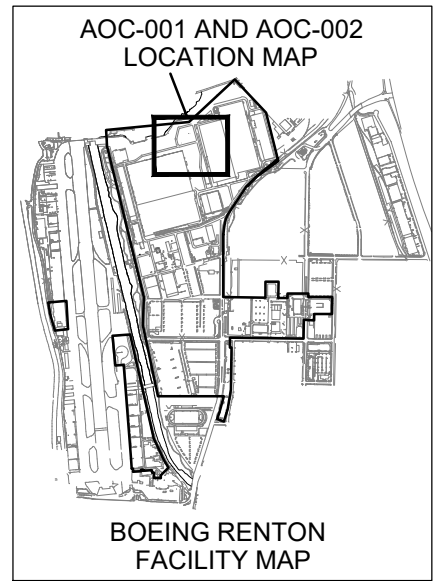
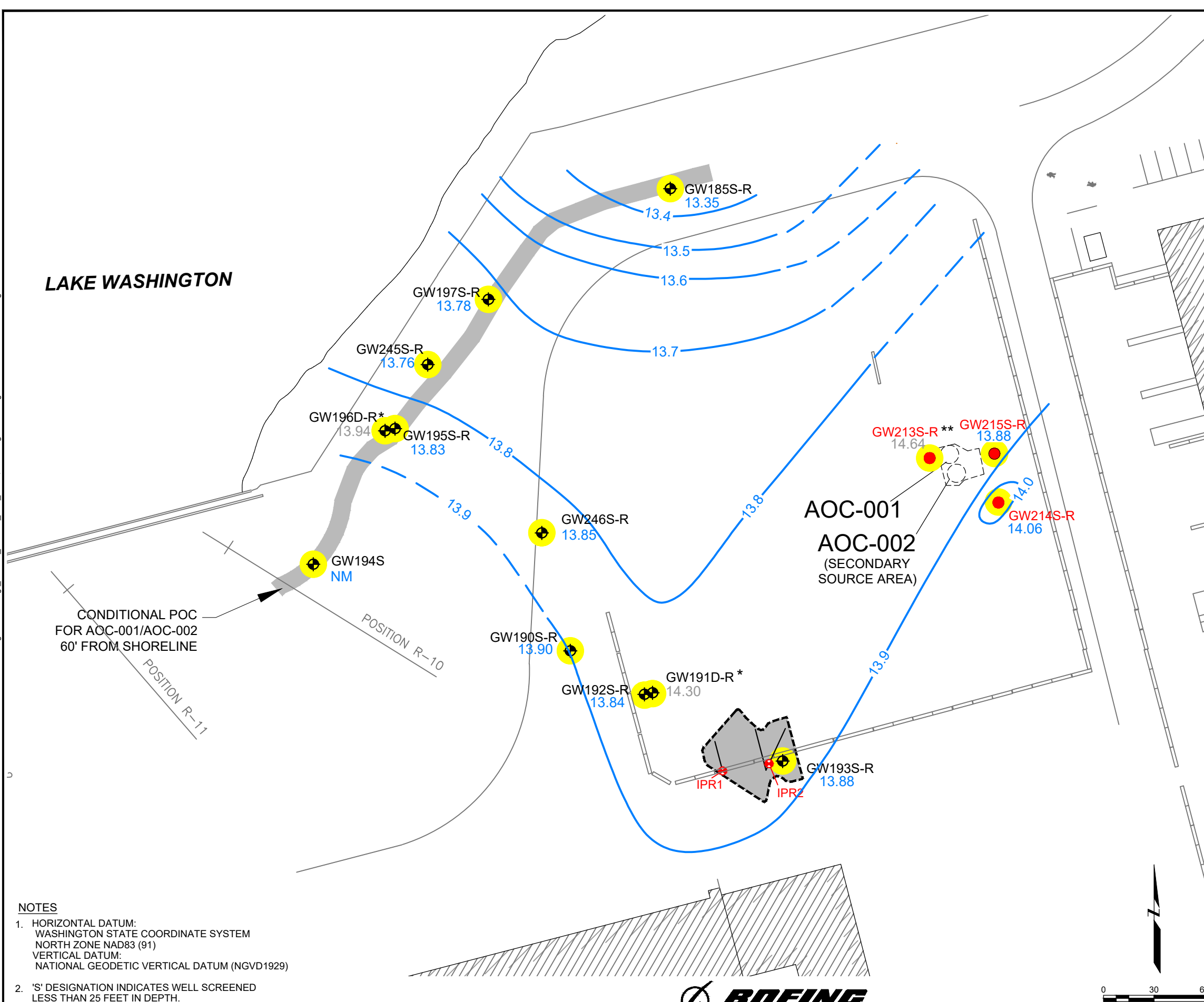
Former Fuel Farm AOC
 TPH as Jet-A and Diesel Trend Plots for CPOC Area
 Wells GW211S, GW221S, and GW224S

By: AT	Date: 11/04/25	Project No. US0041831.2092
WSP USA Inc.		Figure 22



Plot Date: 11/07/25 - 12:04pm, Plotted by: USAS719374
 Drawing Path: X:\USP\800-POR\Clients\AMEC-US OFFICES\KIRKLAND\PS2020203450 - Boeing Renton\dwg_GWMR_Second_Half_2025\, Drawing Name: Figure 23 - AOC-001-002.dwg

LAKE WASHINGTON

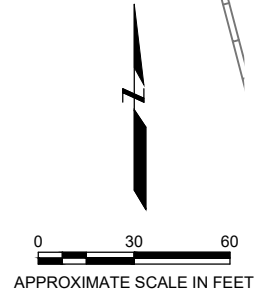


LEGEND

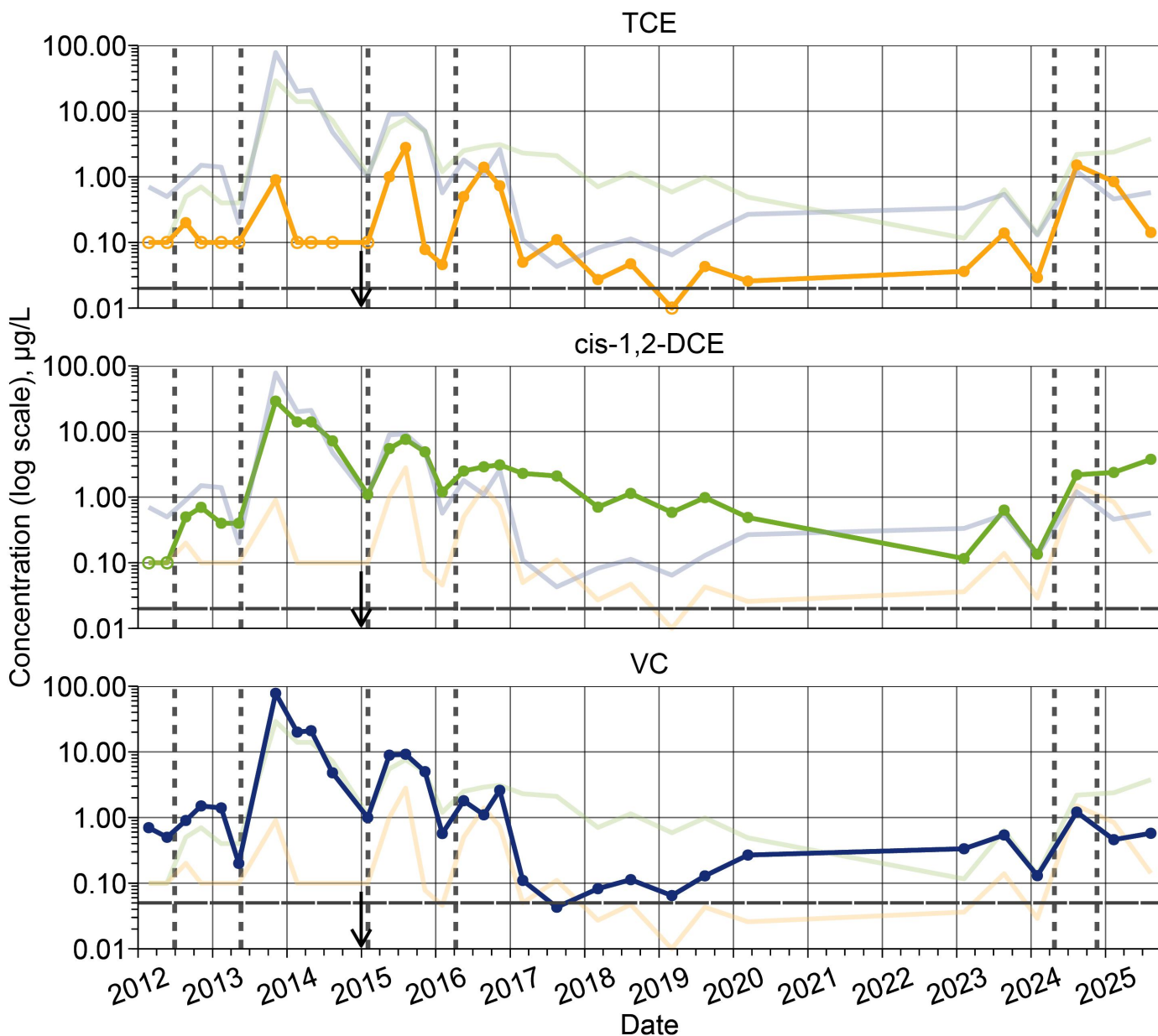
- GW195S-R 13.83 MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION (NGVD-FEET)
- * WELL SCREENED IN LOWER PORTION OF AQUIFER - WATER LEVEL IS NOT USED FOR CONTOURING
- ** POTENTIALLY ANOMALOUS READING - WATER LEVEL IS NOT USED FOR CONTOURING
- 13.8 GROUNDWATER ELEVATION CONTOUR (IN FEET) (DASHED WHERE INFERRED)
- GW215S EXISTING ELECTRON DONOR INJECTION WELL
- IPR1 EXISTING INJECTION PIPE RISER
- APPROXIMATE PROPERTY LINE
- FENCE LINE
- APPROXIMATE LIMIT OF NOVEMBER 2005 SOURCE AREA EXCAVATION
- AOC-001, AOC-002 CONDITIONAL POINT OF COMPLIANCE
- HIGHLIGHTED** WELLS INCLUDED IN MONITORING NETWORK

NOTES

1. HORIZONTAL DATUM:
 WASHINGTON STATE COORDINATE SYSTEM
 NORTH ZONE NAD83 (91)
 VERTICAL DATUM:
 NATIONAL GEODETIC VERTICAL DATUM (NGVD1929)
2. 'S' DESIGNATION INDICATES WELL SCREENED LESS THAN 25 FEET IN DEPTH.
 'D' DESIGNATION INDICATES WELL SCREENED GREATER THAN 25 FEET IN DEPTH.



AOC-001 AND AOC-002 MONITORING WELL LOCATIONS AND GROUNDWATER ELEVATIONS AUGUST 11 & 12, 2025 Boeing Renton Facility Renton, Washington		
By: AT	Date: 11/07/25	Project No. US0041831.2092
WSP USA, Inc.		Figure 23



Compound — TCE — cis-1,2-DCE — VC

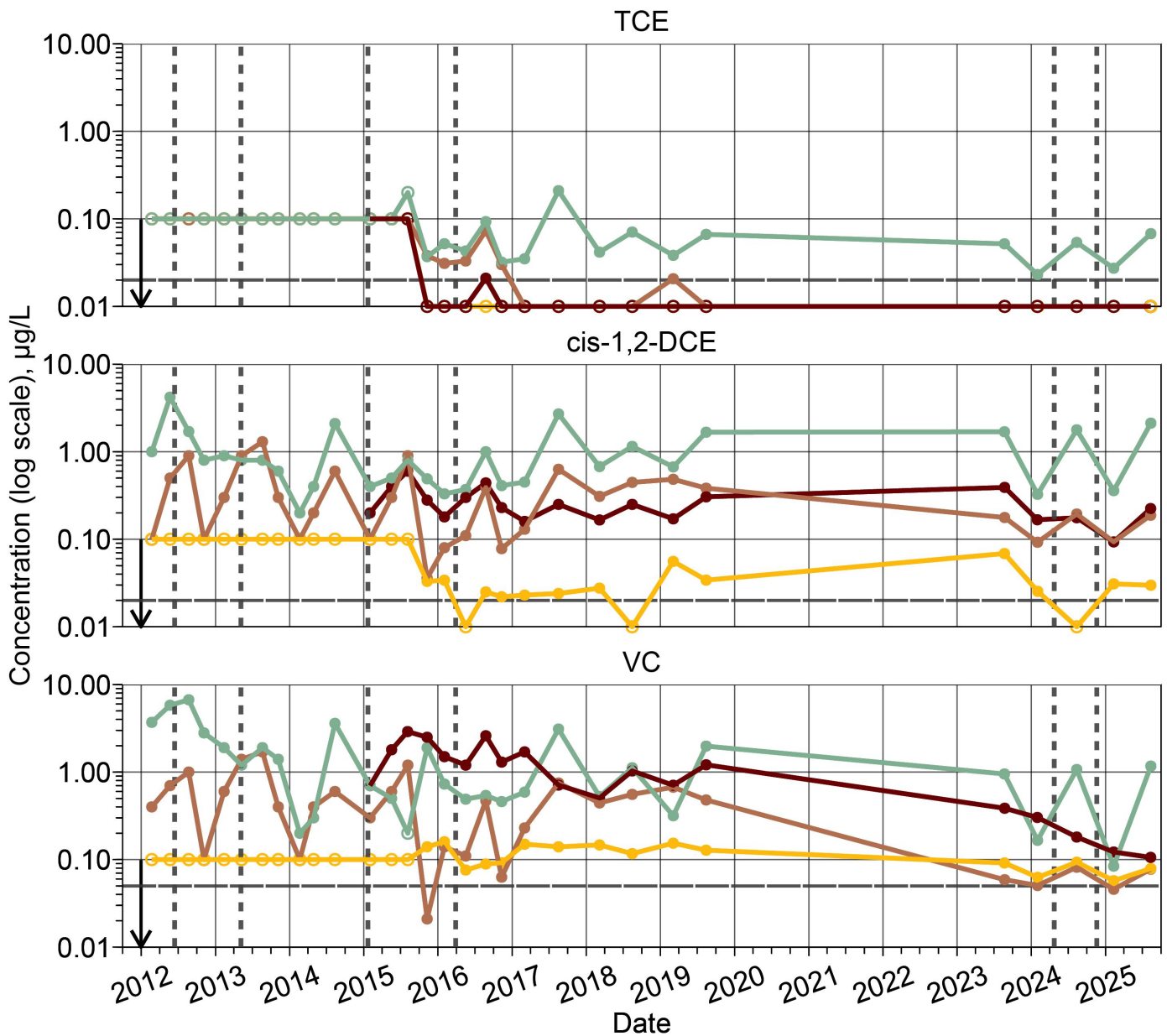
ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ⋮ Substrate Injection ↓ Compliance Monitoring Start

AOC-001 and -002
 CVOC Trend Plot for Source Area
 Well GW193S

By: AT	Date: 11/04/25	Project No. US0041831.2092
WSP USA Inc.		Figure 24





Well — GW190S — GW191D — GW192S — GW246S

ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ⋮ Substrate Injection ↓ Compliance Monitoring Start

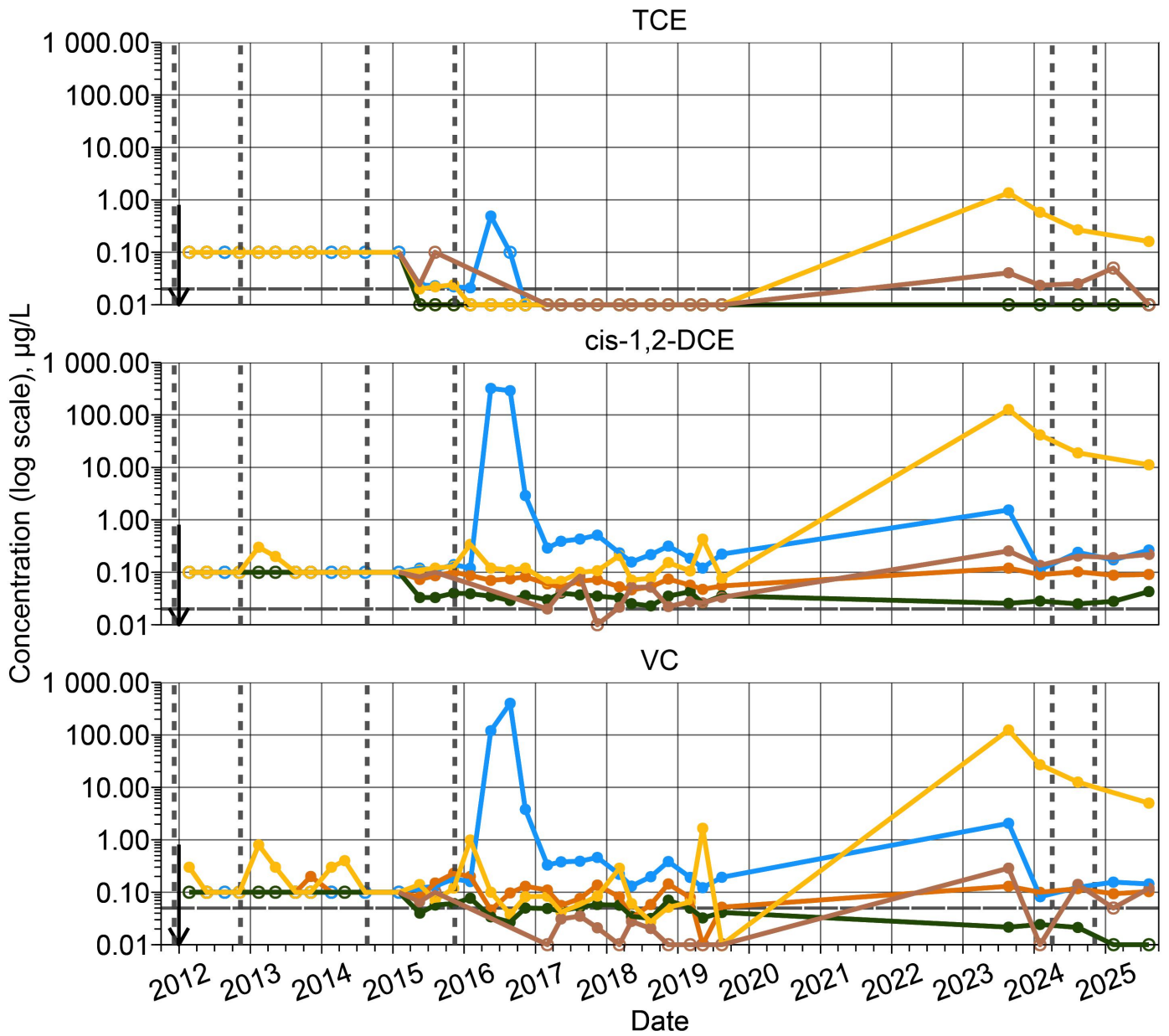
AOC-001 and -002
 CVOC Trend Plots for Downgradient Area
 Wells GW190S, GW191D, GW192S, and GW246S

By: AT Date: 11/04/25 Project No. US0041831.2092

WSP USA Inc.

Figure 25





Well — GW185S — GW195S — GW196D — GW197S — GW245S

ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

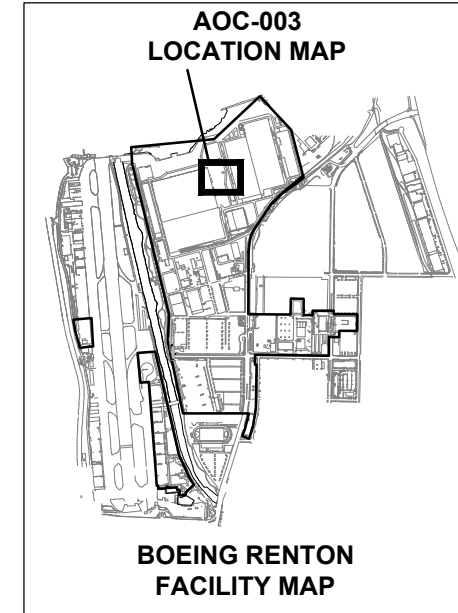
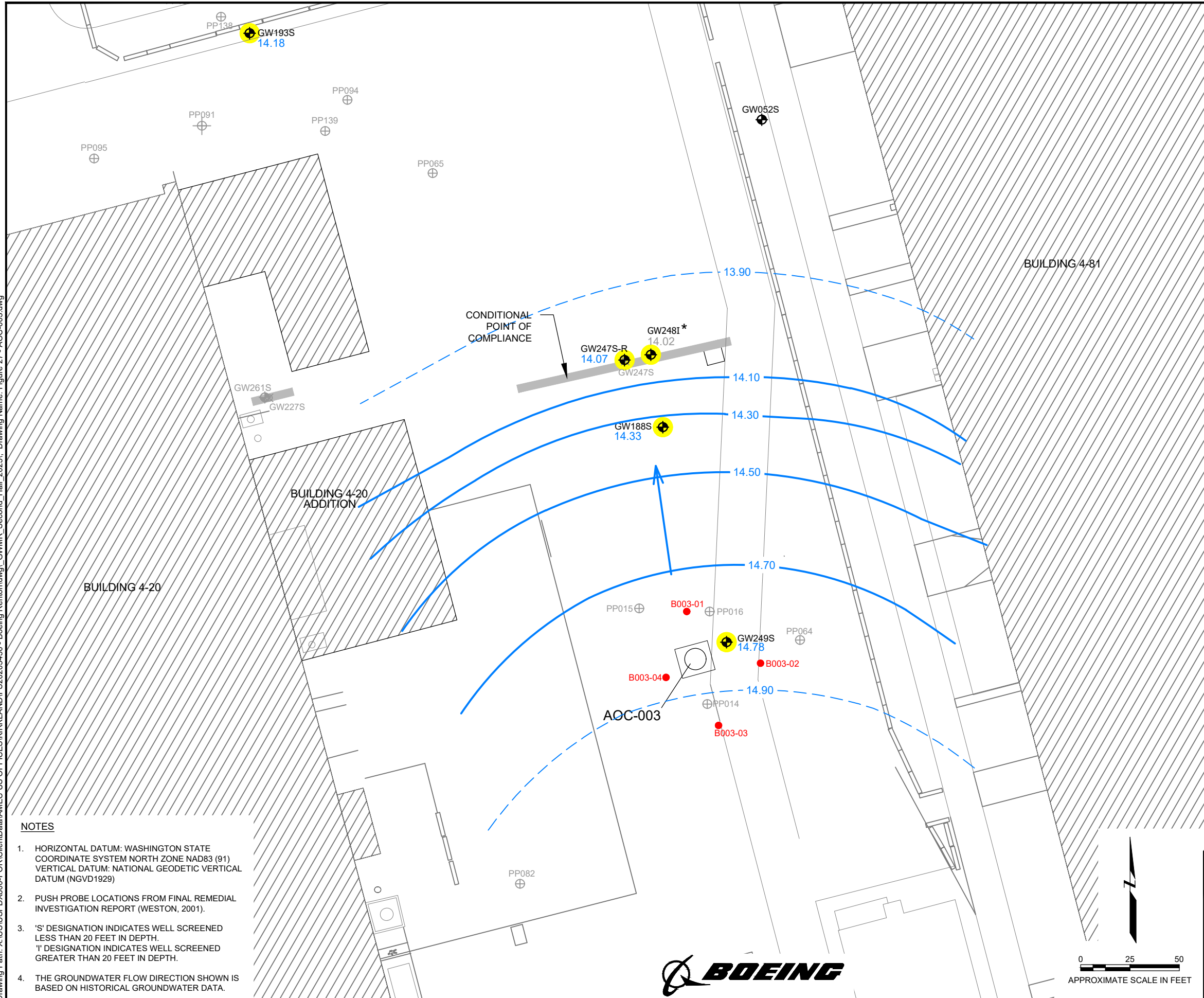
System Action ⋮ Substrate Injection ↓ Compliance Monitoring Start

AOC-001 and -002
 CVOC Trend Plots for CPOC Area
 Wells GW185S, GW195S, GW196D, GW197S, and
 GW245S

By: AT	Date: 11/04/25	Project No. US0041831.2092
WSP USA Inc.		Figure 26



Plot Date: 11/05/25 - 4:11pm. Plotted by: USAS719374
 Drawing Path: X:\US\SPD\800-POR\ClientData\AMEC US OFFICES\KIRKLAND\PS2020\450 - Boeing Renton\dwg - GWMR_Second_Half_2025\, Drawing Name: Figure 27 - AOC-003.dwg

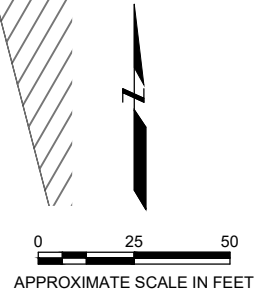


LEGEND

- GW249S 14.78 MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION (NGVD-FEET)
- * WELL SCREENED IN LOWER PORTION OF AQUIFER - WATER LEVEL IS NOT USED FOR CONTOURING
- 14.50 GROUNDWATER ELEVATION CONTOUR (IN FEET)(DASHED WHERE INFERRED)
- GENERAL DIRECTION OF GROUNDWATER FLOW BASED ON HISTORICAL INFORMATION
- CONDITIONAL POINT OF COMPLIANCE
- GW227S DECOMMISSIONED MONITORING WELL
- B003-01 BIOREMEDIATION INJECTION WELL
- PP011 PUSH PROBE SAMPLING LOCATION
- HIGHLIGHTED** WELLS INCLUDED IN MONITORING NETWORK

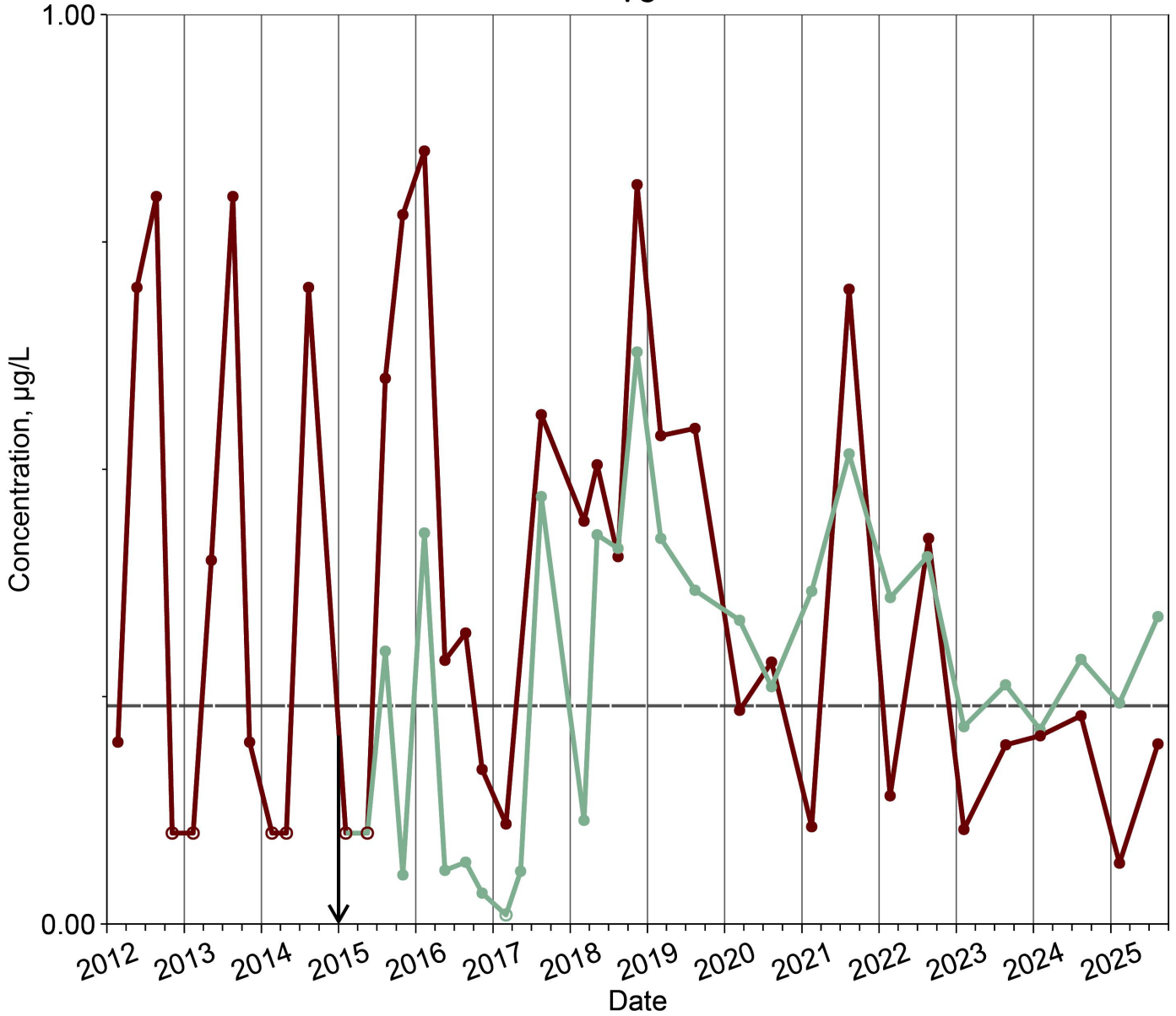
NOTES

1. HORIZONTAL DATUM: WASHINGTON STATE COORDINATE SYSTEM NORTH ZONE NAD83 (91)
 VERTICAL DATUM: NATIONAL GEODETIC VERTICAL DATUM (NGVD1929)
2. PUSH PROBE LOCATIONS FROM FINAL REMEDIAL INVESTIGATION REPORT (WESTON, 2001).
3. 'S' DESIGNATION INDICATES WELL SCREENED LESS THAN 20 FEET IN DEPTH.
 'I' DESIGNATION INDICATES WELL SCREENED GREATER THAN 20 FEET IN DEPTH.
4. THE GROUNDWATER FLOW DIRECTION SHOWN IS BASED ON HISTORICAL GROUNDWATER DATA.



AOC-003 MONITORING WELL LOCATIONS AND GROUNDWATER ELEVATIONS AUGUST 12, 2025 Boeing Renton Facility Renton, Washington		
By: AT	Date: 11/05/25	Project No. US0041831.2092
WSP USA, Inc.		Figure 27

VC



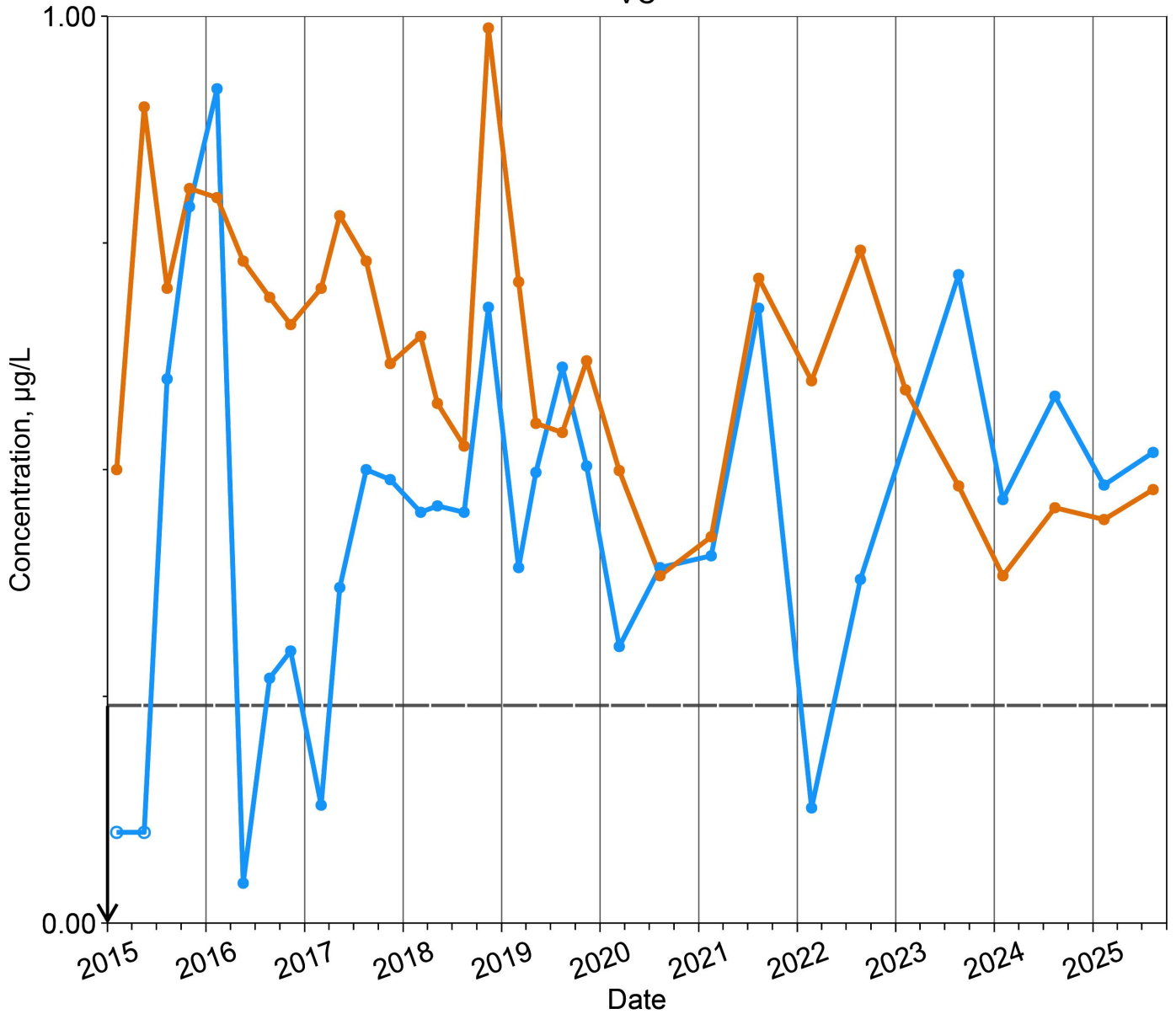
Well — GW188S — GW249S
 ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level
 System Action ↓ Compliance Monitoring Start

AOC-003
 Vinyl Chloride Trend Plots for Source and
 Downgradient Plume Area
 Wells GW249S and GW188S



By: AT	Date: 11/04/25	Project No. US0041831.2092
WSP USA Inc.		Figure 28

VC



Well — GW247S — GW248I
 ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level
 System Action ↓ Compliance Monitoring Start

AOC-003
 Vinyl Chloride Trend Plots for CPOC Area
 Wells GW247S and GW248I

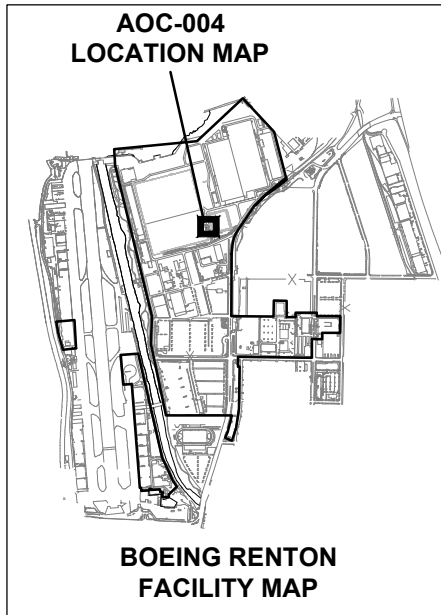
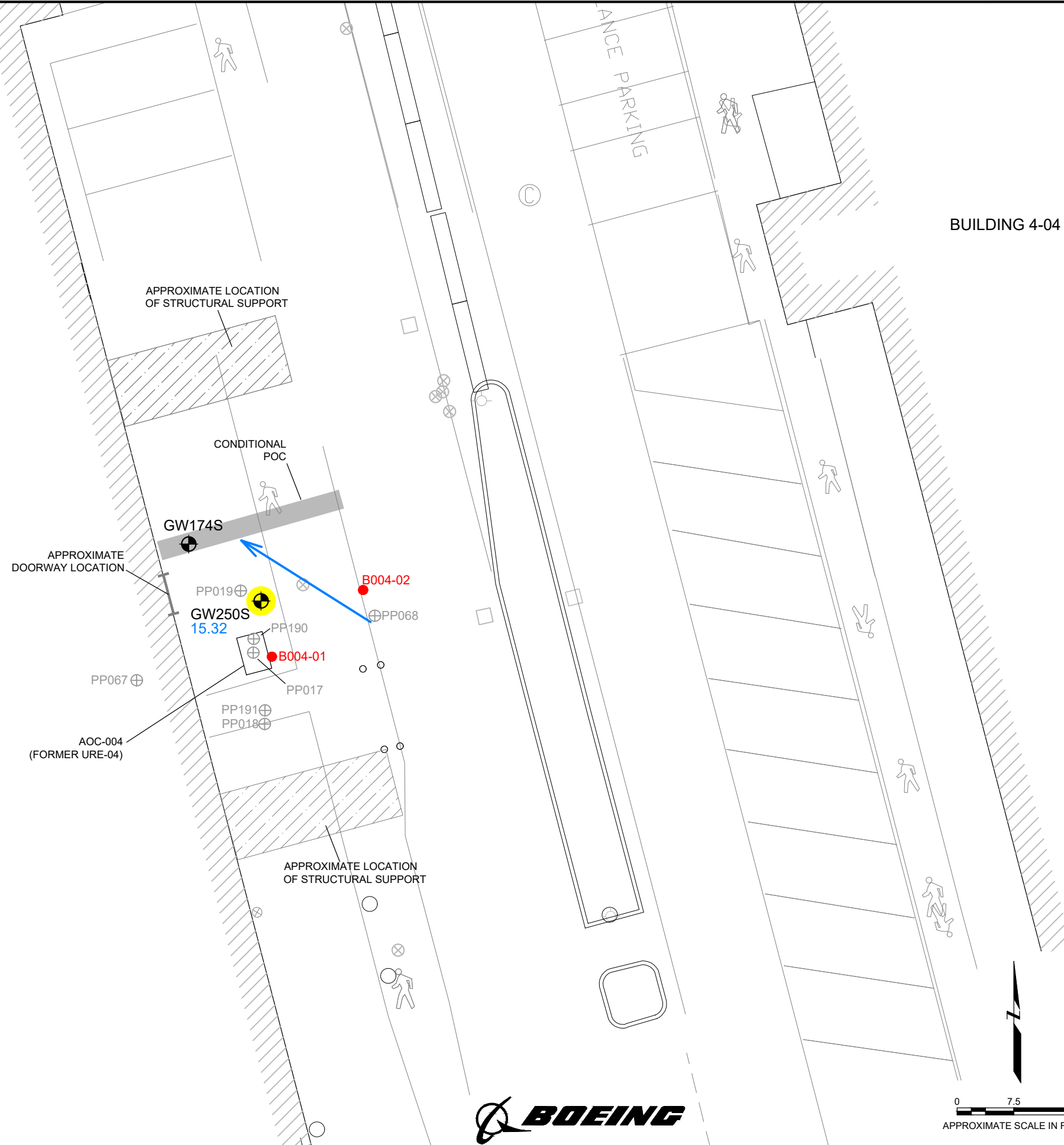
By: AT	Date: 11/04/25	Project No. US0041831.2092
WSP USA Inc.		Figure 29



Plot Date: 11/05/25 - 4:15pm. Plotted by: USAS719374
 Drawing Path: X:\US\SPD\800-POR\ClientData\AMEC US OFFICES\KIRKLAND\PS202020450 - Boeing Renton\dwg_GWMR_Second_Half_2025\ Drawing Name: Figure 30 - AOC-004.dwg

BUILDING 4-21

BUILDING 4-04

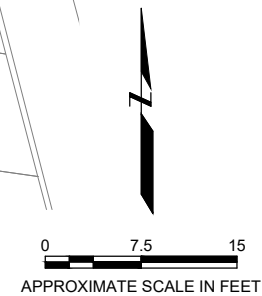


LEGEND

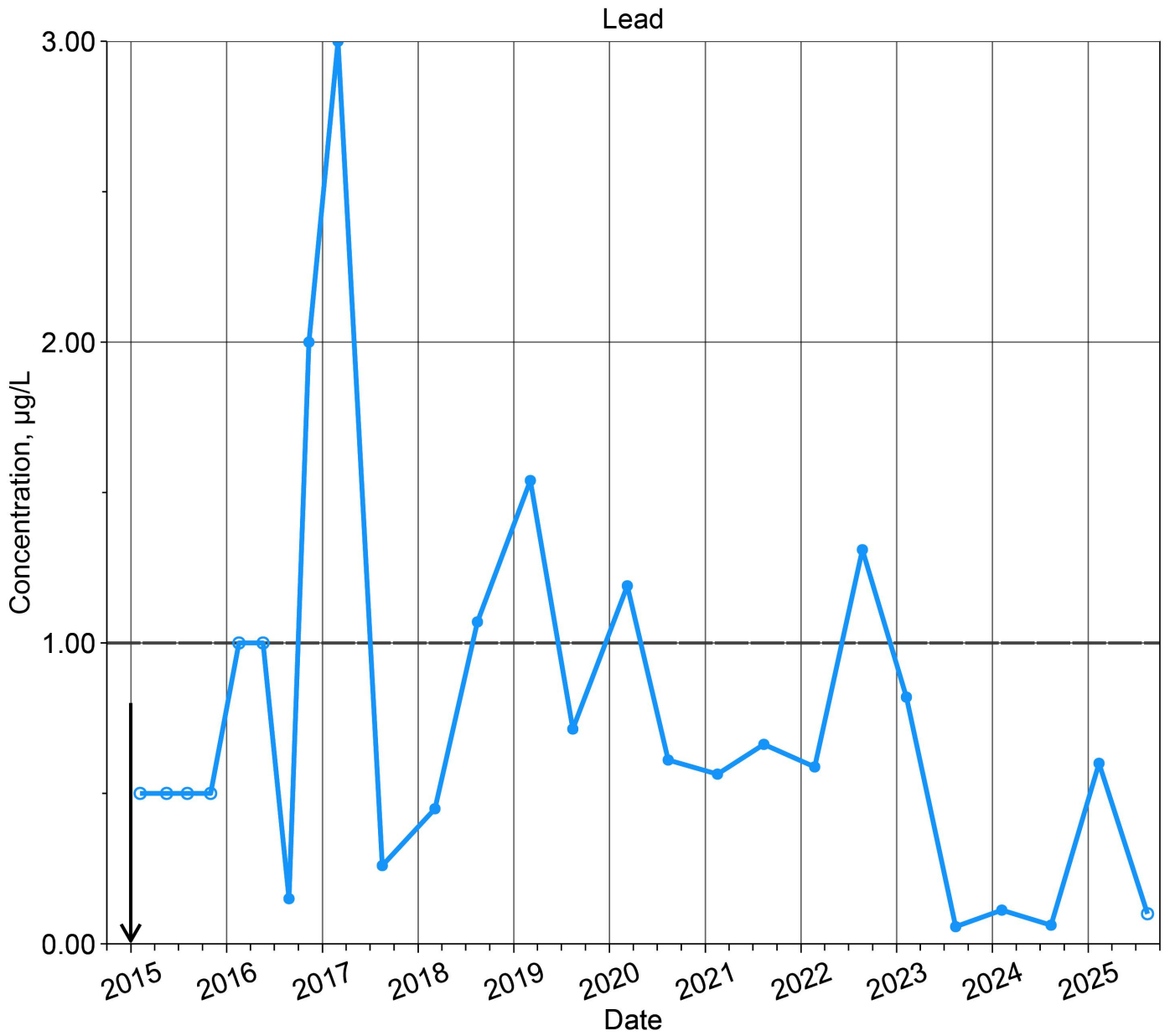
- GW250S 15.32 MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION (NGVD-FEET)
- GENERAL DIRECTION OF GROUNDWATER FLOW BASED ON HISTORICAL INFORMATION
- B004-01 BIOREMEDIATION INJECTION WELL
- PP190 PUSH PROBE SAMPLING LOCATION
- APPROXIMATE PROPERTY LINE
- CONDITIONAL POINT OF COMPLIANCE
- HIGHLIGHTED WELLS INCLUDED IN MONITORING NETWORK

NOTES

1. HORIZONTAL DATUM: WASHINGTON STATE COORDINATE SYSTEM NORTH ZONE NAD83 (91)
 VERTICAL DATUM: NATIONAL GEODETIC VERTICAL DATUM (NGVD1929)
2. BASEMAP COMPILED BY DUANE HARTMAN & ASSOCIATES, INC., DECEMBER 1994.
3. PUSH PROBE LOCATIONS FROM FINAL REMEDIAL INVESTIGATION REPORT (WESTON, 2001).
4. 'S' DESIGNATION INDICATES WELL SCREENED LESS THAN 10 FEET IN DEPTH.



AOC-004 MONITORING WELL LOCATIONS AND GROUNDWATER ELEVATIONS AUGUST 15, 2025 Boeing Renton Facility Renton, Washington		
By: AT	Date: 11/05/25	Project No. US0041831.2092
WSP USA, Inc.		Figure 30



Well — GW250S

ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

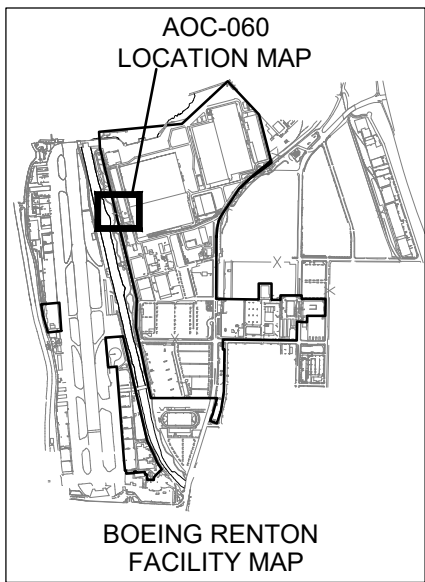
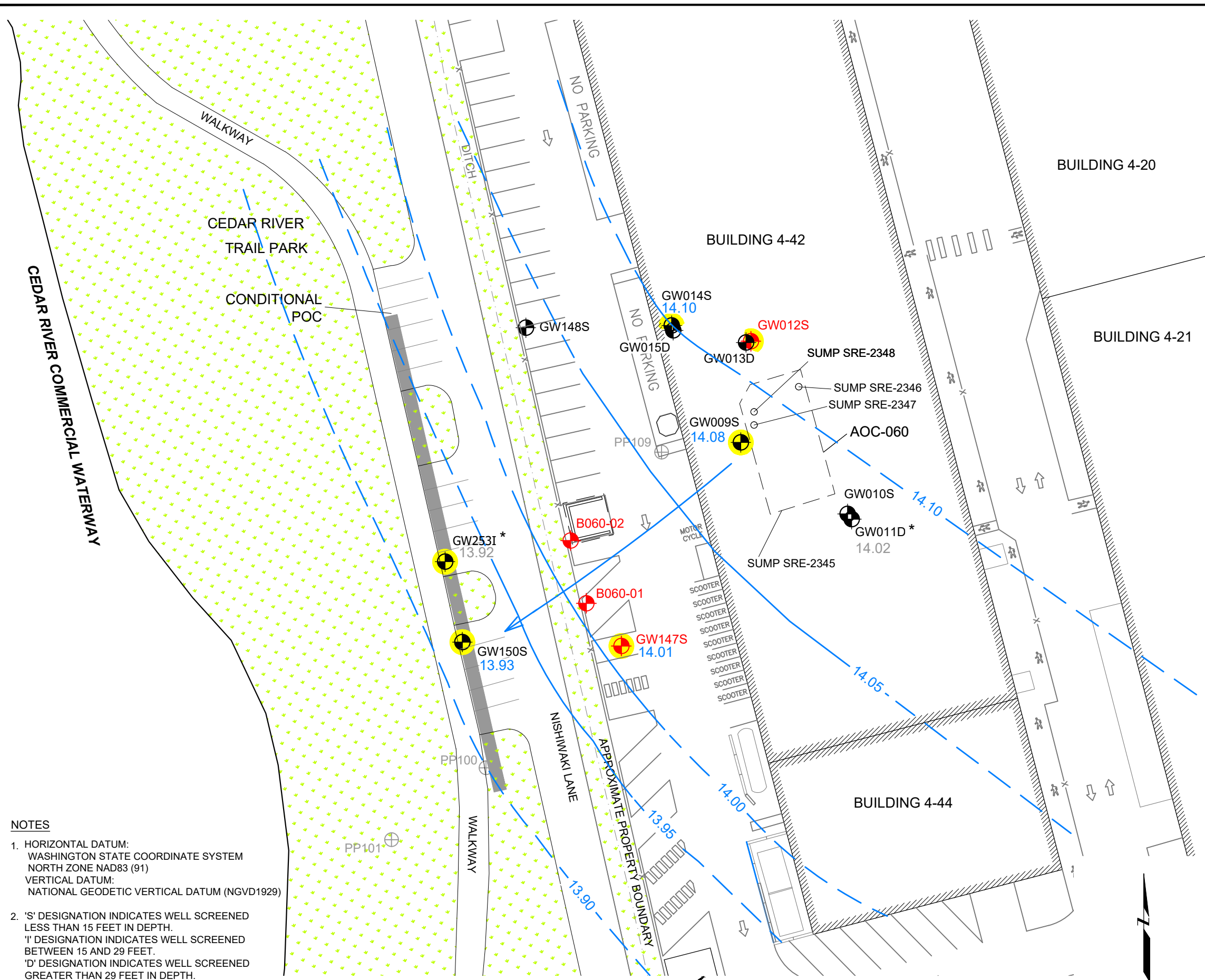
System Action ↓ Compliance Monitoring Start

AOC-004
Lead Trend Plot for Source Area
Well GW250S

By: AT	Date: 11/04/25	Project No. US0041831.2092
WSP USA Inc.		Figure 31



Plot Date: 11/07/25 - 12:08pm, Plotted by: USAS719374
 Drawing Path: X:\USP\800-POR\Clients\AIA\MEC-US OFFICES\KIRKLAND\PS20203450 - Boeing Renton\dwg - GWMR_Second_Half_2025\, Drawing Name: Figure 32 - AOC-060.dwg

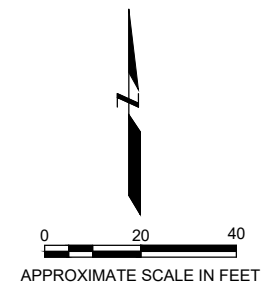


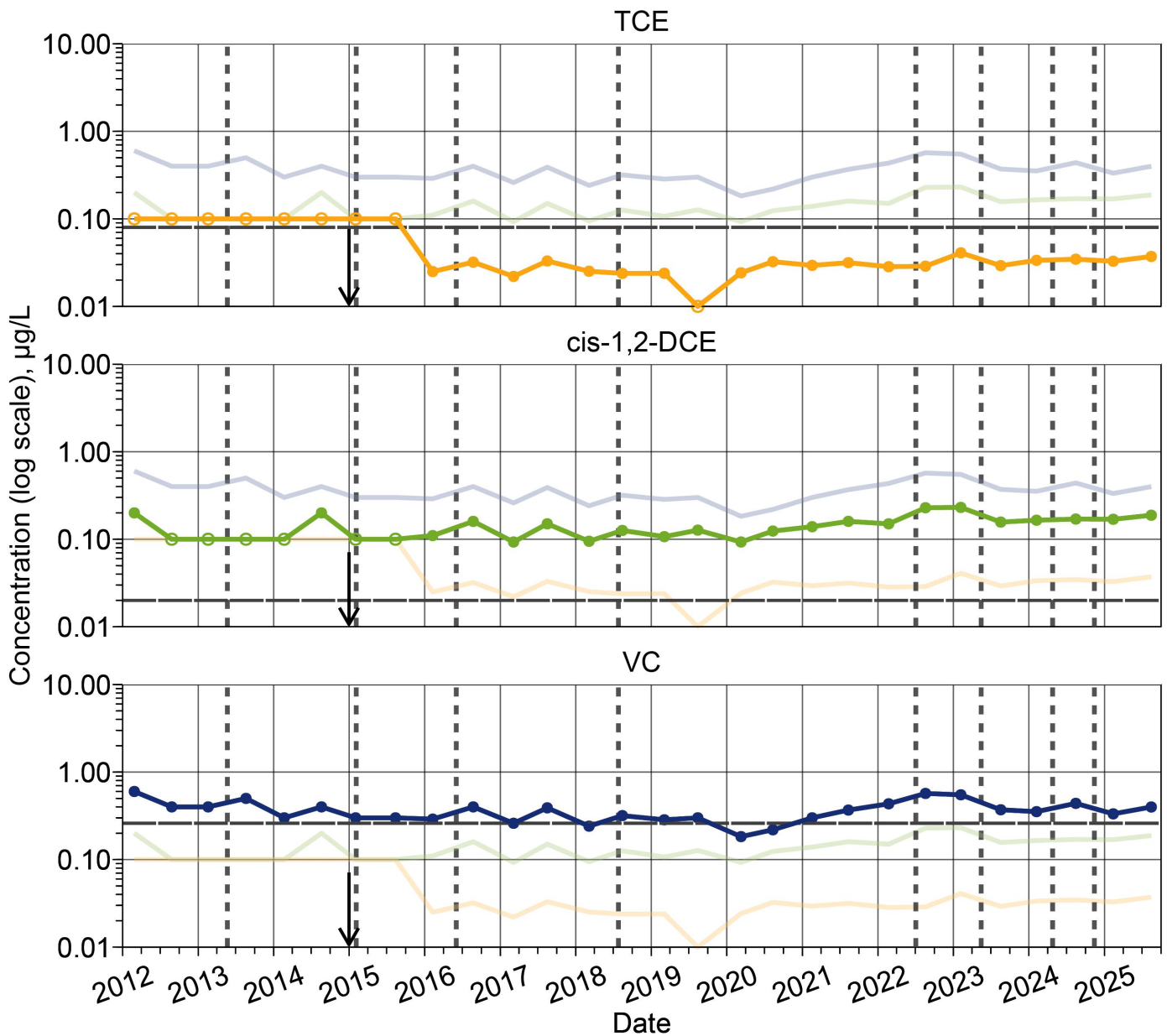
- NOTES**
- HORIZONTAL DATUM:
WASHINGTON STATE COORDINATE SYSTEM
NORTH ZONE NAD83 (91)
VERTICAL DATUM:
NATIONAL GEODETIC VERTICAL DATUM (NGVD1929)
 - 'S' DESIGNATION INDICATES WELL SCREENED LESS THAN 15 FEET IN DEPTH.
'I' DESIGNATION INDICATES WELL SCREENED BETWEEN 15 AND 29 FEET.
'D' DESIGNATION INDICATES WELL SCREENED GREATER THAN 29 FEET IN DEPTH.
 - THE GROUNDWATER FLOW DIRECTION SHOWN IS BASED ON HISTORICAL GROUNDWATER DATA.

- LEGEND**
- GW150S 13.93 MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION (NGVD-FEET)
 - * WELL SCREENED IN LOWER PORTION OF AQUIFER - WATER LEVEL IS NOT USED FOR CONTOURING
 - GW147S BIOREMEDIATION INJECTION WELL AND MONITORING WELL
 - 14.10 GROUNDWATER ELEVATION CONTOUR (IN FEET) (DASHED WHERE INFERRED)
 - GENERAL DIRECTION OF GROUNDWATER FLOW BASED ON HISTORICAL INFORMATION
 - PP109 PUSH PROBE SAMPLING LOCATION
 - APPROXIMATE PROPERTY LINE
 - FENCE LINE
 - CONDITIONAL POINT OF COMPLIANCE
 - HIGHLIGHTED WELLS INCLUDED IN MONITORING NETWORK

**AOC-060
 MONITORING WELL LOCATIONS
 AND GROUNDWATER ELEVATIONS
 AUGUST 15, 2025
 Boeing Renton Facility
 Renton, Washington**

By: AT	Date: 11/07/25	Project No. US0041831.2092
WSP USA, Inc.		Figure 32





Compound — TCE — cis-1,2-DCE — VC

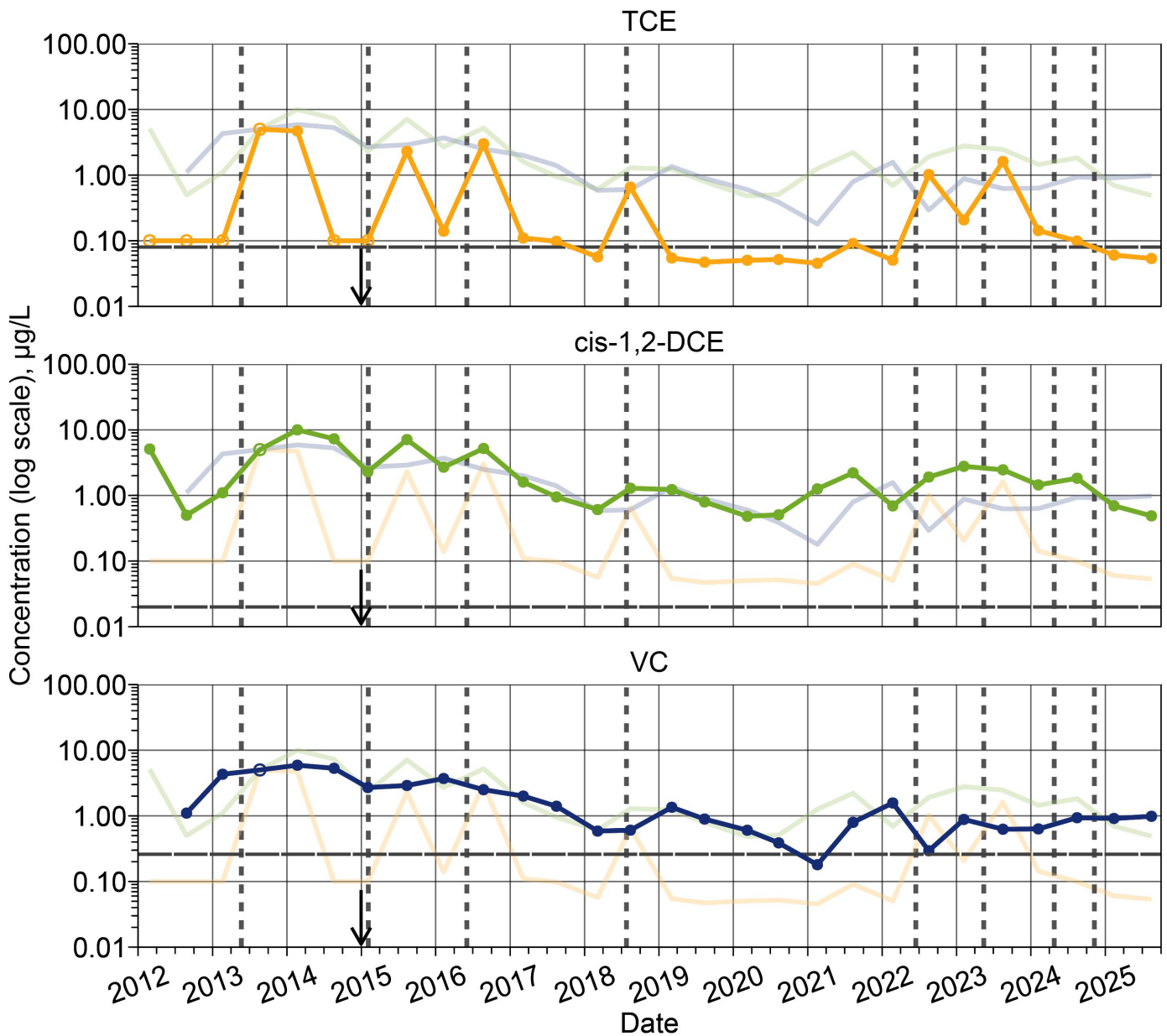
ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ⋮ Substrate Injection ↓ Compliance Monitoring Start

AOC-060
 CVOC Trend Plots for Source Area
 Well GW009S

By: AT	Date: 11/04/25	Project No. US0041831.2092
WSP USA Inc.		Figure 33





Compound —●— TCE —●— cis-1,2-DCE —●— VC

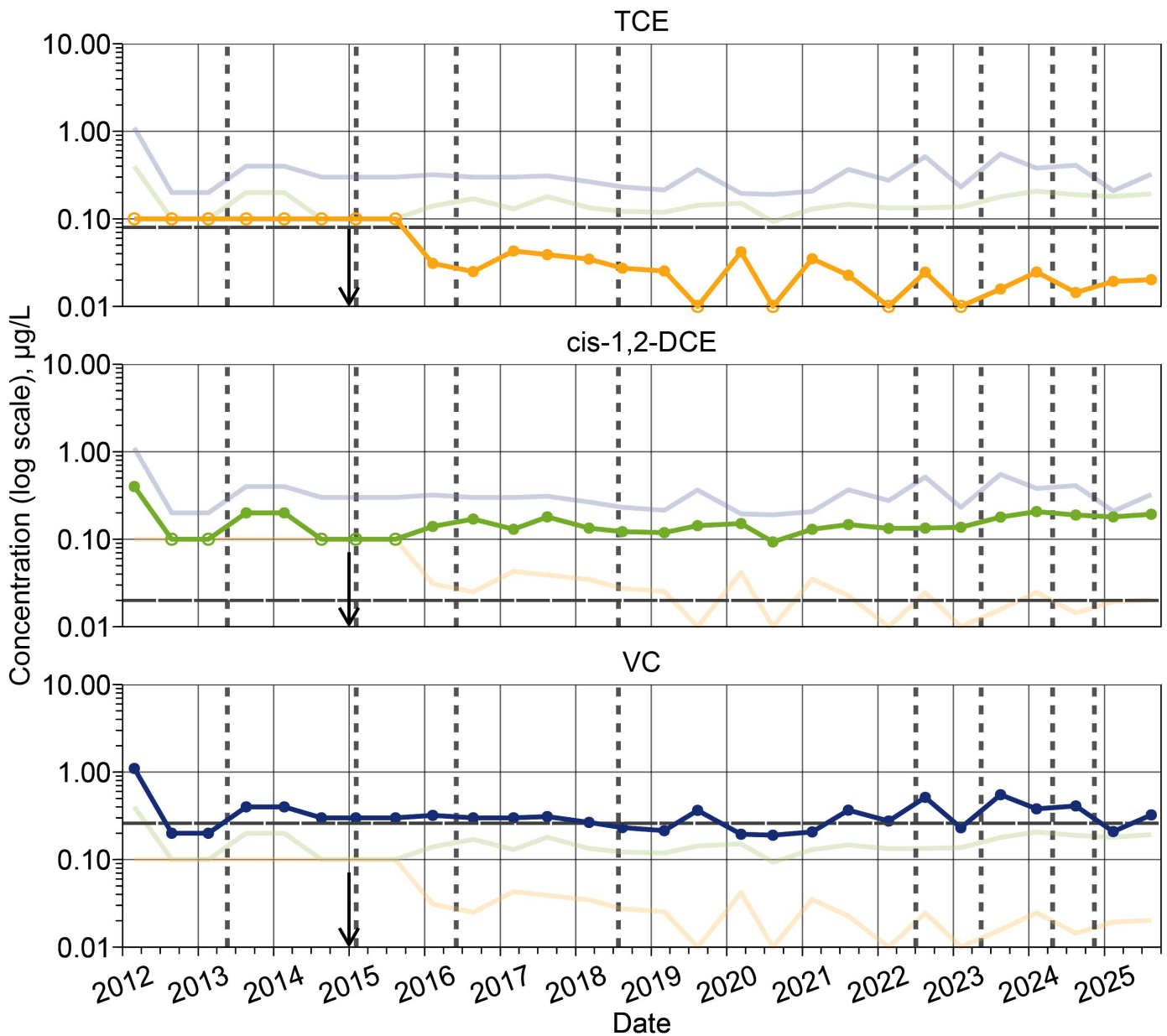
ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ⋮ Substrate Injection ↓ Compliance Monitoring Start

AOC-060
 CVOC Trend Plots for Downgradient Plume Area
 Well GW012S

By: AT	Date: 11/04/25	Project No. US0041831.2092
WSP USA Inc.		Figure 34





Compound — TCE — cis-1,2-DCE — VC

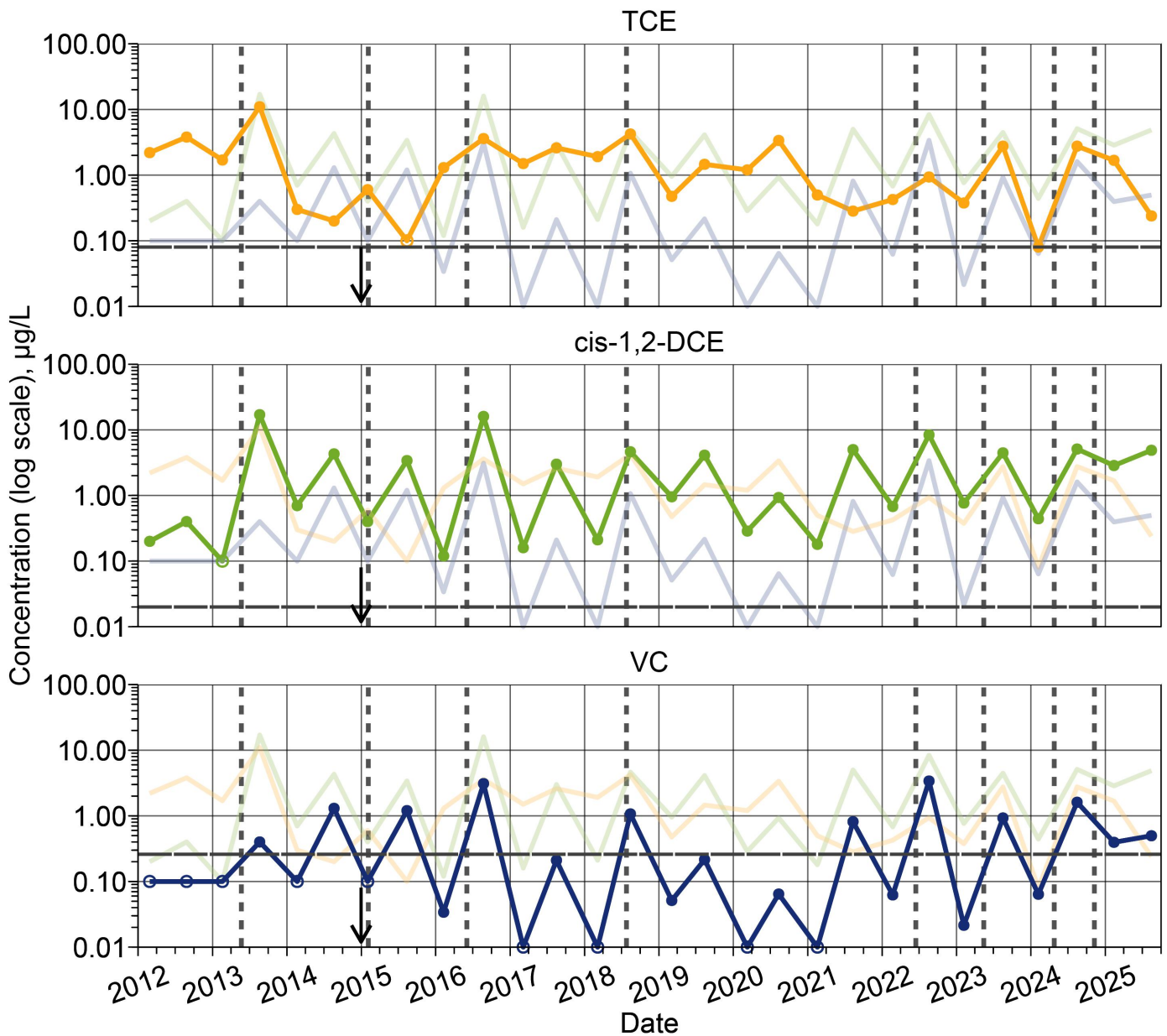
ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ⋮ Substrate Injection ↓ Compliance Monitoring Start

AOC-060
 CVOC Trend Plots for Downgradient Plume Area
 Well GW014S

By: AT	Date: 11/04/25	Project No. US0041831.2092
WSP USA Inc.		Figure 35





Compound — TCE — cis-1,2-DCE — VC

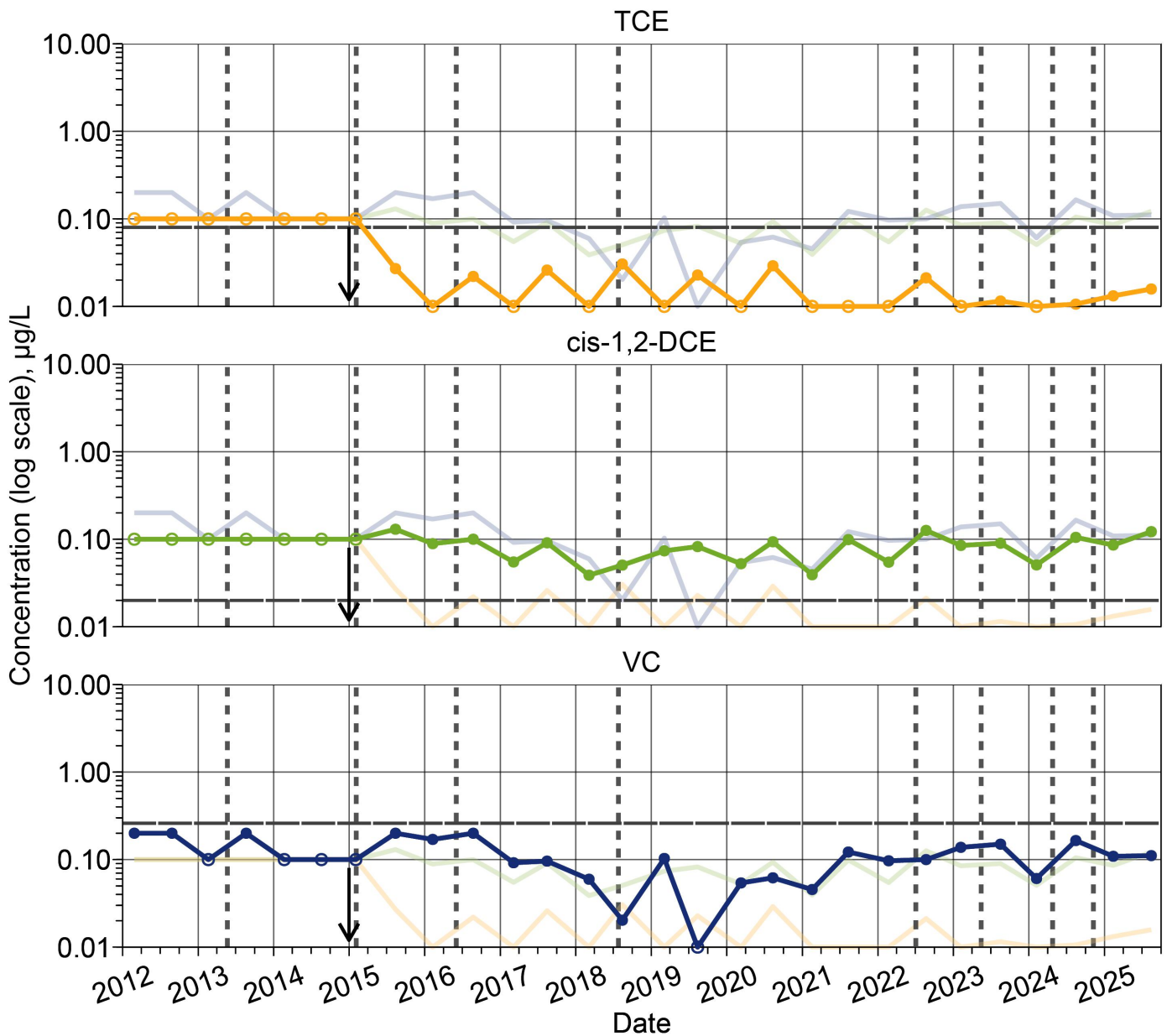
ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ⋮ Substrate Injection ↓ Compliance Monitoring Start

AOC-060
 CVOC Trend Plots for Downgradient Plume Area
 Well GW147S

By: AT	Date: 11/04/25	Project No. US0041831.2092
WSP USA Inc.		Figure 36





Compound — TCE — cis-1,2-DCE — VC

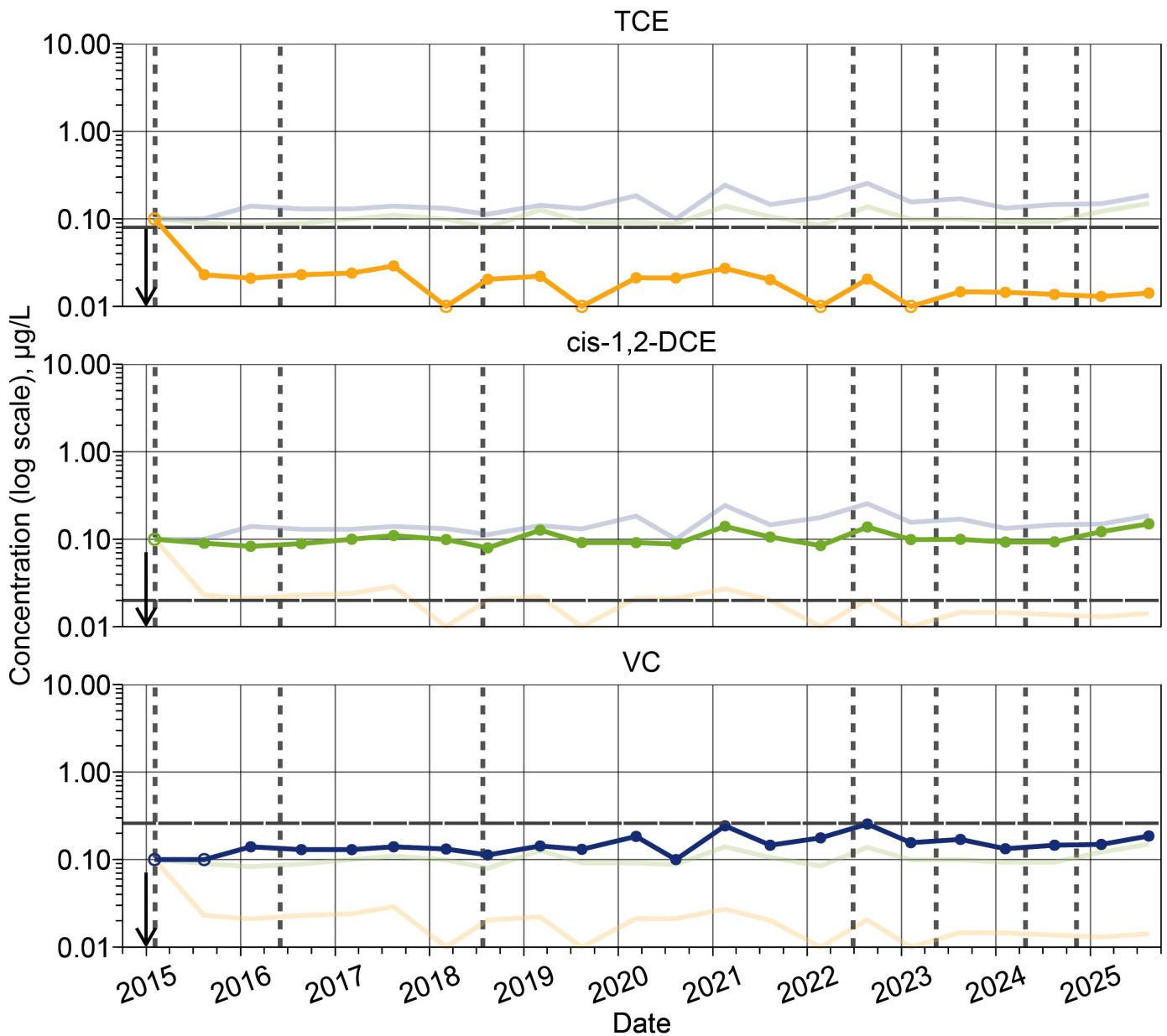
ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ⋮ Substrate Injection ↓ Compliance Monitoring Start

AOC-060
 CVOC Trend Plots for CPOC Area
 Well GW150S



By: AT	Date: 11/04/25	Project No. US0041831.2092
WSP USA Inc.		Figure 37



Compound — TCE — cis-1,2-DCE — VC

ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

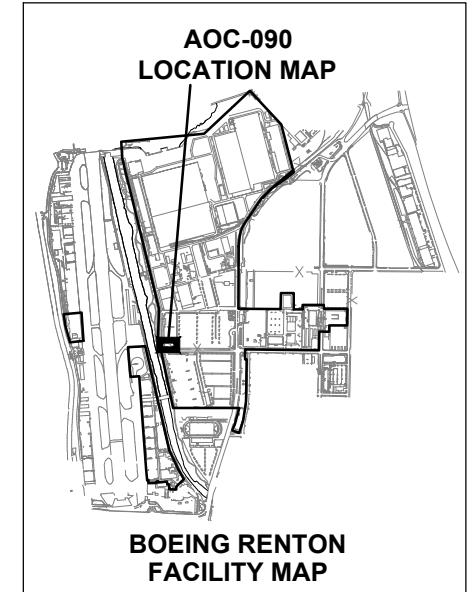
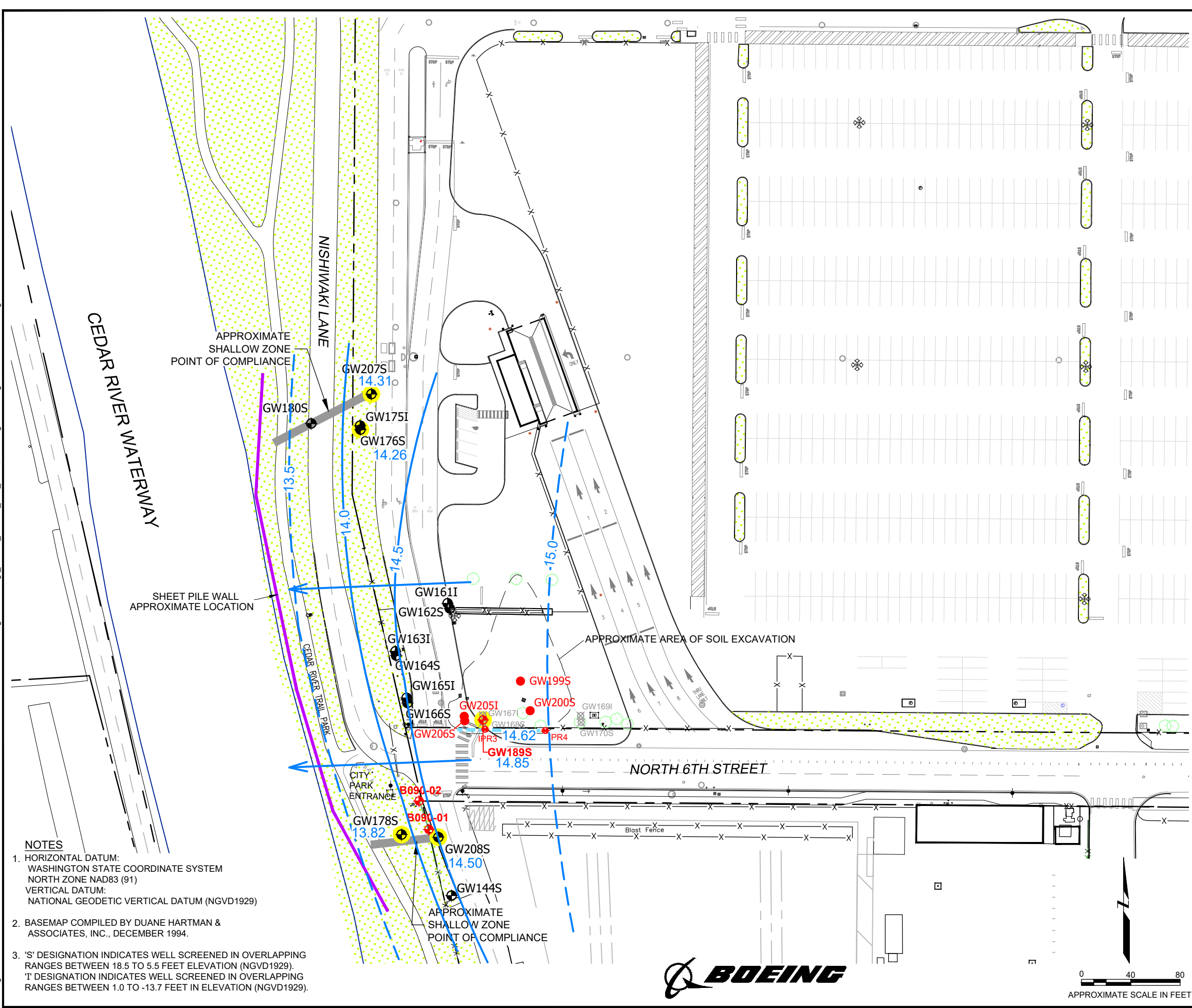
System Action ⋮ Substrate Injection ↓ Compliance Monitoring Start

AOC-060
 CVOC Trend Plots for CPOC Area
 Well GW253I

By: AT	Date: 11/04/25	Project No. US0041831.2092
WSP USA Inc.		Figure 38

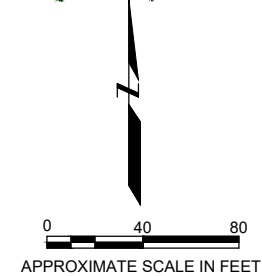


Plot Date: 11/05/25 - 4:32pm. Plotted by: USAS719374
 Drawing Path: X:\US\SPD\800-POR\ClientData\AMEC US OFFICES\KIRKLAND\PS2020\2024\60 - Boeing Renton\dwg - GWMR_Second_Half_2025\, Drawing Name: Figure 99 - AOC-090.dwg

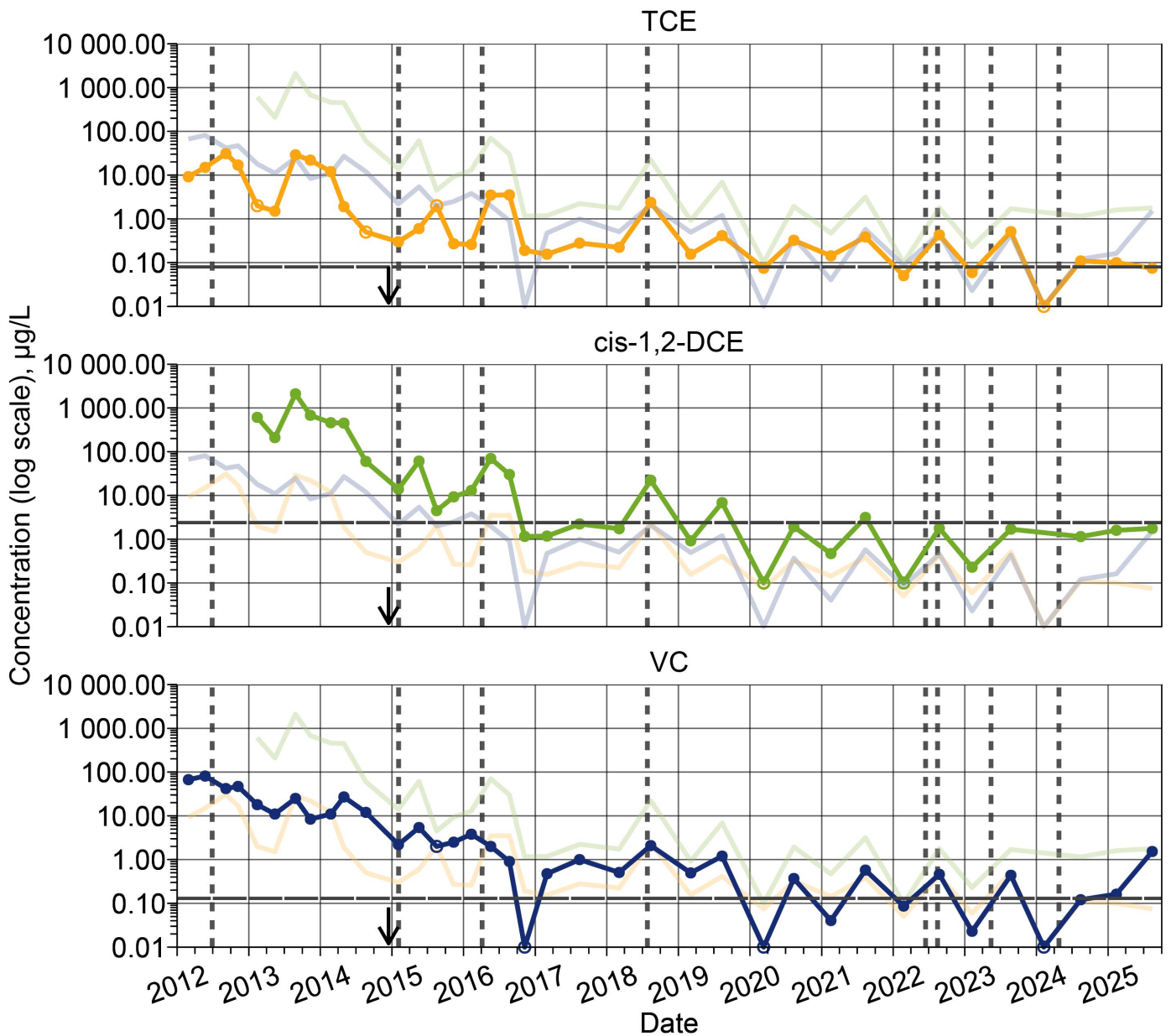


- LEGEND**
- GW178S 13.82 MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION (NGVD- FEET)
 - 15.0 GROUNDWATER ELEVATION CONTOUR (IN FEET) (DASHED WHERE INFERRED)
 - GENERAL DIRECTION OF GROUNDWATER FLOW BASED ON HISTORICAL INFORMATION
 - GW201S EXISTING BIOREMEDIATION SUBSTRATE INJECTION WELL
 - GW189S 14.85 EXISTING BIOREMEDIATION SUBSTRATE INJECTION WELL AND MONITORING WELL GROUNDWATER ELEVATION (NGVD- FEET)
 - IPR4 EXISTING INJECTION PIPE RISER
 - GW170S DECOMMISSIONED MONITORING WELL
 - APPROXIMATE PROPERTY LINE
 - FENCE
 - APPROXIMATE LOCATION OF 4-INCH DIAMETER PERFORATED PIPE
 - CONDITIONAL POINT OF COMPLIANCE
 - APPROXIMATE LOCATION OF SHEET PILE WALL
 - HIGHLIGHTED** WELLS INCLUDED IN MONITORING NETWORK

- NOTES**
- HORIZONTAL DATUM: WASHINGTON STATE COORDINATE SYSTEM NORTH ZONE NAD83 (91)
 VERTICAL DATUM: NATIONAL GEODETIC VERTICAL DATUM (NGVD1929)
 - BASEMAP COMPILED BY DUANE HARTMAN & ASSOCIATES, INC., DECEMBER 1994.
 - 'S' DESIGNATION INDICATES WELL SCREENED IN OVERLAPPING RANGES BETWEEN 18.5 TO 5.5 FEET ELEVATION (NGVD1929).
 'I' DESIGNATION INDICATES WELL SCREENED IN OVERLAPPING RANGES BETWEEN 1.0 TO -13.7 FEET IN ELEVATION (NGVD1929).



AOC-090 MONITORING WELL LOCATIONS AND GROUNDWATER ELEVATIONS AUGUST 14, 2025 Boeing Renton Facility Renton, Washington		
By: AT	Date: 11/05/25	Project No. US0041831.2092
WSP USA, Inc.		Figure 39



Compound — TCE — cis-1,2-DCE — VC

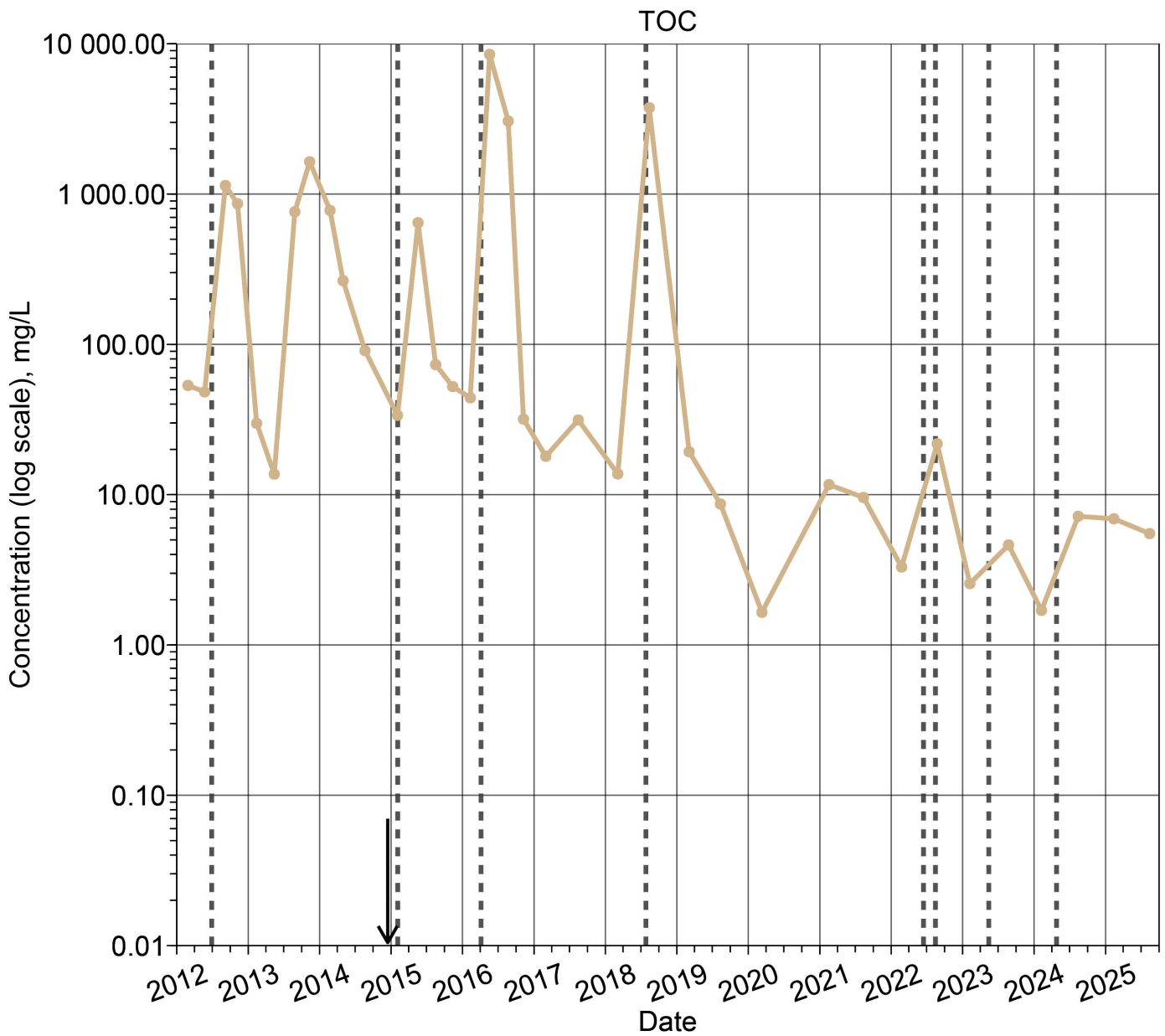
ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ▨ Substrate Injection ↓ Compliance Monitoring Start

AOC-090
 CVOC Trend Plots for Source Area
 Well GW189S

By: AT	Date: 11/04/25	Project No. US0041831.2092
WSP USA Inc.		Figure 40





Compound — TOC

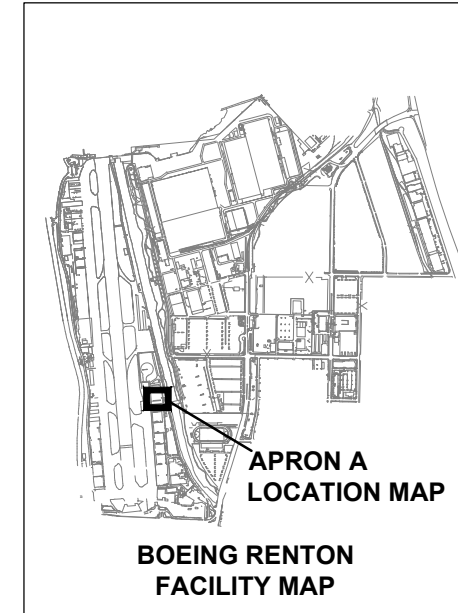
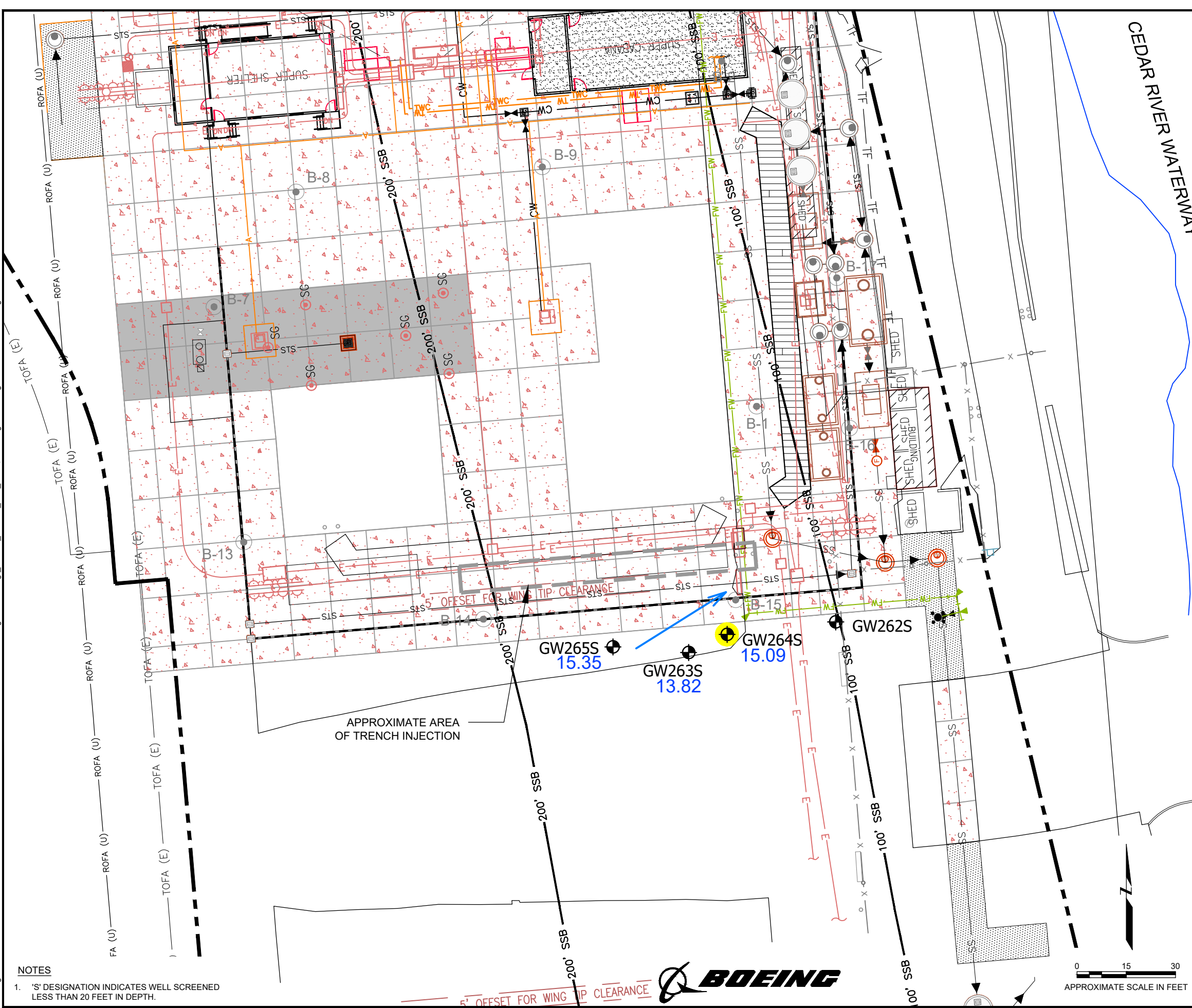
ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ⋮ Substrate Injection ↓ Compliance Monitoring Start

AOC-090 Total Organic Carbon Trend Plots for Source Area Well GW189S		
By: AT	Date: 11/04/25	Project No. US0041831.2092
WSP USA Inc.		Figure 41



Plot Date: 11/05/25 - 4:36pm. Plotted by: USAS719374
 Drawing Path: X:\USUSPD\800-POR\ClientData\AMEC US OFFICES\KIRKLAND\PS20202460 - Boeing Renton.dwg - GWMIR_Second_Half_2025\ Drawing Name: Figure 42 - APRON A.dwg



LEGEND

- GW264S 15.09 MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION (NGVD-FEET)
- GENERAL DIRECTION OF GROUNDWATER FLOW BASED ON HISTORICAL INFORMATION
- B-1 SOIL SAMPLE LOCATION
- APPROXIMATE PROPERTY LINE
- FENCE
- HIGHLIGHTED WELLS INCLUDED IN MONITORING NETWORK

**APRON A AREA
 MONITORING WELL LOCATIONS
 AND GROUNDWATER ELEVATIONS
 AUGUST 15, 2025
 Boeing Renton Facility
 Renton, Washington**

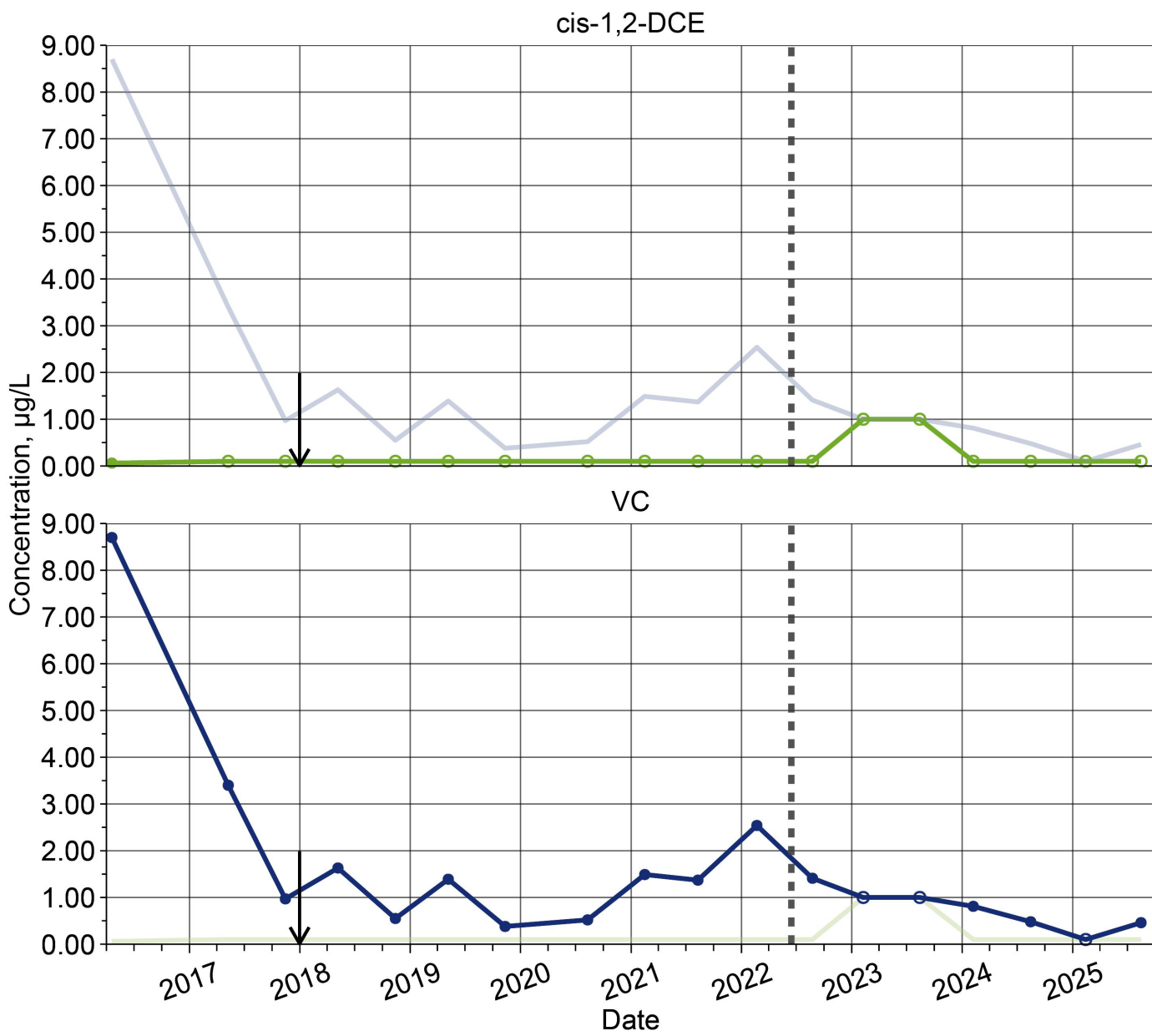
By: AT	Date: 11/05/25	Project No. US0041831.2092
WSP USA, Inc.		Figure 42

NOTES

- 'S' DESIGNATION INDICATES WELL SCREENED LESS THAN 20 FEET IN DEPTH.



0 15 30
 APPROXIMATE SCALE IN FEET



Compound —○— cis-1,2-DCE —●— VC

ND/CUL ○ Non-detect; 1/2 RL — Cleanup Level

System Action ⋮ Substrate Injection ↓ Compliance Monitoring Start

Apron A cis-1,2-Dichloroethene and Vinyl Chloride Trend Plots for Well GW264S		
By: AT	Date: 11/04/25	Project No. US0041831.2092
WSP USA Inc.		Figure 43



TABLES

Table 1: SWMU-168 Groundwater Elevation Data
August 13, 2025
 Boeing Renton Facility, Renton, Washington

Well ID ¹	Screen Interval Depth (feet bgs)	TOC Elevation (feet) ^{2,3}	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet) ²
GW230I	4 to 14	24.86	8.29	16.57

Notes:

1. I = intermediate well.
2. Elevations in feet relative to National Geodetic Vertical Datum of 1929.
3. Monitoring wells have flush mounted monuments, TOC measurement is approximately land surface elevation.

Abbreviations:

bgs = below ground surface
 SWMU = solid waste management unit
 TOC = top of casing

Table 2: SWMU-168 Primary Geochemical Indicators¹
August 13, 2025
Boeing Renton Facility, Renton, Washington

Parameter	Well ID ²
	CPOC Area
	GW230I
Temperature (degrees C)	19.8
Specific Conductivity (µS/cm)	326
Dissolved Oxygen (mg/L)	0.85
pH (standard units)	6.19
Oxidation/Reduction Potential (mV)	-57.2

Notes:

1. Primary geochemical indicators are measured in the field.
2. I = intermediate well.

Abbreviations:

µS/cm = microsiemens per centimeter
 CPOC = conditional point of compliance
 degrees C = degrees Celsius
 mg/L = milligrams per liter
 mV = millivolts
 SWMU = solid waste management unit

Table 3: SWMU-168 Concentrations of Constituents of Concern^{1,2}
August 13, 2025
Boeing Renton Facility, Renton, Washington

Analyte	Cleanup Level ¹	Well ID ²
		CPOC Area
		GW230I
Volatile Organic Compounds (µg/L)		
Vinyl Chloride	0.11	0.0810

Notes:

1. Cleanup levels obtained from Table 2 of the Cleanup Action Plan.
2. I = intermediate well.

Abbreviations:

µg/L = micrograms per liter
 CPOC = conditional point of compliance
 SWMU = solid waste management unit

Table 4: SWMU-172 and SWMU-174 Group Groundwater Elevation Data
August 13, 2025
Boeing Renton Facility, Renton, Washington

Well ID ¹	Screen Interval Depth (feet bgs)	TOC Elevation (feet) ^{3,4}	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet) ³
GW152S	5 to 20 ²	26.98	10.09	16.89
GW153S	5 to 20 ²	27.47	10.95	16.52
GW172S	8 to 18 ²	26.44	10.11	16.33
GW173S	8 to 18 ²	26.51	10.55	15.96
GW226S	5 to 20 ²	26.86	10.45	16.41
GW232S	4 to 14	24.45	7.75	16.7
GW234S	3 to 13	24.95	9.16	15.79
GW235I	15 to 25	24.90	8.33	16.57
GW236S	5 to 15	24.36	8.36	16.00

Notes:

1. S = shallow well; I = intermediate well.
2. Screen intervals are approximate and based on database listings of the screen interval depths for these wells.
3. Elevations in feet relative to National Geodetic Vertical Datum of 1929.
4. Monitoring wells have flush mounted monuments, TOC measurement is approximately land surface elevation.

Abbreviations:

bgs = below ground surface
SWMU = solid waste management unit
TOC = top of casing

Table 5: SWMU-172 and SWMU-174 Group Primary Geochemical Indicators¹

August 15, 2025

Boeing Renton Facility, Renton, Washington

Parameter	Well ID ²									
	Source Area		Downgradient Plume Area				CPOC Area			
	GW152S	GW153S	GW172S	GW172S (field dup.)	GW173S	GW226S	GW232S	GW234S	GW235I	GW236S
Temperature (degrees C)	20.0	17.3	18.0	NA	18.3	18.3	20.6	17.3	15.1	17.3
Specific Conductivity (µS/cm)	259	262	246	NA	286	272	495	235	209	271
Dissolved Oxygen (mg/L)	4.18	3.30	0.83	NA	0.91	0.87	3.85	4.67	5.37	1.14
pH (standard units)	5.59	6.05	6.02	NA	6.31	6.23	6.11	6.16	6.33	6.26
Oxidation/Reduction Potential (mV)	19.6	-5.5	-33.7	NA	-47.3	-54.3	-52.9	-15.9	-26.4	-53.7
Total Organic Carbon (mg/L) ³	13.14	2.13	5.24	0.78	4.90	8.64	7.28	2.22	0.80	2.31

Notes

1. Primary geochemical indicators are measured in the field, with the exception of total organic carbon, which is measured in the laboratory.
2. S = shallow well; I = intermediate well.
3. Data qualifiers are as follows:
 J = the value is estimated.

Abbreviations

µS/cm = microsiemens per centimeter
 CPOC = conditional point of compliance
 degrees C = degrees Celsius
 field dup. = field duplicate
 mg/L = milligrams per liter
 mV = millivolts
 SWMU = solid waste management unit

Table 6: SWMU-172 and SWMU-174 Group Concentrations of Constituents of Concern^{1,2}

August 13, 2025

Boeing Renton Facility, Renton, Washington

Analyte	Cleanup Level ⁴	Well ID ³									
		Source Area		Downgradient Plume Area				CPOC Area			
		GW152S	GW153S	GW172S	GW172S (field dup.)	GW173S	GW226S	GW232S	GW234S	GW235I	GW236S
Volatile Organic Compounds (µg/L)											
<i>cis</i> -1,2-Dichloroethene	0.03	1.41	0.302	0.635	0.340	0.227	0.0288	0.315	0.130	0.343	0.0575
Tetrachloroethene	0.02	0.288	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0328	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Trichloroethene	0.02	0.119	0.239	0.0619	0.0200 U	0.0272	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0215
Vinyl Chloride	0.11	0.364	0.0748	0.156	0.0657	0.201	0.0900	0.378	0.0998	0.0633	0.0200 U
Total Metals (µg/L)											
Arsenic	8.0	66.2	2.57	6.36	0.15 J	5.77	3.27	9.31	0.985	0.163 J	3.15
Copper	3.5	210	0.558	0.493 J	0.391 J	0.697	0.485 J	0.655	0.396 J	0.518	1.18
Lead	1.0	138	0.148 J	0.251	0.200 U	0.346	0.200 U	0.153 J	0.102 J	0.200 U	0.951

Notes:

1. Data qualifiers are as follows:

U = The analyte was not detected at the reporting limit indicated.

J = the value is estimated.

2. **Bolded** values exceed the cleanup levels.

3. S = shallow well; I = intermediate well.

4. Cleanup levels obtained from Table 2 of the Cleanup Action Plan.

Abbreviations:

µg/L = micrograms per liter

CPOC = conditional point of compliance

SWMU = solid waste management unit

Table 7: Building 4-78/79 SWMU/AOC Group Groundwater Elevation Data
August 14, 2025
 Boeing Renton Facility, Renton, Washington

Well ID ¹	Screen Interval Depth (feet bgs)	TOC Elevation (feet) ^{2, 3}	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet) ²
GW031S-R	5 to 25	19.59	5.67	13.92
GW033S	5 to 25	19.49	5.61	13.88
GW034S	5 to 25	19.65	5.75	13.90
GW143S	10 to 15	19.81	5.95	13.86
GW237S	5 to 15	18.85	4.99	13.86
GW240D	22 to 27	19.81	8.49	11.32
GW244S-R	5 to 15	19.42	5.52	13.90

Notes:

1. S = shallow well; D = deep well; R = replaced.
2. Elevations in feet relative to National Geodetic Vertical Datum of 1929.
3. Monitoring wells have flush mounted monuments, TOC measurement is approximately land surface elevation.

Abbreviations:

AOC = area of concern
 bgs = below ground surface
 NA = not available
 SWMU = solid waste management unit
 TOC = top of casing

Table 8: Building 4-78/79 SWMU/AOC Group Primary Geochemical Indicators¹

August 14, 2025

Boeing Renton Facility, Renton, Washington

Parameter	Well ID ²							
	Source Area					CPOC Area		
	GW031S-R	GW033S	GW033S (field dup.)	GW034S	GW244S-R	GW143S	GW237S	GW240D
Temperature (degrees C)	17.1	17.6	NA	18.0	17.5	17.9	19.0	16.4
Specific Conductivity (μS/cm)	500	541	NA	345	671	375	406	227
Dissolved Oxygen (mg/L)	5.06	1.22	NA	1.24	4.79	1.19	4.66	1.27
pH (standard units)	5.92	6.02	NA	6.13	6.08	6.10	6.30	6.32
Oxidation/Reduction Potential (mV)	-46.7	-75.2	NA	-85.9	-62.6	-72.1	-58.8	-88.7
Total Organic Carbon (mg/L) ³	10.35	10.93	11.26	9.59	10.84	8.79	6.21	4.31

Notes

1. Primary geochemical indicators are measured in the field, with the exception of total organic carbon, which is measured in the laboratory.
2. S = shallow well; D = deep well.
3. Data qualifiers are as follows:
 J = the value is estimated.

Abbreviations

μS/cm = microsiemens per centimeter
 AOC = area of concern
 CPOC = conditional point of compliance
 degrees C = degrees Celsius
 field dup. = field duplicate

mg/L = milligrams per liter
 mV = millivolts
 NA = not analyzed
 SWMU = solid waste management unit

Table 9: Building 4-78/79 SWMU/AOC Group Concentrations of Constituents of Concern^{1,2}
August 14, 2025
Boeing Renton Facility, Renton, Washington

Analyte	Cleanup Level ⁴	Well ID ³							
		Source Area					CPOC Area		
		GW031S-R	GW033S	GW033S (field dup.)	GW034S	GW244S-R	GW143S	GW237S	GW240D
Volatile Organic Compounds (µg/L)									
Benzene	0.80	0.200 U	3.70	4.00	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
<i>cis</i> -1,2-Dichloroethene	0.70	0.200 U	0.210	0.230	0.200 U	0.200 U	0.390	0.200 U	0.200 U
Trichloroethene	0.23	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Vinyl Chloride	0.20	0.510	0.540	0.500	0.400	0.340	0.200 U	0.280	0.200 U
Total Petroleum Hydrocarbons (µg/L)									
TPH-G (C7-C12)	800	100.0 U	247	212	100.0 U	100.0 U	100.0 U	301	100.0 U

Notes:

- Data qualifiers are as follows:
 U = The analyte was not detected at the reporting limit indicated.
- Bolded** values exceed the cleanup levels.
- S = shallow well; D = deep well.
- Cleanup levels obtained from Table 2 of the Cleanup Action Plan.

Abbreviations:

µg/L = micrograms per liter
 AOC = area of concern
 CPOC = conditional point of compliance
 field dup. = field duplicate
 SWMU = solid waste management unit
 TPH-G = total petroleum hydrocarbons as gasoline

Table 10: Former Fuel Farm Groundwater Elevation Data
August 15, 2025
 Boeing Renton Facility, Renton, Washington

Well ID ¹	Screen Interval Depth (feet bgs)	TOC Elevation (feet) ^{2, 3}	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet) ²
GW211S	4.8 to 14.7	27.77	11.44	16.33
GW221S	5 to 15	27.93	11.55	16.38
GW224S	5 to 15	27.98	11.81	16.17

Notes

1. S = shallow well
2. Elevations in feet relative to National Geodetic Vertical Datum of 1929.
3. Monitoring wells have flush mounted monuments, TOC measurement is approximately land surface elevation.

Abbreviations

bgs = below ground surface

TOC = top of casing

Table 11: Former Fuel Farm Primary Geochemical Indicators¹
August 15, 2025
Boeing Renton Facility, Renton, Washington

Parameter	Well ID ²		
	CPOC Area		
	GW211S	GW221S	GW224S
Temperature (degrees C)	NS	18	18.8
Specific Conductivity (µS/cm)	NS	237	213
Dissolved Oxygen (mg/L)	NS	2.01	6.16
pH (standard units)	NS	6.17	5.85
Oxidation/Reduction Potential (mV)	NS	-3.9	75.9

Notes

1. Primary geochemical indicators are measured in the field.
2. S = shallow well.

Abbreviations

µS/cm = microsiemens per centimeter
 CPOC = conditional point of compliance
 degrees C = degrees Celsius
 mg/L = milligrams per liter
 mV = millivolts

**Table 12: Former Fuel Farm Concentrations of Constituents of Concern^{1,2}
August 15, 2025
Boeing Renton Facility, Renton, Washington**

Analyte	Cleanup Level ⁴	Well ID ³		
		CPOC Area		
		GW211S	GW221S	GW224S
Total Petroleum Hydrocarbons (mg/L)				
TPH-D (C12-C24)	0.5	NS	1.84	0.865 J
TPH-O (C24-C38)	NE	NS	0.200 U	0.200 U
Jet A (C10-C18)	0.5	NS	1.47	1.48

Notes

- Data qualifiers are as follows:
 U = The analyte was not detected at the reporting limit indicated.
 J = The value is estimated.
- Bolded** values exceed the cleanup levels.
- S = shallow well.
- Cleanup levels obtained from Table 2 of the Cleanup Action Plan.

Abbreviations

CPOC = conditional point of compliance
 field dup. = field duplicate
 mg/L = milligrams per liter
 NE = not established
 NS = not sampled
 NA = not analyzed
 TPH-D = total petroleum hydrocarbons as diesel
 TPH-O = total petroleum hydrocarbons as motor oil

Table 13: AOC-001 and -002 Groundwater Elevation Data

August 11, 2025

Boeing Renton Facility, Renton, Washington

Well ID ¹	Screen Interval Depth (feet bgs)	TOC Elevation (feet) ^{2,3}	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet) ²
GW185S-R	4.5 to 14.5	17.83	3.99	13.84
GW190S-R	3 to 13	17.97	4.07	13.90
GW191D-R	26 to 36	17.94	3.64	14.30
GW192S-R	4.5 to 9.5	17.67	3.83	13.84
GW193S-R	3 to 12.8	18.39	4.51	13.88
GW195S-R	7 to 12	18.45	4.62	13.83
GW196D-R	26 to 36	18.43	4.49	13.94
GW197S-R	7.5 to 12.5	18.34	4.56	13.78
GW213S-R	3 to 13	18.14	4.14	14.00
GW214S-R	3.5 to 13.5	18.27	4.07	14.20
GW215S-R	3 to 13	18.22	4.12	14.10
GW245S-R	3 to 13	18.32	4.56	13.76
GW246S-R	4 to 14	17.85	4.00	13.85

Notes:

1. S = shallow well; D = deep well.
2. Elevations in feet relative to National Geodetic Vertical Datum of 1929.
3. Monitoring wells have flush mounted monuments, TOC measurement is approximately land surface elevation.

Abbreviations:

AOC = area of concern
 bgs = below ground surface
 NA = not applicable
 NM = not measured
 TOC = top of casing

Table 14: AOC-001 and -002 Primary Geochemical Indicators¹
August 11 & 12, 2025
Boeing Renton Facility, Renton, Washington

Parameter	Well ID ²												
	AOC-001 / AOC-002 Cross-Gradient Wells			AOC-001 / AOC-002 Source Area Wells	AOC-001 / AOC-002 Downgradient Plume Wells				AOC-001 / AOC-002 CPOC Wells				
	GW213S-R	GW214S-R	GW215S-R	GW193S-R	GW190S-R	GW191D-R	GW192S-R	GW246S-R	GW185S-R	GW195S-R	GW196D-R	GW197S-R	GW245S-R
Temperature (degrees C)	21.6	21.1	21.2	21.6	24.3	20.1	23.4	23.3	21.7	22.1	19.2	20.8	23.1
Specific Conductivity (µS/cm)	3500	3427	4880	788	794	410	461	773	792	603	431	467.4	662
Dissolved Oxygen (mg/L)	3.14	3.49	4.86	0.32	3.74	0.43	0.43	3.78	4.31	0.42	0.38	0.61	0.45
pH (standard units)	4.64	3.98	4.06	6.15	6.29	6.31	6.29	6.31	6.4	6.23	6.29	8.89	6.97
Oxidation/Reduction Potential (mV)	-10.9	41	33.8	-128.5	-98.8	-107.2	-61.2	-112	-117.6	-111	-98.8	-229.9	-137.3
Total Organic Carbon (mg/L) ³	6686	25820	25750	22.04	13.52	5.77	5.39	12.84	19.63	12.92	8.21	6.24	13.81

Notes

1. Primary geochemical indicators are measured in the field, with the exception of total organic carbon, which is measured in the laboratory.
2. S = shallow well; D = deep well.

Abbreviations

- µS/cm = microsiemens per centimeter
- AOC = area of concern
- CPOC = conditional point of compliance
- degrees C = degrees Celsius
- mg/L = milligrams per liter
- mV = millivolts
- NA = not analyzed

Table 15: AOC -001 and -002 Concentrations of Constituents of Concern¹

August 11 & 12, 2025

Boeing Renton Facility, Renton, Washington

Analyte	Cleanup Level ⁴	Well ID ²												
		AOC-001 / AOC-002 Source Area	AOC-001 / AOC-002 Cross-Gradient Wells			AOC-001 / AOC-002 Downgradient Plume Wells				AOC-001 / AOC-002 CPOC Wells				
		GW1935-R	GW2135-R	GW2145-R	GW2155-R	GW1905-R	GW191D-R	GW1925-R	GW2465-R	GW1855-R	GW1955-R	GW196D-R	GW1975-R	GW2455-R
Volatile Organic Compounds (µg/L)														
Benzene	0.80	0.2 U	0.2 U	0.2 U	0.37	0.2 UJ	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.2 U	0.2 UJ	0.97	0.5
1,1-Dichloroethene	0.057	0.02 U	0.02 U	0.02 U	0.02 U	0.02 UJ	0.02 U	0.02 U	0.02 UJ	0.02 UJ	0.02 U	0.02 UJ	0.0233	0.02 U
cis-1,2-Dichloroethene	0.02	3.77	0.128	0.0746	0.0814	0.188 J	0.0298	2.12	0.224 J	0.265 J	0.0909	0.0428 J	11.2	0.219
Trichloroethene	0.02	0.142	0.0364	0.02 U	0.02 U	0.02 UJ	0.02 U	0.0678	0.02 UJ	0.02 UJ	0.02 U	0.02 UJ	0.161	0.02 U
Vinyl Chloride	0.05	0.575	0.0333	0.02 U	0.02 U	0.0777 J	0.079	1.17	0.106 J	0.144 J	0.103	0.02 UJ	5.00	0.119

Notes:

- Data qualifiers are as follows:
 - U = The analyte was not detected at the reporting limit indicated.
 - J = The value is estimated.
 - UJ = The analyte was not detected at the estimated reporting limit indicated.
- Bolded** values exceed the cleanup levels.
- S = shallow well; I = intermediate well.
- Cleanup levels obtained from Table 2 of the Cleanup Action Plan.

Abbreviations:

µg/L = micrograms per liter
 AOC = area of concern
 CPOC = conditional point of compliance

Table 16: AOC-003 Groundwater Elevation Data
August 12, 2025
 Boeing Renton Facility, Renton, Washington

Well ID ¹	Screen Interval Depth (feet bgs)	TOC Elevation (feet) ^{2,3}	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet) ²
GW188S	3.5 to 13.5	18.78	4.45	14.33
GW247S-R	4 to 14	18.93	4.86	14.07
GW248I	10 to 20	18.78	4.76	14.02
GW249S	4 to 14	18.85	4.07	14.78

Notes:

1. S = shallow well; I = intermediate well.
2. Elevations in feet relative to National Geodetic Vertical Datum of 1929.
3. Monitoring wells have flush mounted monuments, TOC measurement is approximately land surface elevation.

Abbreviations:

AOC = area of concern
 bgs = below ground surface
 NA = not applicable
 NM = not measured
 TOC = top of casing

Table 17: AOC-003 Primary Geochemical Indicators¹
August 12, 2025
Boeing Renton Facility, Renton, Washington

Parameter	AOC-003			
	AOC-003 Source Area	Downgradient Plume Area	AOC-003 CPOC Area	
	GW249S	GW188S	GW247S-R	GW248I
Temperature (degrees C)	20	18.4	20.2	17.9
Specific Conductivity (µS/cm)	395	450	453	560
Dissolved Oxygen (mg/L)	3.94	3.69	0.51	0.51
pH (standard units)	6.21	6.72	6.39	6.40
Oxidation/Reduction Potential (mV)	-63.8	-70.2	-104.1	-96.7
Total Organic Carbon (mg/L) ³	12.52	11.66	11.03	10.18

Notes

1. Primary geochemical indicators are measured in the field, with the exception of total organic carbon, which is measured in the laboratory.
2. S = shallow well; I = intermediate well.

Abbreviations

- µS/cm = microsiemens per centimeter
- AOC = area of concern
- CPOC = conditional point of compliance
- degrees C = degrees Celsius
- mg/L = milligrams per liter
- mV = millivolts
- NA = not analyzed

Table 18: AOC -003 Concentrations of Constituents of Concern¹
August 12, 2025
Boeing Renton Facility, Renton, Washington

Analyte	Cleanup Level ^{4,5}	Well ID ³			
		AOC-003 Source Area	AOC-003 Downgradient Plume Area	AOC-003 CPOC Area	
		GW249S	GW188S	GW247S-R	GW248I
Volatile Organic Compounds (µg/L)					
cis-1,2-Dichloroethene	0.78	0.0632 J	0.0301 J	0.0200 U	0.0200 U
Trichloroethene	0.16	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Tetrachloroethene	0.02	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Vinyl Chloride	0.24	0.338 J	0.198 J	0.519	0.478 J

Notes:

- Data qualifiers are as follows:
 U = The analyte was not detected at the reporting limit indicated.
 J = The value is estimated.
 UJ = The analyte was not detected at the estimated reporting limit indicated.
- Bolded** values exceed the cleanup levels.
- S = shallow well; I = intermediate well.
- Cleanup levels obtained from Table 2 of the Cleanup Action Plan.
- Cleanup levels for cis, 1,2-dichloroethene, trichloroethene, and tetrachloroethene are established for wells in AOC-003 only.

Abbreviations:

µg/L = micrograms per liter
 AOC = area of concern
 CPOC = conditional point of compliance

Table 19: AOC-004 Groundwater Elevation Data
August 15, 2025
 Boeing Renton Facility, Renton, Washington

Well ID ¹	Screen Interval Depth (feet bgs)	TOC Elevation (feet) ^{2,3}	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet) ²
GW250S	4 to 14	19.31	3.99	15.32

Notes:

1. S = shallow well.
2. Elevations in feet relative to National Geodetic Vertical Datum of 1929.
3. Monitoring wells have flush mounted monuments, TOC measurement is approximately land surface elevation.

Abbreviations:

AOC = area of concern
 bgs = below ground surface
 TOC = top of casing

Table 20: AOC-004 Primary Geochemical Indicators¹
August 15, 2025
Boeing Renton Facility, Renton, Washington

Parameter	Well ID ²
	Source Area
	GW250S
Temperature (degrees C)	17.6
Specific Conductivity (µS/cm)	173
Dissolved Oxygen (mg/L)	6.01
pH (standard units)	6.82
Oxidation/Reduction Potential (mV)	-62.8

Notes:

1. Primary geochemical indicators are measured in the field.
2. S = shallow well.

Abbreviations:

µS/cm = microsiemens per centimeter
AOC = area of concern
degrees C = degrees Celsius
mg/L = milligrams per liter
mV = millivolts

**Table 21: AOC-004 Concentrations of Constituents of Concern
August 15, 2025
Boeing Renton Facility, Renton, Washington**

Analyte	Cleanup Level ³	Well ID ²
		Source Area
		GW250S
Metals (µg/L)		
Lead	1	0.200 U

Notes:

1. Data qualifiers are as follows:
U = The analyte was not detected at the reporting limit indicated.
2. S = shallow well.
3. Cleanup levels obtained from Table 2 of the Cleanup Action Plan.

Abbreviations:

AOC = area of concern
µg/L = micrograms per liter

Table 22: AOC-060 Groundwater Elevation Data
August 15, 2025
Boeing Renton Facility, Renton, Washington

Well ID ¹	Screen Interval Depth (feet bgs)	TOC Elevation (feet) ^{2, 3}	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet) ²
GW009S	4.5 to 14.5	19.36	5.28	14.08
GW010S	4.5 to 14.5	19.47	5.47	14.00
GW011D	29 to 39	19.49	5.47	14.02
GW012S	4.5 to 14.5	19.11	4.98	14.13
GW014S	4.5 to 14.5	19.24	5.14	14.10
GW147S	5 to 15	18.73	4.72	14.01
GW150S	5 to 15	19.10	5.17	13.93
GW253I	10 to 20	19.02	5.10	13.92

Notes:

1. S = shallow well; D = deep well; I = intermediate well.
2. Elevations in feet relative to National Geodetic Vertical Datum of 1929.
3. Monitoring wells have flush mounted monuments, TOC measurement is approximately land surface elevation.

Abbreviations:

AOC = area of concern
bgs = below ground surface
TOC = top of casing

Table 23: AOC-060 Primary Geochemical Indicators¹
August 15, 2025
Boeing Renton Facility, Renton, Washington

Parameter	Well ID ²						
	Source Area	Downgradient Plume Area				CPOC Area	
	GW009S	GW012S	GW014S	GW014S (field dup.)	GW147S	GW150S	GW253I
Temperature (degrees C)	20.10	20.90	20.20	NA	20.50	17.90	17.00
Specific Conductivity (µS/cm)	393.00	710.00	496.00	NA	452.00	395.00	446.00
Dissolved Oxygen (mg/L)	5.00	5.35	20.10	NA	5.57	1.77	2.04
pH (standard units)	6.33	6.06	6.27	NA	5.06	6.39	6.37
Oxidation/Reduction Potential (mV)	-55.90	-66.80	-69.60	NA	100.00	-59.50	-83.00
Total Organic Carbon (mg/L)	7.07	8.23	3.74	3.70	102.6	9.56	0.80

Notes:

1. Primary geochemical indicators are measured in the field, with the exception of total organic carbon, which is measured in the laboratory.
2. S = shallow well; I = intermediate well.

Abbreviations:

µS/cm = microsiemens per centimeter
AOC = area of concern
CPOC = conditional point of compliance
degrees C = degrees Celsius

field dup. = field duplicate
mg/L = milligrams per liter
mV = millivolts

Table 24: AOC-060 Concentrations of Constituents of Concern^{1,2}
August 15, 2025
Boeing Renton Facility, Renton, Washington

Analyte	Cleanup Levels ⁴	Well ID ³							
		Source Area	Cross-Gradient Wells				Downgradient Plume Well	CPOC Area	
		GW009S	GW012S	GW014S	GW014S (field dup.)	GW147S	GW150S	GW253I	
Volatile Organic Compounds (µg/L)									
<i>cis</i> -1,2-Dichloroethene	0.08	0.188	0.489	0.193	0.199	4.88	0.122	0.150	
Trichloroethene	0.02	0.0372	0.0537	0.0202	0.0196 J	0.239	0.0158 J	0.0142 J	
Vinyl Chloride	0.26	0.399	0.984	0.324	0.327	0.497	0.111	0.186	

Notes:

- Data qualifiers are as follows:
 J = The value is estimated.
- Bolded** values exceed the cleanup levels.
- S = shallow well; I = intermediate well.
- Cleanup levels obtained from Table 2 of the Cleanup Action Plan.

Abbreviations:

µg/L = micrograms per liter
 AOC = area of concern
 CPOC = conditional point of compliance
 field dup. = field duplicate

Table 25: AOC-090 Groundwater Elevation Data
August 14, 2025
 Boeing Renton Facility, Renton, Washington

Well ID ¹	Screen Interval Depth (feet bgs)	TOC Elevation (feet) ^{2,3}	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet) ²
GW176S	10 to 14.3	20.15	5.89	14.26
GW178S	11.2 to 15.5	22.73	8.91	13.82
GW189S	4 to 14	22.01	7.39	14.62
GW207S	7.3 to 12	21.12	6.81	14.31
GW208S	6.3 to 11	22.45	7.95	14.5

Notes:

1. S = shallow well.
2. Elevations in feet relative to National Geodetic Vertical Datum of 1929.
3. Monitoring wells have flush mounted monuments, TOC measurement is approximately land surface elevation.

Abbreviations:

AOC = area of concern
 bgs = below ground surface
 TOC = top of casing

Table 26: AOC-090 Primary Geochemical Indicators¹
August 14, 2025
Boeing Renton Facility, Renton, Washington

Parameter	Well ID ²				
	Source Area	Downgradient Plume Area	Shallow Zone CPOC Area		
	GW189S ³	GW176S	GW178S	GW207S	GW208S
Temperature (degrees C)	16.9	15.6	16.1	16.1	19.1
Specific Conductivity (µS/cm)	309.0	511.0	468.0	337.0	970.0
Dissolved Oxygen (mg/L)	1.6	4.7	4.7	1.6	4.7
pH (standard units)	6.3	6.2	6.0	6.3	5.9
Oxidation/Reduction Potential (mV)	-52.9	-79.5	-40.7	-92.9	-109.6
Total Organic Carbon (mg/L)	5.51	NA	NA	NA	NA

Notes:

1. Primary geochemical indicators are measured in the field, with the exception of total organic carbon, which is measured in the laboratory.
2. S = shallow well.
3. GW189S is the replacement well for GW168S.

Abbreviations:

µS/cm = microsiemens per centimeter
AOC = area of concern
CPOC = conditional point of compliance
degrees C = degrees Celsius

mg/L = milligrams per liter
mV = millivolts
NA = not analyzed

Table 27: AOC-090 Concentrations of Constituents of Concern^{1, 2}
August 14, 2025
Boeing Renton Facility, Renton, Washington

Analyte	Cleanup Levels ⁴	Well ID ³				
		Source Area	Downgradient Plume Area	Shallow Zone CPOC Area		
		GW189S ⁵	GW176S	GW178S	GW207S	GW208S
Chlorinated Volatile Organic Compounds (µg/L)						
1,1,2,2-Tetrachloroethane	0.17	0.0200 U	NA	NA	NA	NA
1,1,2-Trichloroethane	0.2	0.200 U	NA	NA	NA	NA
1,1-Dichloroethene	0.057	0.0200 U	NA	NA	NA	NA
Acetone	300	5.00 U	NA	NA	NA	NA
Benzene	0.8	0.200 U	NA	NA	NA	NA
Carbon Tetrachloride	0.23	0.200 U	NA	NA	NA	NA
Chloroform	2	0.200 U	NA	NA	NA	NA
cis-1,2-Dichloroethene	2.4	1.77	NA	NA	NA	NA
Methylene Chloride	2	1.00 U	NA	NA	NA	NA
Tetrachloroethene	0.05	0.0200 U	NA	NA	NA	NA
Toluene	75	1.68	NA	NA	NA	NA
trans-1,2-Dichloroethene	53.9	0.200 U	NA	NA	NA	NA
Trichloroethene	0.08	0.0746	NA	NA	NA	NA
Vinyl Chloride	0.13	1.53	0.321	0.463	0.233	0.250
Total Petroleum Hydrocarbons (µg/L)						
TPH-G (C7-C12)	800	150.0 J	NA	NA	NA	NA
TPH-D (C12-C24)	500	144.0 J	NA	NA	NA	NA
TPH-O (C24-C38)	500	200.0 U	NA	NA	NA	NA

Notes:

- Data qualifiers are as follows:
 U = The analyte was not detected at the reporting limit indicated.
 J = The value is estimated.
- Bolded** values exceed the cleanup levels.
- S = shallow well.
- Cleanup levels obtained from Table 2 of the Cleanup Action Plan.
- GW189S is the replacement well for GW168S.

Abbreviations:

µg/L = micrograms per liter
 AOC = area of concern
 CPOC = conditional point of compliance
 NA = not analyzed
 TPH-D = total petroleum hydrocarbons as diesel
 TPH-G = total petroleum hydrocarbons as gasoline
 TPH-O = total petroleum hydrocarbons as motor oil

Table 28: Apron A Groundwater Elevation Data
August 15, 2025
 Boeing Renton Facility, Renton, Washington

Well ID ¹	Screen Interval Depth (feet bgs)	TOC Elevation (feet) ^{2, 3}	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet)
GW263S	8 to 18	21.68	7.86	13.82
GW264S	8 to 18	21.55	6.46	15.09
GW265S	8 to 18	21.64	6.29	15.35
		21.62	6.87	14.75

Notes

1. S = shallow well.
2. Elevations in feet relative to National Geodetic Vertical Datum of 1929.
3. Monitoring wells have flush mounted monuments, TOC measurement is approximately land surface elevation.

Abbreviations

bgs = below ground surface
 NA = not available
 TOC = top of casing

Table 29: Apron A Primary Geochemical Indicators¹
August 15, 2025
Boeing Renton Facility, Renton, Washington

Parameter	Well ID ²
	Source Area
	GW264S
Temperature (degrees C)	17.8
Specific Conductivity (µS/cm)	691
Dissolved Oxygen (mg/L)	1.92
pH (standard units)	5.96
Oxidation/Reduction Potential (mV)	-79.2
Total Organic Carbon (mg/L)	24.69

Notes

1. Primary geochemical indicators are measured in the field, with the exception of total organic carbon, which is measured in the laboratory.
2. S = shallow well.

Abbreviations

µS/cm = microsiemens per centimeter
degrees C = degrees Celsius
mg/L = milligrams per liter
mV = millivolts

Table 30: Apron A Concentrations of Constituents of Concern¹
August 15, 2025
Boeing Renton Facility, Renton, Washington

Analyte	Cleanup Levels	Well ID ²
		GW264S
Volatile Organic Compounds (µg/L)		
cis- 1,2-Dichloroethene	NE	0.200 U
Vinyl Chloride	NE	0.460

Notes

- Data qualifiers are as follows:
 U = The analyte was not detected at the reporting limit indicated.
- S = shallow well.

Abbreviations

µg/L = micrograms per liter
 NE = not established

APPENDIX A

SUMMARY OF GROUNDWATER SAMPLING METHODOLOGY

TABLE A-1: GROUNDWATER COMPLIANCE MONITORING PLAN
Boeing Renton Facility, Renton, Washington

Cleanup Action Area	Monitoring Wells ^{1, 2}					Constituents of Concern ⁴	Analyses ⁵
	Cross-Gradient Wells	Source Area Wells	Downgradient Plume Wells	CPOC Wells	Additional Water Level Monitoring Wells ³		
SWMU-168	NA	NA	NA	GW230I	NA	VC	SW8260D SIM
SWMU-172/ SWMU-174	NA	GW152S and GW153S	GW172S, GW173S, and GW226S	GW232S, GW234S, GW235I, and GW236S	NA	cis -1,2-DCE, PCE, TCE, VC	SW8260D SIM ⁷
						Arsenic, copper, and lead	EPA 6020A
Building 4-78/79 SWMU/AOC Group	NA	GW031S-R, GW033S, GW034S, and GW244S-R	NA	GW143S, GW237S, and GW240D	NA	VC, TCE, cis -1,2-DCE, benzene	SW8260D
						TPH-gasoline	NWTPH-Gx
Former Fuel Farm SWMU/AOC Group	NA	NA	NA	GW211S, GW221S, and GW224S	NA	TPH-jet fuel, TPH-diesel	NWTPH-Dx
AOC-001/ AOC-002 ⁵	GW213S-R, GW214S-R, GW215S-R	GW193S-R	GW190S-R, GW191D-R, GW192S-R, and GW246S- R	GW185S-R, GW195S-R, GW196D-R, GW197S-R, and GW245S-R	NA	Benzene	SW8260D
						TCE, cis -1,2-DCE, 1,1-dichloroethene, VC	SW8260D SIM ⁷
AOC-003	NA	GW249S	GW188S	GW247S-R and GW248I	NA	VC	SW8260D
AOC-004	NA	GW250S	NA	NA	NA	Lead	EPA 6020A
AOC-060	GW012S and GW014S	GW009S	GW147S	GW150S and GW253I	GW010S and GW011D	VC, TCE, cis-1,2-DCE	SW8260D SIM ⁷
AOC-090 ⁸	NA	GW189S	GW176S	GW178S, GW207S, and GW208S	NA	1,1,2-Trichloroethane, acetone, benzene, toluene, carbon tetrachloride, chloroform, cis - 1,2-DCE, trans -1,2-DCE, methylene chloride	SW8260D
						1,1-Dichloroethene, 1,1,2,2-tetrachloroethane, VC, PCE, TCE	SW8260D SIM ⁷
						TPH-gasoline	NWPTH-Gx
						TPH-diesel, TPH-motor oil	NWTPH-Dx
Apron A	NA	GW264S	NA	NA	GW263S, GW265S	cis -1,2-DCE and VC	SW8260D

Notes:

- The EDR presents the groundwater monitoring frequency for each SWMU/AOC. All sites are monitored on a semi-annual basis with sampling events occurring in February and August.
- Groundwater monitoring wells are also monitored for groundwater levels.
- Additional wells are monitored for groundwater levels only.
- In addition to COCs, primary geochemical indicators will be monitored during each regular monitoring event. Geochemical indicators are listed in Table A-2.
- Details of analytical methods are specified in the Quality Assurance Project Plan, which is Appendix E to the Cleanup Action Plan (AMEC, 2012).
- Monitoring wells were abandoned on 11/25/2019 prior to Apron R construction and were replaced upon completion of construction.
- SIM methods will be used if the cleanup level is lower than the reporting limit achieved by the conventional 8021, 8260, or 8270 method. If cleanup levels become higher or if the conventional 8021, 8260, or 8270 methods are updated and able to achieve reporting limits below the cleanup levels, then the conventional method rather than the SIM method will be used.
- GW189S will be sampled for CVOCs and TPH, all other wells will only be sampled for VC.

Abbreviations:

AOC = area of concern	CVOCs = chlorinated volatile organic compounds	PCE = tetrachloroethene	TPH = total petroleum hydrocarbons
cis -1,2-DCE = cis -1,2 dichloroethene	EDR = Engineering Design Report	SIM = selected ion monitoring	trans -1,2-DCE = trans -1,2 dichloroethene
COCs = constituents of concern	EPA = Environmental Protection Agency	SWMU = solid waste management unit	VC = vinyl chloride
CPOC = conditional point of compliance	NA = not applicable	TCE = trichloroethene	

TABLE A-2: MONITORED NATURAL ATTENUATION/MONITORED ATTENUATION PLAN
Boeing Renton Facility, Renton, Washington

Cleanup Action Area	Groundwater Monitoring Wells				Primary Geochemical Parameters ^{1, 2}
	Cross-Gradient Wells	Source Area Wells	Downgradient Plume Wells	CPOC Wells	Indicators
SWMU-168	NA	NA	NA	GW230I	Dissolved oxygen, pH, ORP, temperature, specific conductance
SWMU-172/SWMU-174	NA	GW152S and GW153S	GW172S, GW173S, and GW226S	GW232S, GW234S, GW235I, and GW236S	Dissolved oxygen, pH, ORP, temperature, specific conductance, TOC
Building 4-78/79 SWMU/AOC Group	NA	GW031S-R, GW033S, GW034S, and GW244S-R	NA	GW143S, GW237S, and GW240D	Dissolved oxygen, pH, ORP, temperature, specific conductance, TOC
Former Fuel Farm SWMU/AOC Group	NA	NA	NA	GW211S, GW221S, and GW224S	Dissolved oxygen, pH, ORP, temperature, specific conductance
AOC-001/AOC-002 ³	GW213S-R, GW214S-R, GW215S-R	GW193S-R	GW190S-R, GW191D-R, GW192S-R, and GW246S-R	GW185S-R, GW195S-R, GW196D-R, GW197S-R, and GW245S-R	Dissolved oxygen, pH, ORP, temperature, specific conductance, TOC
AOC-003	NA	GW249S	GW188S	GW247S-R and GW248I	Dissolved oxygen, pH, ORP, temperature, specific conductance, TOC
AOC-004	NA	GW250S	NA	NA	Dissolved oxygen, pH, ORP, temperature, specific conductance
AOC-060	GW012S and GW014S	GW009S	GW147S	GW150S and GW253I	Dissolved oxygen, pH, ORP, temperature, specific conductance, TOC
AOC-090	NA	GW189S	GW176S	GW178S, GW207S, and GW208S	Dissolved oxygen, pH, ORP, temperature, specific conductance, TOC ⁴
Apron A	NA	GW264S	NA	NA	Dissolved oxygen, pH, ORP, temperature, specific conductance, TOC

Notes:

- In addition to COCs listed in Table A-1, primary geochemical indicators will be monitored during each regular monitoring event.
- All primary geochemical indicators except TOC are monitored in the field during sampling. TOC is analyzed in the laboratory following methods specified in the Quality Assurance Project Plan, which is Appendix E to the Cleanup Action Plan (AMEC, 2012).
The primary geochemical indicators differ slightly depending on whether the site is a fuel-related site or a solvent-related site.
At a fuel-related site, TOC is not necessary; at a solvent-related site, TOC is a measure of how much electron donor remains present.
All MNA parameters are measured semiannually in all wells on a wet season/dry season basis.
- Monitoring wells were abandoned on 11/25/2019 prior to Apron R construction and were replaced upon completion of construction.
- TOC will only be analyzed in the groundwater from the source area well (GW189S).

Abbreviations:

AOC = area of concern
COCs = constituents of concern
CPOC = conditional point of compliance
MNA = monitored natural attenuation
NA = not applicable
ORP = oxidation reduction potential
SWMU = solid waste management unit
TOC = total organic carbon



APPENDIX B

FIELD FORMS



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW185S-R

1-Well Integrity

Date	08/11/2025	Time	09:02:24
Inspector Name	Gordon Davies	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	0.09	Did well meet SAP/WP stabilization requirements before sampling?	Yes
Instrument calibration date	08/11/2025	Instrument calibration time	07:00
Date	08/11/2025	Time	09:29:32
Inspector Name	Jacklyn Perkins	Well Permit Number	NBPP 574
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	No
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

Total drawdown	0.11	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/11/2025	Instrument calibration time	07:00
Comments	NA		
Comments	NA		

2-Gauging

Date	08/11/2025	Time	09:02:24
Top of Casing	17.83	PID	NA
Initial DTW (ft)	3.99	Final DTW (ft)	4.08
Groundwater elevation	13.84000	Well Depth (ft)	13.48
Free Product?	No	Well Dry?	N
Date	08/11/2025	Time	09:29:32
Top of Casing	17.83	PID	NA
Initial DTW (ft)	3.99	Final DTW (ft)	4.10
Groundwater elevation	13.84000	Well Depth (ft)	13.48
Free Product?	No	Well Dry?	N
Remarks	NA		
Remarks	Faint to moderate petroleum odor, hazy white color		

3-Wellhead

Date	08/11/2025	Time	09:02:24
Weather Conditions	Cloudy, Sunny, Hot	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	220
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	4
Pump Intake Depth (ft bmp)	9.5	Depth to Water (ft bmp)	3.99
Measured Well Depth (ft bmp)	13.48	Water Column in Well	9.49
Gallons in Well	6.19149	Date	08/11/2025
Time	09:29:32	Weather Conditions	Cloudy, Sunny, Hot
Purge Method	Low-flow Bladder Pump	Purge Volume Units	ml
Purge Rate	200	Water Quality Meter	YSI
Sampling Type	Low Flow	Casing Material	PVC
Casing Diameter (in)	4	Pump Intake Depth (ft bmp)	9.5
Depth to Water (ft bmp)	3.99	Measured Well Depth (ft bmp)	13.48
Water Column in Well	9.49	Gallons in Well	6.19149



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

Remarks NA
 Remarks NA

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/11/25	09:30:03	200	100	100	4.06	6.15	22.8	6.36	0.8	-103.9	7.06	NA
08/11/25	09:35:14	200	1036.666		4.06	5.70	22.4	6.37	0.799	-108.5	4.76	NA
08/11/25	09:39:57	200	943.3333		4.06	5.32	22.2	6.39	0.789	-111.5	3.39	NA
08/11/25	09:43:41	200	746.6666		4.06	4.97	22.0	6.39	0.788	-112.9	4.25	NA
08/11/25	09:47:51	200	833.3333		4.06	4.73	21.9	6.40	0.789	-114.6	4.10	NA
08/11/25	09:52:24	200	910.0		4.08	4.49	21.7	6.40	0.792	-116.5	4.39	NA
08/11/25	09:57:41	200	1056.666		4.08	4.31	21.7	6.40	0.792	-117.6	4.14	Faint petroleum odor

5-Sample

Date	<u>08/11/2025</u>	Time	<u>09:02:24</u>
Did Well Dewater?	<u>No</u>	Location of disposed purge water	<u>Boeing RTN wastewater treatment plant</u>
How were samples preserved?	<u>Cooler with regular ice</u>	How were samples transported to lab?	<u>Sampler drop-off at lab</u>
Sample Date	<u>08/11/2025</u>	Sample Time	<u>10:00</u>
Sample ID	<u>RGW185S-R-20250811</u>	Duplicate Sample ID	<u>NA</u>
Dup Sample Time	<u>NA</u>	Sampler's Name	<u>Gordon Davies</u>
No. of Containers	<u>6</u>	Matrix	<u>Water</u>
Filtered?	<u>NO</u>	Bottles	<u>5x HCl VOA, 1x 250mL H2SO4 amber</u>
Date	<u>08/11/2025</u>	Time	<u>09:29:33</u>
Did Well Dewater?	<u>No</u>	Location of disposed purge water	<u>Boeing RTN wastewater treatment plant</u>
How were samples preserved?	<u>Cooler with regular ice</u>	How were samples transported to lab?	<u>Sampler drop-off at lab</u>
Sample Date	<u>8/11/2025</u>	Sample Time	<u>10:00</u>
Sample ID	<u>RGW185S-R-20250811</u>	Duplicate Sample ID	<u>NA</u>
Dup Sample Time	<u>NA</u>	Sampler's Name	<u>Gordon Davies</u>
No. of Containers	<u>6</u>	Matrix	<u>Water</u>
Filtered?	<u>NO</u>	Bottles	<u>5x HCl VOA, 1x 250mL H2SO4 amber</u>
Remarks	<u>NA</u>		



Detailed Low Flow Sampling Info

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

Project No: US0041831.2092

Remarks

NA



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW190S-R

1-Well Integrity

Date	08/11/2025	Time	12:21:01
Inspector Name	Jacklyn Perkins	Well Permit Number	BPQ-882
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	0.09	Did well meet SAP/WP stabilization requirements before sampling?	Yes
Instrument calibration date	08/11/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/11/2025	Time	12:21:01
Top of Casing	17.97	PID	NA
Initial DTW (ft)	4.02	Final DTW (ft)	4.11
Groundwater elevation	13.95	Well Depth (ft)	13.07
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/11/2025	Time	12:21:02
Weather Conditions	Cloudy, Sunny, Hot	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	220
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	4
Pump Intake Depth (ft bmp)	8	Depth to Water (ft bmp)	4.02
Measured Well Depth (ft bmp)	13.07	Water Column in Well	
Gallons in Well			
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/11/25	12:33:01	220	110	110	4.07	6.50	24.8	6.21	0.846	-47.6	41.9	Hazy, slightly yellow
08/11/25	12:37:11	220	916.6666		4.11	5.51	23.7	6.26	0.864	-79.7	11.3	NA
08/11/25	12:41:07	220	865.3333		4.10	4.90	23.8	6.28	0.84	-90.0	9.36	NA
08/11/25	12:45:04	220	869.0		4.13	4.45	24.0	6.29	0.822	-92.6	10.8	NA
08/11/25	12:49:33	220	986.3333		4.11	4.11	24.2	6.29	0.811	-96.2	8.52	NA
08/11/25	12:53:09	220	792.0		4.13	3.91	24.2	6.29	0.81	-97.4	8.24	NA
08/11/25	12:57:51	220	1034.0		4.11	3.74	24.3	6.29	0.794	-98.8	9.99	NA

5-Sample

Date	08/11/2025	Time	12:21:02
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	08/11/2025	Sample Time	13:00
Sample ID	RGW190S-R-20250811	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	6	Matrix	Water
Filtered?	NO	Bottles	5x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW191D-R

1-Well Integrity

Date	08/11/2025	Time	15:34:49
Inspector Name	Jacklyn Perkins	Well Permit Number	BPQ-820
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	0	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/11/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/11/2025	Time	15:34:49
Top of Casing	17.94	PID	NA
Initial DTW (ft)	3.61	Final DTW (ft)	3.61
Groundwater elevation	14.33000	Well Depth (ft)	34.02
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/12/2025	Time	10:10:55
Weather Conditions	Sunny, Hot	Purge Method	Low-flow Bladder Pump
Purge Volume Units	ml	Purge Rate	200
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	4
Pump Intake Depth (ft bmp)	31	Depth to Water (ft bmp)	3.61
Measured Well Depth (ft bmp)	34.02	Water Column in Well	30.41000
Gallons in Well	19.84016		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/12/25	10:11:32	200		800	3.63	1.77	18.6	6.47	0.428	-98.2	11.4	NA
08/12/25	10:15:10	200			3.61	1.05	18.6	6.42	0.422	-104.2	19.8	NA
08/12/25	10:19:12	200			3.61	0.80	18.7	6.41	0.420	-107.4	12.0	NA
08/12/25	10:23:30	200			3.61	0.66	19.9	6.36	0.419	-107.1	5.71	NA
08/12/25	10:27:59	200			3.61	0.57	19.9	6.32	0.419	-106.5	6.09	NA
08/12/25	10:32:49	200			3.61	0.52	19.9	6.31	0.418	-106.8	6.69	NA
08/12/25	10:36:40	200			3.61	0.46	20.0	6.3	0.413	-108.0	6.01	NA
08/12/25	10:40:31	200			3.61	0.43	20.1	6.31	0.410	-107.2	5.37	NA

5-Sample

Date	08/12/2025	Time	10:10:30
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/12/2025	Sample Time	10:45
Sample ID	RGW191D-R-20250812	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	6	Matrix	Water
Filtered?	NO	Bottles	5x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW192S-R

1-Well Integrity

Date	08/12/2025	Time	10:55:48
Inspector Name	Jacklyn Perkins	Well Permit Number	BPQ-821
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	Yes
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	2.06	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/12/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/11/2025	Time	14:28:38
Top of Casing	17.67	PID	NA
Initial DTW (ft)	3.91	Final DTW (ft)	5.97
Groundwater elevation	13.76000	Well Depth (ft)	9.44
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/11/2025	Time	14:28:38
Weather Conditions	Cloudy, Sunny, Hot	Purge Method	Low-flow Bladder Pump
Purge Volume Units	ml	Purge Rate	180
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	4
Pump Intake Depth (ft bmp)	7	Depth to Water (ft bmp)	3.91
Measured Well Depth (ft bmp)	9.44	Water Column in Well	5.53000
Gallons in Well	3.60789		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/12/25	10:59:28	180	125	125	4.27	1.88	22.7	6.25	0.475	-47.5	22.4	NA
08/12/25	11:03:38	180			4.51	1.04	22.8	6.26	0.471	-59.2	19.4	NA
08/19/25	11:07:44	180			4.57	0.74	23.8	6.27	0.471	-64.4	19.5	NA
08/12/25	11:11:12	180			4.60	0.66	23.1	6.26	0.472	-63.8	20.7	NA
08/12/25	11:15:06	180			4.87	0.53	22.9	6.27	0.465	-64.3	20.5	NA
08/12/25	11:19:00	180			4.96	0.50	23.6	6.28	0.465	-64.2	18.1	NA
08/12/25	11:23:05	180			5.18	0.44	23.3	6.29	0.461	-62.7	16.5	NA
08/12/25	11:27:01	180			5.43	0.43	23.4	6.29	0.461	-61.2	15.7	NA

5-Sample

Date	08/12/2025	Time	11:35
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/12/2025	Sample Time	11:35
Sample ID	RGW192S-R-20250812	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	6	Matrix	Water
Filtered?	NO	Bottles	5x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW193S-R

1-Well Integrity

Date	08/11/2025	Time	12:26:32
Inspector Name	Gordon Davies	Well Permit Number	BPQ-818
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	0	Did well meet SAP/WP stabilization requirements before sampling?	Yes
Instrument calibration date	08/11/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/11/2025	Time	12:26:32
Top of Casing	18.39	PID	NA
Initial DTW (ft)	4.54	Final DTW (ft)	4.54
Groundwater elevation	13.85000	Well Depth (ft)	12.29
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/11/2025	Time	12:26:32
Weather Conditions	Cloudy, Sunny, Hot	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	250
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	4
Pump Intake Depth (ft bmp)	7.9	Depth to Water (ft bmp)	4.54
Measured Well Depth (ft bmp)	12.29	Water Column in Well	7.75000
Gallons in Well	5.05627		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/11/25	12:28:02	250		1000	4.54	1.47	21.5	6.13	0.887	-119.1	17.0	NA
08/11/25	12:32:30	250			4.53	0.73	22.5	6.16	0.841	-127.7	14.6	NA
08/11/25	12:36:49	250			4.55	0.53	21.6	6.17	0.822	-128.3	16.0	NA
08/11/25	12:41:11	250			4.54	0.44	21.5	6.17	0.818	-129.4	12.7	NA
08/11/25	12:45:09	250			4.54	0.38	21.6	6.16	0.808	-129.8	12.1	Sheen in purge water
08/11/25	12:50:03	250			4.54	0.34	21.6	6.16	0.8	-129.6	13.4	NA
08/11/25	12:54:53	250			4.54	0.32	21.6	6.15	0.788	-128.5	10.3	NA

5-Sample

Date	08/11/2025	Time	12:55:40
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/11/2025	Sample Time	12:55
Sample ID	RGW193S-R-20250811	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	6	Matrix	Water
Filtered?	NO	Bottles	5x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW195S-R

1-Well Integrity

Date	08/11/2025	Time	14:29:53
Inspector Name	Gordon Davies	Well Permit Number	BPQ-824
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	0.07	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/11/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/11/2025	Time	14:29:53
Top of Casing	18.45	PID	NA
Initial DTW (ft)	4.57	Final DTW (ft)	4.64
Groundwater elevation	13.88000	Well Depth (ft)	11.68
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/11/2025	Time	14:29:53
Weather Conditions	Cloudy, Sunny, Hot	Purge Method	Low-flow Bladder Pump
Purge Volume Units	ml	Purge Rate	220
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	4
Pump Intake Depth (ft bmp)	9.5	Depth to Water (ft bmp)	4.57
Measured Well Depth (ft bmp)	11.68	Water Column in Well	7.11000
Gallons in Well	4.63872		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/11/25	14:30:38	250		1000	4.62	1.66	23.4	6.21	0.575	-92.4	20.8	NA
08/11/25	14:34:44	220			4.63	1.40	23.3	6.22	0.573	-99.2	13.7	NA
08/11/25	14:38:55	220			4.64	0.82	22.5	6.23	0.574	-103.0	15.4	NA
08/11/25	14:42:27	220			4.64	0.69	22.4	6.23	0.581	-106.1	16	NA
08/11/25	14:46:56	220			4.64	0.56	22.2	6.23	0.591	-108.2	15.2	NA
08/11/25	14:50:43	220			4.64	0.49	22.2	6.23	0.595	-109.2	13.3	NA
08/11/25	14:54:09	220			4.64	0.45	22.0	6.23	0.597	-109.9	11.7	NA
08/11/25	14:58:21	220			4.64	0.42	22.1	6.23	0.603	-111.0	11.0	NA

5-Sample

Date	08/11/2025	Time	14:29:53
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/11/2025	Sample Time	15:05
Sample ID	RGW195S-R-20250811	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	6	Matrix	Water
Filtered?	NO	Bottles	5x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW196D-R

1-Well Integrity

Date	08/11/2025	Time	15:15:02
Inspector Name	Gordon Davies	Well Permit Number	BPQ-825
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	0.06	Did well meet SAP/WP stabilization requirements before sampling?	Yes
Instrument calibration date	08/11/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/11/2025	Time	15:15:02
Top of Casing	18.43	PID	NA
Initial DTW (ft)	4.46	Final DTW (ft)	4.52
Groundwater elevation	13.97000	Well Depth (ft)	34.34
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/11/2025	Time	15:15:02
Weather Conditions	Cloudy, Sunny, Hot	Purge Method	Low-flow Bladder Pump
Purge Volume Units	ml	Purge Rate	220
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	4
Pump Intake Depth (ft bmp)	31	Depth to Water (ft bmp)	4.46
Measured Well Depth (ft bmp)	34.34	Water Column in Well	29.88000
Gallons in Well	19.49438		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/11/25	15:20:35	220		880	4.49	1.68	19.6	6.24	0.443	-84.9	5.58	NA
08/11/25	15:27:15	220			4.48	0.74	19.4	6.25	0.441	-88.5	3.64	NA
08/11/25	15:32:59	220			4.50	0.57	19.4	6.19	0.439	-89.4	2.77	NA
08/11/25	15:39:15	220			4.49	0.50	19.3	6.23	0.437	-92.5	5.12	NA
08/11/25	15:43:30	220			4.50	0.45	19.3	6.26	0.433	-95.4	6.11	NA
08/11/25	15:47:56	220			4.51	0.41	19.3	6.28	0.431	-97.5	5.87	NA
08/11/25	15:52:12	220			4.51	0.38	19.2	6.29	0.431	-98.8	2.40	NA

5-Sample

Date	08/11/2025	Time	15:55:28
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/11/2025	Sample Time	15:55
Sample ID	RGW196D-R-20250811	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	6	Matrix	Water
Filtered?	NO	Bottles	5x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW197S-R

1-Well Integrity

Date	08/11/2025	Time	11:25:36
Inspector Name	Gordon Davies	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	0.3	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/11/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/11/2025	Time	11:25:29
Top of Casing	18.34	PID	NA
Initial DTW (ft)	4.25	Final DTW (ft)	4.55
Groundwater elevation	14.09	Well Depth (ft)	12.15
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/11/2025	Time	11:27:29
Weather Conditions	Cloudy, Sunny, Hot	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	220
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	4
Pump Intake Depth (ft bmp)	10	Depth to Water (ft bmp)	4.25
Measured Well Depth (ft bmp)	12.15	Water Column in Well	7.9
Gallons in Well	5.15414		
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
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 98057
 Client: The Boeing Company

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4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/11/25	11:28:50	220		880	4.50	2.47	22.0	9.15	0.452	-189.3	17.7	NA
08/11/25	11:32:05	220			4.55	1.52	20.9	9.18	0.45	-200.4	11.5	NA
08/11/25	11:36:36	220			4.55	1.38	22.1	9.11	0.446	-205.0	11.3	Hydroca odor
08/11/25	11:39:22	220			4.55	1.08	20.9	9.06	0.452	-209.5	9.33	NA
08/11/25	11:42:18	220			4.55	0.94	20.8	9.02	0.454	-213.8	9.49	NA
08/11/25	11:45:22	220			4.55	0.95	20.9	8.97	0.457	-215.8	6.74	NA
08/11/25	11:48:15	220			4.55	0.75	20.9	8.94	0.46	-220.2	6.23	NA
08/11/25	11:51:31	220			4.55	0.67	20.9	8.90	0.466	-226.4	5.41	NA
08/11/25	11:54:43	220			4.55	0.61	20.8	8.89	0.468	-229.9	4.80	NA

5-Sample

Date	08/11/2025	Time	11:55:02
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/11/2025	Sample Time	11:55
Sample ID	RGW-197S-R-20250811	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	6	Matrix	Water
Filtered?	NO	Bottles	5x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW213S-R

1-Well Integrity

Date	08/12/2025	Time	11:59:01
Inspector Name	Jacklyn Perkins	Well Permit Number	BPQ-829
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	No
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	2.15	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/12/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/12/2025	Time	11:59:01
Top of Casing	18.14	PID	NA
Initial DTW (ft)	4.15	Final DTW (ft)	6.30
Groundwater elevation	13.99	Well Depth (ft)	12.89
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/12/2025	Time	11:59:01
Weather Conditions	Sunny, Hot	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	220
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	4
Pump Intake Depth (ft bmp)	8	Depth to Water (ft bmp)	4.15
Measured Well Depth (ft bmp)	12.89	Water Column in Well	8.74
Gallons in Well	5.70217		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/12/25	12:04:52	220		880	4.29	4.66	22.0	4.62	3.577	2.3	42.7	NA
08/12/25	12:07:49	220			4.52	4.26	21.8	4.64	3.556	-6.6	13.1	NA
08/12/25	12:11:33	220			4.71	3.91	21.7	4.64	3.539	-10.2	12.0	NA
08/12/25	12:15:29	220			4.98	3.63	21.8	4.64	3.350	-11.4	15.3	NA
08/12/25	12:19:18	220			5.22	3.48	21.7	4.64	3.521	-11.2	21.8	NA
08/12/25	12:23:51	220			5.41	3.34	21.6	4.64	3.511	-10.8	22.8	NA
08/12/25	12:27:14	220			5.72	3.24	21.6	4.64	3.506	-10.6	28.3	NA
08/12/25	12:31:05	220			5.92	3.14	21.6	4.64	3.500	-10.9	26.6	NA

5-Sample

Date	08/12/2025	Time	11:59:02
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/12/2025	Sample Time	12:30
Sample ID	RGW213S-R-20250812	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Jacklyn Perkins
No. of Containers	6	Matrix	Water
Filtered?	NO	Bottles	5x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW214S-R

1-Well Integrity

Date	08/12/2025	Time	10:48:46
Inspector Name	Jacklyn Perkins	Well Permit Number	BPQ-828
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	No
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	0.87	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/12/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/12/2025	Time	10:48:46
Top of Casing	18.27	PID	NA
Initial DTW (ft)	4.07	Final DTW (ft)	4.94
Groundwater elevation	14.2	Well Depth (ft)	13.35
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/12/2025	Time	10:48:46
Weather Conditions	Sunny, Hot	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	220
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	4
Pump Intake Depth (ft bmp)	8	Depth to Water (ft bmp)	4.07
Measured Well Depth (ft bmp)	13.35	Water Column in Well	9.28
Gallons in Well	6.05448		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/12/25	10:52:09	220		880	4.08	5.12	22.1	3.98	3.594	57.1	75.6	NA
08/12/25	10:56:36	220			4.30	4.61	21.5	3.98	3.586	4.82	23.4	NA
08/12/25	11:00:04	220			4.35	4.28	21.3	3.99	3.548	46.6	17.8	NA
08/12/25	11:04:06	220			4.42	4.05	21.2	3.99	3.516	46.7	18.8	NA
08/12/25	11:08:07	220			4.51	3.89	21.2	3.99	3.492	46.5	18.7	NA
08/12/25	11:12:03	220			4.60	3.71	21.2	3.99	3.472	45.8	18.6	NA
08/12/25	11:17:20	220			4.69	3.58	21.2	3.98	3.442	43.7	19.1	NA
08/12/25	11:20:42	220			4.74	3.49	21.1	3.98	3.427	41.0	19.7	NA

5-Sample

Date	08/12/2025	Time	10:48:46
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/12/2025	Sample Time	11:30
Sample ID	RGW214S-R-20250812	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Jacklyn Perkins
No. of Containers	6	Matrix	Water
Filtered?	NO	Bottles	5x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW215S-R

1-Well Integrity

Date	08/12/2025	Time	09:44:01
Inspector Name	Jacklyn Perkins	Well Permit Number	BPQ-830
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	No
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	Yes
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	1.16	Did well meet SAP/WP stabilization requirements before sampling?	Yes
Instrument calibration date	08/12/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/12/2025	Time	09:44:01
Top of Casing	18.22	PID	NA
Initial DTW (ft)	4.11	Final DTW (ft)	5.27
Groundwater elevation	14.11	Well Depth (ft)	12.88
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/12/2025	Time	09:44:01
Weather Conditions	Sunny, Hot	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	220
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	4
Pump Intake Depth (ft bmp)	8	Depth to Water (ft bmp)	4.11
Measured Well Depth (ft bmp)	12.88	Water Column in Well	8.77
Gallons in Well	5.72174		
Remarks	Moderate to strong sharp foul odor		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/12/25	09:46:38	220	110	110	4.26	7.92	20.9	4.0	4.766	60.0	23.0	Yellowis tinge, sharp foul odor
08/12/25	09:50:22	220	821.3333		4.38	7.05	20.6	4.0	4.935	80.4	12.8	NA
08/12/25	09:54:18	220	865.3333		4.41	6.35	20.7	4.03	4.941	58.1	14.0	NA
08/12/25	09:58:19	200	803.3333		4.80	5.83	20.7	4.04	4.937	46.4	15.5	NA
08/12/25	10:02:20	200	803.3333		4.93	5.34	20.8	4.05	4.919	41.5	16.6	NA
08/12/25	10:06:05	200	750.0		5.12	5.15	21.1	4.06	4.909	37.9	16.5	NA
08/12/25	10:10:20	200			5.16	4.86	21.2	4.06	4.880	33.8	17.7	NA

5-Sample

Date	08/12/2025	Time	09:44:01
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/12/2025	Sample Time	10:10
Sample ID	RGW215S-R-20250812	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Jacklyn Perkins
No. of Containers	6	Matrix	Water
Filtered?	NO	Bottles	5x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW245S-R

1-Well Integrity

Date	08/12/2025	Time	08:54:08
Inspector Name	Jacklyn Perkins	Well Permit Number	BPQ-826
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	0.1	Did well meet SAP/WP stabilization requirements before sampling?	Yes
Instrument calibration date	08/12/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/12/2025	Time	08:54:25
Top of Casing	18.32	PID	NA
Initial DTW (ft)	4.51	Final DTW (ft)	4.61
Groundwater elevation	13.81	Well Depth (ft)	12.59
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/12/2025	Time	08:54:38
Weather Conditions	Sunny, Hot	Purge Method	Low-flow Bladder Pump
Purge Volume Units	ml	Purge Rate	100
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	4
Pump Intake Depth (ft bmp)	8	Depth to Water (ft bmp)	4.51
Measured Well Depth (ft bmp)	12.59	Water Column in Well	8.08
Gallons in Well	5.27157		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/12/25	09:09:56	100		400	4.59	1.28	22.5	6.82	0.682	-101.6	14.8	NA
08/12/25	09:13:50	100			4.61	0.77	22.4	6.91	0.674	-122.2	9.47	Hydroca odor
08/12/25	09:17:37	100			4.61	0.59	22.6	6.91	0.671	-128.0	9.56	NA
08/12/25	09:22:51	100			4.61	0.58	22.7	6.91	0.671	-128.0	13.8	NA
08/12/25	09:26:17	100			4.61	0.54	23.1	6.90	0.673	-128.1	10.9	NA
08/12/25	09:31:32	100			4.61	0.48	23.2	6.94	0.667	-133.3	9.7	NA
08/12/25	09:34:55	100			4.61	0.45	23.1	6.97	0.662	-137.3	9.8	NA

5-Sample

Date	08/12/2025	Time	09:35:13
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/12/2025	Sample Time	09:35
Sample ID	RGW245S-R-20250812	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	6	Matrix	Water
Filtered?	NO	Bottles	5x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW246S-R

1-Well Integrity

Date	08/11/2025	Time	11:25:43
Inspector Name	Jacklyn Perkins	Well Permit Number	BPQ-823
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	No
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	No	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	0.04	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/11/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/11/2025	Time	11:25:43
Top of Casing	17.85	PID	NA
Initial DTW (ft)	3.97	Final DTW (ft)	4.01
Groundwater elevation	13.88	Well Depth (ft)	13.25
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/11/2025	Time	11:25:43
Weather Conditions	Cloudy, Sunny, Hot	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	220
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	4
Pump Intake Depth (ft bmp)	9	Depth to Water (ft bmp)	3.97
Measured Well Depth (ft bmp)	13.25	Water Column in Well	9.28
Gallons in Well	6.05448		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/11/25	11:29:08	225	225	225	4.01	7.05	23.4	6.35	0.836	-97.3	2.87	NA
08/11/25	11:33:14	225	922.5		4.03	5.93	23.1	6.33	0.793	-102.0	3.22	NA
08/11/25	11:37:05	225	866.25		4.01	5.31	23.1	6.32	0.788	-104.5	4.46	NA
08/11/25	11:41:04	225	896.25		4.03	4.80	23.4	6.32	0.785	-107.0	3.87	NA
08/11/25	11:45:19	225	956.25		4.03	4.41	23.3	6.31	0.783	-108.8	3.90	NA
08/11/25	11:49:04	225	843.75		4.04	4.15	23.3	6.31	0.78	-109.9	3.44	NA
08/11/25	11:54:35	225	1241.25		4.03	3.84	23.3	6.31	0.775	-111.2	3.68	NA
08/11/25	11:58:12	225	813.75		4.03	3.78	23.3	6.31	0.773	-112.0	2.63	NA

5-Sample

Date	08/11/2025	Time	12:00:36
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/11/2025	Sample Time	12:00
Sample ID	RGW246S-R-20250811	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	6	Matrix	Water
Filtered?	NO	Bottles	5x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW188S

1-Well Integrity

Date	08/12/2025	Time	15:41:22
Inspector Name	Jacklyn Perkins	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	No
Well Cap Present	Yes	Inside Measurement Point	No
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	Yes
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	QED Bladder Pump
Total drawdown	0.23	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/12/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/12/2025	Time	15:41:22
Top of Casing	18.78	PID	NA
Initial DTW (ft)	4.36	Final DTW (ft)	4.59
Groundwater elevation	14.42000	Well Depth (ft)	13.95
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/12/2025	Time	15:41:22
Weather Conditions	Sunny, Hot	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	220
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	8.5	Depth to Water (ft bmp)	4.36
Measured Well Depth (ft bmp)	13.95	Water Column in Well	9.59
Gallons in Well	1.56418		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/12/25	15:45:30	220		880	4.66	6.28	18.4	6.17	0.493	-11.9	245	NA
08/12/25	15:49:07	220			6.64	5.34	18.2	6.30	0.471	-42.3	60.6	NA
08/12/25	15:53:03	220			4.73	4.89	18.3	6.29	0.462	-50.9	15.7	NA
08/12/25	15:57:01	220			4.76	4.50	18.4	6.28	0.457	-58.1	7.18	NA
08/12/25	16:01:21	220			4.75	4.22	18.5	6.27	0.454	-62.3	4.94	NA
08/12/25	16:05:16	220			4.74	4.00	18.4	6.27	0.52	-65.8	2.60	NA
08/12/25	16:09:31	220			4.76	3.83	18.4	6.27	0.451	-68.1	2.10	NA
08/12/25	16:13:04	220			4.77	3.69	18.4	6.72	0.450	-70.2	2.13	NA

5-Sample

Date	08/12/2025	Time	15:41:23
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/12/2025	Sample Time	16:15
Sample ID	RGW188S-R-20250812	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	3	Matrix	Water
Filtered?	NO	Bottles	2x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

Project No: US0041831.2092

Photos



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Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW247S-R

1-Well Integrity

Date	08/12/2025	Time	15:53:35
Inspector Name	Gordon Davies	Well Permit Number	BPQ-827
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	No
Well Cap Present	Yes	Inside Measurement Point	No
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	0.14	Did well meet SAP/WP stabilization requirements before sampling?	Yes
Instrument calibration date	08/12/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/12/2025	Time	15:53:22
Top of Casing	18.93	PID	NA
Initial DTW (ft)	4.87	Final DTW (ft)	5.01
Groundwater elevation	14.06000	Well Depth (ft)	14.03
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/12/2025	Time	15:53:35
Weather Conditions	Sunny, Hot	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	200
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	4
Pump Intake Depth (ft bmp)	8	Depth to Water (ft bmp)	3.99
Measured Well Depth (ft bmp)	14.03	Water Column in Well	9.16
Gallons in Well	5.97619		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/12/25	15:55:30	200		800	4.92	2.86	21.3	6.39	0.471	-70.4	14.4	NA
08/12/25	15:59:39	200			4.97	1.45	21.0	6.44	0.459	-90.4	10.2	NA
08/12/25	16:03:33	200			4.99	1.03	20.5	6.43	0.460	-95.9	8.76	NA
08/12/25	16:07:45	200			5.01	0.78	20.9	6.42	0.464	-100.3	7.84	NA
08/12/25	16:11:00	200			5.01	0.69	20.7	6.41	0.461	-101.4	9.47	NA
08/12/25	16:19:04	200			5.01	0.56	20.3	6.40	0.458	-103.8	9.49	NA
08/12/25	16:25:03	200			5.01	0.51	20.2	6.39	0.453	-104.1	7.25	Reached purge cutoff - sample 1635

5-Sample

Date	08/12/2025	Time	15:53:35
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/12/2025	Sample Time	16:35
Sample ID	RGW247S-R-20250812	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	3	Matrix	Water
Filtered?	NO	Bottles	2x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW248I

1-Well Integrity

Date	08/12/2025	Time	16:41:16
Inspector Name	Jacklyn Perkins	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	No
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	0.42	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/12/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/12/2025	Time	15:04:45
Top of Casing	18.78	PID	NA
Initial DTW (ft)	4.76	Final DTW (ft)	5.18
Groundwater elevation	14.02000	Well Depth (ft)	20
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/12/2025	Time	15:04:45
Weather Conditions	Sunny, Hot	Purge Method	Low-flow Bladder Pump
Purge Volume Units	ml	Purge Rate	240
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	15	Depth to Water (ft bmp)	4.76
Measured Well Depth (ft bmp)	20	Water Column in Well	15.24
Gallons in Well	2.48573	Date	08/12/2025
Time	16:41:16	Weather Conditions	Sunny, Hot



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

Purge Method	Low-flow Bladder Pump	Purge Volume Units	mL
Purge Rate	220	Water Quality Meter	YSI
Sampling Type	Low Flow	Casing Material	PVC
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	15
Depth to Water (ft bmp)	4.06	Measured Well Depth (ft bmp)	20
Water Column in Well		Gallons in Well	
Remarks	NA		
Remarks	NA		

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/12/25	15:09:12	240		960	4.96	1.60	18.2	6.44	0.596	-87.5	105	NA
08/12/25	15:13:14	240			5.11	1.12	18.1	6.45	0.582	-90.8	55.8	NA
08/12/25	15:17:47	240			4.65	0.87	22.5	6.42	0.599	-96.3	41.5	NA
08/12/25	15:21:35	240			5.12	0.74	18.0	6.42	0.573	-94.5	24.4	NA
08/12/25	15:26:28	240			5.14	0.64	17.9	6.41	0.567	-95.5	17.4	NA
08/12/25	15:30:29	240			5.16	0.58	18.0	6.41	0.561	-96.4	20.5	NA
08/12/25	15:35:18	240			5.21	0.53	18.0	6.40	0.559	-96.2	20.5	NA
08/12/25	15:39:47	240			5.27	0.51	17.9	6.40	0.560	-96.7	8.14	NA

5-Sample

Date	08/12/2025	Time	15:04:45
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/12/2025	Sample Time	15:45
Sample ID	RGW248I-20250812	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	3	Matrix	Water
Filtered?	NO	Bottles	2x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



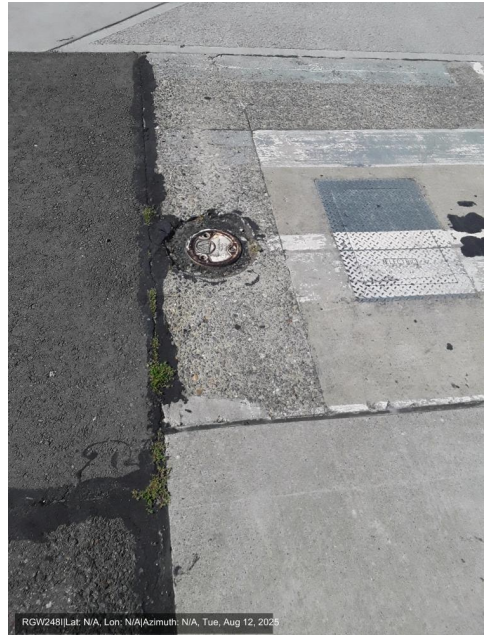
Detailed Low Flow Sampling Info
Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

Project No: US0041831.2092

Photos



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Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW249S

1-Well Integrity

Date	08/12/2025	Time	14:43:56
Inspector Name	Jacklyn Perkins	Well Permit Number	BID-805
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	No
Well Cap Present	Yes	Inside Measurement Point	No
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	0.08	Did well meet SAP/WP stabilization requirements before sampling?	Yes
Instrument calibration date	08/12/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/12/2025	Time	14:43:56
Top of Casing	18.85	PID	NA
Initial DTW (ft)	4.06	Final DTW (ft)	4.14
Groundwater elevation	14.79000	Well Depth (ft)	14
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/12/2025	Time	14:43:56
Weather Conditions	Sunny, Hot	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	200
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	9	Depth to Water (ft bmp)	4.87
Measured Well Depth (ft bmp)	14	Water Column in Well	9.94000
Gallons in Well	1.62127		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/12/25	14:47:10	200	100	100	4.07	6.12	21.3	6.10	0.424	-0.1	13.0	NA
08/12/25	14:51:06	200	786.6666		4.06	5.40	20.4	6.21	0.412	-32.6	33.5	NA
08/12/25	14:55:37	200	903.3333		4.07	4.82	20.4	6.23	0.401	-49.7	12.9	NA
08/12/25	14:59:39	200	806.6666		4.11	4.54	20.3	6.23	0.397	-54.2	9.87	NA
08/12/25	15:03:37	200	793.3333		4.14	4.29	20.1	6.22	0.395	-58.5	6.29	NA
08/12/25	15:07:20	200	743.3333		4.15	4.11	20.0	6.22	0.393	-61.2	4.39	NA
08/12/25	15:11:38	200	860.0		4.14	3.94	20.0	6.21	0.395	-63.8	4.04	NA

5-Sample

Date	08/12/2025	Time	14:43:57
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/12/2025	Sample Time	15:20
Sample ID	RGW249S-20250812	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	3	Matrix	Water
Filtered?	NO	Bottles	2x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW250S

1-Well Integrity

Date	08/15/2025	Time	10:54:28
Inspector Name	Jacklyn Perkins	Well Permit Number	BIP-838
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	No
Well Cap Present	Yes	Inside Measurement Point	No
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	1.13	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/15/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/15/2025	Time	10:54:29
Top of Casing	19.31	PID	NA
Initial DTW (ft)	3.99	Final DTW (ft)	5.12
Groundwater elevation	15.32000	Well Depth (ft)	14
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/15/2025	Time	10:54:29
Weather Conditions	Rain	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	200
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	8	Depth to Water (ft bmp)	5.28
Measured Well Depth (ft bmp)	14	Water Column in Well	
Gallons in Well			
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
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Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/15/25	10:54:39	200		800	4.4111	7.80	17.5	6.62	0.175	73.9	87.2	NA
08/15/25	10:58:07	200			7.41	7.43	17.5	6.69	0.174	46.5	37.5	NA
08/15/25	11:02:34	200			7.5	6.93	17.6	6.76	0.173	-4.5	216	NA
08/15/25	11:06:10	200			4.99	6.81	17.7	6.77	0.173	-15.4	48.6	NA
08/15/25	11:10:25	200			5.05	6.50	17.6	6.79	0.173	-38.1	21.3	NA
08/15/25	11:14:33	200			5.11	6.34	17.7	6.80	0.173	-47.7	8.49	NA
08/15/25	11:18:25	200			5.15	6.15	17.6	6.81	0.173	-56.8	11.1	NA
08/15/25	11:22:00	200			5.12	6.01	17.6	6.82	0.173	-62.8	7.71	NA

5-Sample

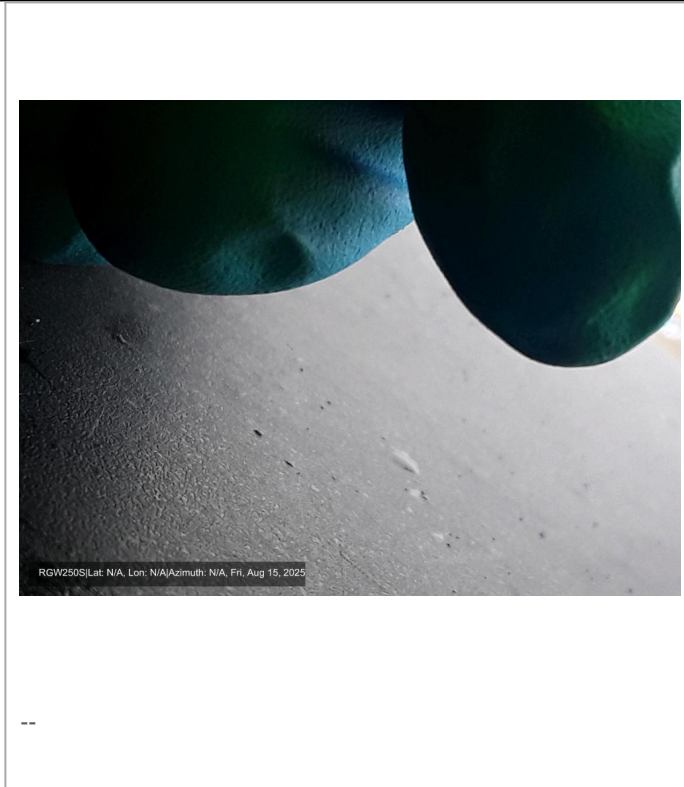
Date	08/15/2025	Time	10:54:30
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/15/2025	Sample Time	11:25
Sample ID	RGW250S-20250815	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	2	Matrix	Water
Filtered?	NO	Bottles	2x 250mL HDPE HNO3 poly
Remarks	NA		



Detailed Low Flow Sampling Info
Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

Project No: US0041831.2092

Photos





Detailed Low Flow Sampling Info
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 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW012S

1-Well Integrity

Date	08/15/2025	Time	13:43:18
Inspector Name	Gordon Davies	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	Yes
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	QED Bladder Pump
Total drawdown	0.19	Did well meet SAP/WP stabilization requirements before sampling?	NA
Instrument calibration date	08/15/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/15/2025	Time	13:43:18
Top of Casing	19.11	PID	NA
Initial DTW (ft)	4.98	Final DTW (ft)	5.17
Groundwater elevation	14.13000	Well Depth (ft)	14.5
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/15/2025	Time	13:43:18
Weather Conditions	Rain	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	200
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	9.5	Depth to Water (ft bmp)	5.14
Measured Well Depth (ft bmp)	14.5	Water Column in Well	
Gallons in Well			
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/15/25	13:46:09	200		800	5.19	7.08	21.5	5.93	0.815	83.0	55.4	NA
08/15/25	13:48:14	200			5.21	6.66	21.4	5.98	0.847	24.2	33.2	NA
08/15/25	13:52:18	200			5.24	6.28	21.1	6.00	0.839	-24.9	16.3	NA
08/15/25	13:56:49	200			5.24	6.03	20.9	6.02	0.800	-44.8	14.3	NA
08/15/25	14:00:26	200			5.28	5.87	20.9	6.03	0.779	-52.5	12.9	NA
08/15/25	14:04:44	200			5.34	5.65	20.9	6.04	0.752	-60.2	11.1	NA
08/15/25	14:08:36	200			5.40	5.47	20.9	6.05	0.727	-64.6	9.22	NA
08/15/25	14:12:43	200			5.44	5.35	20.9	6.06	0.710	-66.8	5.91	NA

5-Sample

Date	08/15/2025	Time	13:43:19
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/15/2025	Sample Time	14:15
Sample ID	RGW012S-20250815	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	3	Matrix	Water
Filtered?	NO	Bottles	2x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW014S

1-Well Integrity

Date	08/15/2025	Time	13:36:56
Inspector Name	Jacklyn Perkins	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	Yes
Well Cap Present	Yes	Inside Measurement Point	No
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	Yes
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	QED Bladder Pump
Total drawdown	0.28	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/15/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/15/2025	Time	13:36:56
Top of Casing	19.24	PID	NA
Initial DTW (ft)	5.14	Final DTW (ft)	5.42
Groundwater elevation	14.10000	Well Depth (ft)	14.4
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/15/2025	Time	13:36:56
Weather Conditions	Rain	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	200
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	9.5	Depth to Water (ft bmp)	4.72
Measured Well Depth (ft bmp)	14.4	Water Column in Well	9.26000
Gallons in Well	1.51036		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/15/25	13:40:46	200		800	5.27	4.89	21.0	6.23	0.540	-13.7	7.56	NA
08/15/25	13:44:27	200			5.31	3.51	20.7	6.24	0.533	-41.3	6.43	NA
08/15/25	13:48:32	200			5.31	2.76	20.4	6.25	0.532	-54.6	4.72	NA
08/15/25	13:52:05	200			5.31	2.56	20.3	6.25	0.531	-58.7	4.51	NA
08/15/25	13:56:09	200			5.31	2.17	20.2	6.27	0.527	-63.8	3.22	NA
08/15/25	14:00:34	200			5.31	2.02	20.2	6.27	0.515	-66.0	3.38	NA
08/15/25	14:04:12	200			5.36	1.83	20.2	6.27	0.503	-68.5	3.31	NA
08/15/25	14:08:44	200			5.42	20.1	20.2	6.27	0.496	-69.6	2.92	NA

5-Sample

Date	08/15/2025	Time	13:36:56
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/15/2025	Sample Time	14:10
Sample ID	RGW014S-20250815	Duplicate Sample ID	DUP3-20250815
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	6	Matrix	Water
Filtered?	NO	Bottles	4x HCl VOA, 2x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW147S

1-Well Integrity

Date	08/15/2025	Time	12:06:46
Inspector Name	Abigail Wise, Gordon Davies	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	QED Bladder Pump
Total drawdown	0.17	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/15/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/15/2025	Time	12:06:47
Top of Casing	18.73	PID	NA
Initial DTW (ft)	4.72	Final DTW (ft)	4.89
Groundwater elevation	14.01000	Well Depth (ft)	15.2
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/15/2025	Time	12:06:47
Weather Conditions	Rain	Purge Method	Low-flow Bladder Pump
Purge Volume Units	ml	Purge Rate	100
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	10	Depth to Water (ft bmp)	5.17
Measured Well Depth (ft bmp)	15.2	Water Column in Well	10.48
Gallons in Well	1.70935		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/15/25	12:24:10	100		400	NA	4.76	19.6	4.90	1.214	164.5	63.6	NA
08/15/25	12:28:46	100			4.73	6.57	20.4	5.06	0.612	134.0	66.1	NA
08/15/25	12:32:30	100			4.75	6.17	20.7	5.13	0.514	110.4	52.4	NA
08/15/25	12:36:19	100			4.78	6.12	20.7	5.13	0.506	109.4	53.6	NA
08/15/25	12:40:15	100			4.81	6.03	20.7	5.10	0.491	109.4	46.3	NA
08/15/25	12:44:36	100			4.72	5.87	20.8	5.02	0.474	109.7	40.4	NA
08/15/25	12:48:32	100			4.74	5.68	20.4	5.05	0.451	103.2	39.8	NA
08/15/25	12:52:49	100			4.78	5.57	20.5	5.06	0.452	100.0	34.9	NA

5-Sample

Date	08/15/2025	Time	12:06:48
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/15/2025	Sample Time	13:00
Sample ID	RGW147S-20250815	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	3	Matrix	Water
Filtered?	NO	Bottles	2x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW150S

1-Well Integrity

Date	08/15/2025	Time	12:28:34
Inspector Name	Gordon Davies	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	QED Bladder Pump
Total drawdown	0.03	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/15/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/15/2025	Time	12:28:34
Top of Casing	19.1	PID	NA
Initial DTW (ft)	5.17	Final DTW (ft)	5.20
Groundwater elevation	13.93000	Well Depth (ft)	18.3
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/15/2025	Time	12:28:34
Weather Conditions	Rain	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	200
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	10	Depth to Water (ft bmp)	5.10
Measured Well Depth (ft bmp)	18.3	Water Column in Well	13.13
Gallons in Well	2.14158		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/15/25	12:33:00	200		800	5.18	6.00	19.5	6.15	0.397	5.0	24.5	NA
08/15/25	12:37:24	200			5.20	4.18	18.8	6.24	0.439	10.5	13.7	NA
08/15/25	12:41:27	200			5.20	3.17	18.3	6.3	0.424	-27.7	9.75	NA
08/15/25	12:45:37	200			5.20	2.58	18.1	6.33	0.413	-40.8	5.96	NA
08/15/25	12:49:12	200			5.20	2.33	18.0	6.33	0.409	-46.1	4.92	NA
08/15/25	12:53:04	200			5.20	2.08	17.9	6.33	0.403	-51.6	3.41	NA
08/15/25	12:57:06	200			5.20	1.91	17.9	6.34	0.399	-55.4	3.11	NA
08/15/25	13:01:11	200			5.20	1.77	17.9	6.39	0.395	-59.5	5.53	NA

5-Sample

Date	08/15/2025	Time	12:28:34
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/15/2025	Sample Time	13:05
Sample ID	RGW150S-20250815	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	3	Matrix	Water
Filtered?	NO	Bottles	2x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW235I

1-Well Integrity

Date	08/13/2025	Time	09:15:36
Inspector Name	Gordon Davies	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	No
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	Yes
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	Water pumped out of monument
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	0.03	Did well meet SAP/WP stabilization requirements before sampling?	Yes
Instrument calibration date	08/13/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/13/2025	Time	09:15:36
Top of Casing	24.9	PID	NA
Initial DTW (ft)	8.33	Final DTW (ft)	8.36
Groundwater elevation	16.57	Well Depth (ft)	25
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/13/2025	Time	09:15:36
Weather Conditions	Hot, Sunny	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	220
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	20	Depth to Water (ft bmp)	8.33
Measured Well Depth (ft bmp)	25	Water Column in Well	16.67
Gallons in Well	2.71897		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/13/25	09:20:45	220		880	8.42	8.06	16.0	6.18	0.216	55.6	44.4	NA
08/13/25	09:24:34	220			8.37	7.34	15.0	6.26	0.212	17.7	43.8	NA
08/13/25	09:28:18	220			8.39	6.78	15.0	6.29	0.209	1.4	13.7	NA
08/13/25	09:32:21	220			8.39	6.29	14.9	6.31	0.208	-10.7	8.3	NA
08/13/25	09:36:13	220			8.40	5.86	15.1	6.32	0.209	-18.8	5.88	NA
08/13/25	09:40:21	220			8.39	5.62	15.2	6.32	0.209	-22.7	4.91	NA
08/13/25	09:44:50	220			8.4	5.37	15.1	6.33	0.209	-26.4	3.03	NA

5-Sample

Date	08/13/2025	Time	09:15:36
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/13/2025	Sample Time	09:45
Sample ID	RGW235I-20250813	Duplicate Sample ID	DUP1-20250813
Dup Sample Time	00:00	Sampler's Name	Gordon Davies
No. of Containers	4	Matrix	Water
Filtered?	NO	Bottles	2x HCl VOA, 1x 250mL H2SO4 amber, 1x 250mL HDPE HNO3 poly
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW176S

1-Well Integrity

Date	08/14/2025	Time	15:03:22
Inspector Name	Gordon Davies	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	QED Bladder Pump
Total drawdown	0.46	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/14/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/14/2025	Time	15:03:22
Top of Casing	20.15	PID	NA
Initial DTW (ft)	5.89	Final DTW (ft)	6.35
Groundwater elevation	14.26000	Well Depth (ft)	14.8
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/14/2025	Time	15:03:22
Weather Conditions	Cloudy	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	200
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	12.15	Depth to Water (ft bmp)	8.31
Measured Well Depth (ft bmp)	14.8	Water Column in Well	8.91
Gallons in Well	1.45327		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/14/25	15:06:25	200		800	6.10	6.78	16.1	6.01	0.552	64.1	43.1	NA
08/14/25	15:10:56	200			6.41	6.01	15.5	6.11	0.530	20.6	46.5	NA
08/14/25	15:14:51	200			6.53	5.64	15.6	6.12	0.512	-12.7	23.5	NA
08/14/25	15:18:57	200			6.65	5.27	15.7	6.14	0.502	-43.8	13.3	NA
08/14/25	15:22:44	200			6.63	5.12	15.7	6.15	0.503	-53.5	17.6	NA
08/14/25	15:26:21	200			6.67	4.94	15.6	6.17	0.504	-64.0	5.83	NA
08/14/25	15:30:32	200			6.68	4.80	15.5	6.18	0.509	-73.8	7.07	NA
08/14/25	15:34:34	200			6.68	4.67	15.6	6.18	0.511	-79.5	4.61	NA

5-Sample

Date	08/14/2025	Time	15:03:22
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/14/2025	Sample Time	15:40
Sample ID	RGW176S-20250814	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	2	Matrix	Water
Filtered?	NO	Bottles	2x HCl VOA
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW178S

1-Well Integrity

Date	08/14/2025	Time	14:00:56
Inspector Name	Gordon Davies	Well Permit Number	AHN071
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	QED Bladder Pump
Total drawdown	0.05	Did well meet SAP/WP stabilization requirements before sampling?	Yes
Instrument calibration date	08/14/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/14/2025	Time	14:00:56
Top of Casing	22.73	PID	NA
Initial DTW (ft)	8.31	Final DTW (ft)	8.36
Groundwater elevation	14.42	Well Depth (ft)	15.1
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/14/2025	Time	14:00:56
Weather Conditions	Cloudy	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	200
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	13.35	Depth to Water (ft bmp)	7.39
Measured Well Depth (ft bmp)	15.1	Water Column in Well	6.79000
Gallons in Well	1.10749		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/14/25	14:08:06	200		800	8.40	5.23	15.9	6.10	0.475	-24.9	27.2	NA
08/14/25	14:12:27	200			8.42	5.04	16.0	6.08	0.461	-35.0	19.4	NA
08/14/25	14:16:14	200			8.45	4.78	16.0	6.02	0.465	-38.9	9.6	NA
08/14/25	14:20:38	200			8.44	4.68	16.1	6.02	0.468	-40.7	5.19	NA

5-Sample

Date	08/14/2025	Time	14:00:56
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/14/2025	Sample Time	14:25
Sample ID	RGW178S-20250814	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	2	Matrix	Water
Filtered?	NO	Bottles	2x HCl VOA
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW189S

1-Well Integrity

Date	08/14/2025	Time	12:38:58
Inspector Name	Jacklyn Perkins	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	QED Bladder Pump
Total drawdown	3.41	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/14/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/14/2025	Time	12:38:58
Top of Casing	22.01	PID	NA
Initial DTW (ft)	7.39	Final DTW (ft)	10.8
Groundwater elevation	14.62000	Well Depth (ft)	14.1
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/14/2025	Time	12:38:58
Weather Conditions	Cloudy	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	200
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	9	Depth to Water (ft bmp)	6.81
Measured Well Depth (ft bmp)	14.1	Water Column in Well	6.71
Gallons in Well	1.09444		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/14/25	12:44:10	200		800	7.39	5.21	16.2	5.99	0.317	17.2	16.7	NA
08/14/25	12:48:24	200			8.26	3.82	16.2	6.10	0.309	-8.8	21.7	NA
08/14/25	12:52:56	200			8.65	2.69	16.6	6.22	0.312	-28.9	9.42	NA
08/14/25	12:56:08	200			9.12	2.16	16.9	6.23	0.320	-38.0	5.63	NA
08/14/25	13:00:51	200			9.35	1.84	16.9	6.23	0.323	-44.4	7.32	NA
08/14/25	13:04:26	200			9.44	1.70	17.0	6.25	0.322	-48.9	7.48	NA
08/14/25	13:08:10	200			9.68	1.65	16.9	6.26	0.314	51.7	6.27	NA
08/14/25	13:12:19	200			10.80	1.61	16.9	6.26	0.309	-52.9	7.59	NA

5-Sample

Date	08/14/2025	Time	12:38:59
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/14/2025	Sample Time	13:15
Sample ID	RGW189S-20250814	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	25	Matrix	Water
Filtered?	NO	Bottles	21x HCl VOA, 2x 250mL H2SO4 amber, 2x 500mL amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW207S

1-Well Integrity

Date	08/14/2025	Time	14:31:00
Inspector Name	Gordon Davies	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	No	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	QED Bladder Pump
Total drawdown	0.38	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/14/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/14/2025	Time	14:31:00
Top of Casing	21.12	PID	NA
Initial DTW (ft)	6.81	Final DTW (ft)	7.19
Groundwater elevation	14.31000	Well Depth (ft)	12.6
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/14/2025	Time	14:31:00
Weather Conditions	Cloudy	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	200
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	9.65	Depth to Water (ft bmp)	7.95
Measured Well Depth (ft bmp)	12.6	Water Column in Well	
Gallons in Well			
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/14/25	14:31:26	200		800	7.18	5.17	16.1	6.31	0.341	-43.5	17.1	NA
08/14/25	14:35:26	200			7.16	3.29	15.9	6.29	0.337	-72.4	20.9	NA
08/14/25	14:40:21	200			7.16	2.56	15.9	6.28	0.337	-80.6	12.6	NA
08/14/25	14:44:06	200			7.18	2.26	15.9	6.37	0.338	-84.2	11.3	NA
08/14/25	14:48:17	200			7.19	1.94	16.0	6.28	0.338	-87.8	7.69	NA
08/14/25	14:52:17	200			7.23	1.79	16.0	6.28	0.337	-89.4	7.15	NA
08/14/25	14:56:41	200			7.22	1.67	16.0	6.28	0.337	-90.8	5.77	NA
08/14/25	15:00:04	200			7.19	1.55	16.1	6.34	0.337	-92.9	4.04	NA

5-Sample

Date	08/14/2025	Time	14:31:00
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/14/2025	Sample Time	15:05
Sample ID	RGW207S-20250814	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	2	Matrix	Water
Filtered?	NO	Bottles	2x HCl VOA
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW208S

1-Well Integrity

Date	08/14/2025	Time	13:05:36
Inspector Name	Gordon Davies	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	QED Bladder Pump
Total drawdown	0.18	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/14/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/14/2025	Time	13:05:36
Top of Casing	22.45	PID	NA
Initial DTW (ft)	7.95	Final DTW (ft)	8.13
Groundwater elevation	14.5	Well Depth (ft)	11.4
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/14/2025	Time	13:05:36
Weather Conditions	Cloudy	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	200
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	8.65	Depth to Water (ft bmp)	7.86
Measured Well Depth (ft bmp)	11.4	Water Column in Well	
Gallons in Well			
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/14/25	13:13:18	200		800	8.0	6.71	19.1	5.90	1.088	-68.7	44.8	NA
08/14/25	13:17:11	200			8.21	6.14	19.1	5.91	1.044	-90.5	32.9	NA
08/14/25	13:21:07	200			8.18	5.71	19.1	5.92	1.017	-99.5	18.8	NA
08/14/25	13:25:29	200			8.26	5.48	18.2	5.92	1.013	-102.9	18.2	NA
08/14/25	13:29:34	200			8.28	5.21	19.1	5.92	1.008	-105.9	23.7	NA
08/14/25	13:33:38	200			8.35	5.01	19.1	5.92	0.997	-107.8	19.7	Light sheen observed
08/14/25	13:37:23	200			8.30	4.84	19.0	5.94	0.989	-108.8	18.5	NA
08/14/25	13:41:36	200			8.30	4.67	19.1	5.91	0.970	-109.6	19.1	NA

5-Sample

Date	08/14/2025	Time	13:05:36
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/14/2025	Sample Time	13:45
Sample ID	RGW208S-20250814	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	2	Matrix	Water
Filtered?	NO	Bottles	2x HCl VOA
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW264S

1-Well Integrity

Date	08/15/2025	Time	07:59:02
Inspector Name	Gordon Davies	Well Permit Number	BJU-193
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	Yes
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	Peristaltic (lowest setting, sample if drawdown exceeded)
Total drawdown	3.85	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/15/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/15/2025	Time	07:59:02
Top of Casing	21.55	PID	NA
Initial DTW (ft)	6.46	Final DTW (ft)	10.31
Groundwater elevation	15.09	Well Depth (ft)	18
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/15/2025	Time	07:59:02
Weather Conditions	Rain	Purge Method	Peristaltic Pump
Purge Volume Units	mL	Purge Rate	200
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	13	Depth to Water (ft bmp)	6.46
Measured Well Depth (ft bmp)	18	Water Column in Well	11.54
Gallons in Well	1.88224		
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/15/25	08:01:47	200		800	6.84	6.47	17.8	5.77	0.775	-3.6	62.1	NA
08/15/25	08:05:09	200			7.24	4.47	17.8	5.79	0.766	-40.9	12.7	NA
08/15/25	08:09:03	200			7.70	3.48	17.9	5.82	0.756	-57.5	8	NA
08/15/25	08:13:28	200			8.15	2.87	17.9	5.86	0.748	-66.5	6.22	NA
08/15/25	08:17:13	200			8.52	2.55	17.9	5.91	0.736	-71.2	5.75	NA
08/15/25	08:21:11	200			8.97	2.31	17.9	5.92	0.720	-75.2	4.87	NA
08/15/25	08:25:10	200			9.37	2.12	17.8	5.94	0.708	-77.5	6.01	NA
08/15/25	08:30:28	200			9.88	1.92	17.8	5.96	0.691	-79.2	7.34	NA

5-Sample

Date	08/15/2025	Time	07:59:02
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/15/2025	Sample Time	08:30
Sample ID	RGW264S-20250815	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	4	Matrix	Water
Filtered?	NO	Bottles	3x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW031S-R

1-Well Integrity

Date	08/14/2025	Time	08:05:35
Inspector Name	Jacklyn Perkins	Well Permit Number	BNE-654
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	QED Bladder Pump
Total drawdown	0.01	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/14/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/14/2025	Time	08:05:35
Top of Casing	19.59	PID	NA
Initial DTW (ft)	5.67	Final DTW (ft)	5.68
Groundwater elevation	13.92	Well Depth (ft)	25
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/14/2025	Time	08:05:35
Weather Conditions	Cloudy	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	220
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	20	Depth to Water (ft bmp)	5.67
Measured Well Depth (ft bmp)	25	Water Column in Well	19.33
Gallons in Well	3.15283		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/14/25	08:20:37	220		880	5.67	8.07	18.3	5.87	0.545	60.4	19.7	NA
08/14/25	08:24:46	220			5.65	7.21	17.4	5.87	0.544	19.4	9.14	NA
08/14/25	08:28:16	220			5.37	6.50	17.0	5.89	0.527	-9.8	6.97	NA
08/14/25	08:32:12	220			5.68	6.13	17.2	5.90	0.517	-20.9	3.14	NA
08/14/25	08:36:30	220			5.68	5.74	17.1	5.90	0.508	-31.6	1.43	NA
08/14/25	08:40:14	220			5.67	5.53	17.1	5.91	0.504	-38.0	1.90	NA
08/14/25	08:44:58	220			5.68	5.31	17.1	5.91	0.503	-41.8	1.67	NA
08/14/25	08:48:25	220			5.67	5.06	17.1	5.92	0.500	-46.7	1.95	NA

5-Sample

Date	08/14/2025	Time	08:05:36
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/14/2025	Sample Time	08:50
Sample ID	RGW031S-R-20250814	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Jacklyn Perkins
No. of Containers	6	Matrix	Water
Filtered?	NO	Bottles	5x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW033S

1-Well Integrity

Date	08/14/2025	Time	08:11:52
Inspector Name	Gordon Davies	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	QED Bladder Pump
Total drawdown	0	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/14/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/14/2025	Time	08:11:52
Top of Casing	19.49	PID	NA
Initial DTW (ft)	5.61	Final DTW (ft)	5.61
Groundwater elevation	13.88000	Well Depth (ft)	25
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/14/2025	Time	08:11:52
Weather Conditions	Cloudy	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	220
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	20	Depth to Water (ft bmp)	5.61
Measured Well Depth (ft bmp)	25	Water Column in Well	
Gallons in Well			
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/14/25	08:24:05	220		880	5.60	4.10	18.2	5.60	0.624	-24.6	4.13	NA
08/14/25	08:28:08	220			5.62	2.84	18.1	5.74	0.619	-44.6	3.89	NA
08/14/25	08:32:03	220			5.66	2.15	17.9	5.86	0.606	-57.2	2.27	NA
08/14/25	08:36:27	220			5.65	1.82	17.9	5.91	0.593	-64.4	1.46	NA
08/14/25	08:40:05	220			5.62	1.61	17.8	5.96	0.582	-68.5	1.53	NA
08/14/25	08:44:09	220			5.61	1.44	17.7	5.99	0.567	-71.6	1.24	NA
08/14/25	08:48:11	220			5.61	1.28	17.7	6.02	0.550	-74.2	0.97	NA
08/14/25	08:52:18	220			5.60	1.22	17.6	6.02	0.541	-75.2	1.00	Light sheen.

5-Sample

Date	08/14/2025	Time	08:11:53
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/14/2025	Sample Time	08:55
Sample ID	RGW033S-20250814	Duplicate Sample ID	DUP2-20250814
Dup Sample Time	00:00	Sampler's Name	Jacklyn Perkins
No. of Containers	12	Matrix	Water
Filtered?	NO	Bottles	10x HCl VOA, 2x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW034S

1-Well Integrity

Date	08/14/2025	Time	09:35:19
Inspector Name	Gordon Davies	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	QED Bladder Pump
Total drawdown	0	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/14/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/14/2025	Time	09:35:19
Top of Casing	19.65	PID	NA
Initial DTW (ft)	5.75	Final DTW (ft)	5.75
Groundwater elevation	13.90000	Well Depth (ft)	25
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/14/2025	Time	09:35:19
Weather Conditions	Cloudy	Purge Method	Low-flow Bladder Pump
Purge Volume Units	ml	Purge Rate	200
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	20	Depth to Water (ft bmp)	5.75
Measured Well Depth (ft bmp)	25	Water Column in Well	19.25
Gallons in Well	3.13978		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/14/25	09:37:51	200		800	5.75	5.65	18.6	6.10	0.367	-39.2	6.22	NA
08/14/25	09:41:07	200			5.75	3.45	18.3	6.11	0.363	-59.5	5.10	NA
08/14/25	09:45:02	200			5.74	2.44	18.2	6.12	0.357	-70.6	3.51	NA
08/14/25	09:49:33	200			5.74	1.93	18.1	6.12	0.353	-76.9	1.75	Hydroca odor
08/14/25	09:53:29	200			5.74	1.61	18.0	6.13	0.349	-81.4	1.72	NA
08/14/25	09:57:13	200			5.73	1.44	18.0	6.13	0.348	-82.8	1.58	NA
08/14/25	10:01:57	200			7.73	1.32	18.0	6.13	0.346	-84.4	1.21	NA
08/14/25	10:05:06	200			7.73	1.24	18.0	6.13	0.345	-85.9	1.52	NA

5-Sample

Date	08/14/2025	Time	10:15:52
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/14/2025	Sample Time	10:15
Sample ID	RGW034S-20250814	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Jacklyn Perkins
No. of Containers	6	Matrix	Water
Filtered?	NO	Bottles	5x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW143S

1-Well Integrity

Date	08/14/2025	Time	11:38:03
Inspector Name	Jacklyn Perkins	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	No	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	QED Bladder Pump
Total drawdown	0.06	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/14/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/14/2025	Time	11:38:03
Top of Casing	19.81	PID	NA
Initial DTW (ft)	5.94	Final DTW (ft)	6
Groundwater elevation	13.87000	Well Depth (ft)	15.9
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/14/2025	Time	11:38:03
Weather Conditions	Cloudy	Purge Method	Low-flow Bladder Pump
Purge Volume Units	ml	Purge Rate	220
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	12.5	Depth to Water (ft bmp)	5.94
Measured Well Depth (ft bmp)	15.9	Water Column in Well	
Gallons in Well			
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/14/25	11:42:29	220		880	5.96	5.61	19.1	6.09	0.361	18.1	33.6	NA
08/14/25	11:46:19	220			5.95	2.76	18.3	6.05	0.383	-39.5	31.4	NA
08/14/25	11:50:28	220			5.95	2.19	18.1	6.07	0.383	-50.7	21.7	NA
08/14/25	11:54:09	220			5.96	1.88	18.0	6.09	0.380	-58.5	12.1	NA
08/14/25	11:58:04	220			5.98	1.55	17.9	6.14	0.378	-64.9	8.89	NA
08/14/25	12:02:23	220			5.98	1.40	17.9	6.10	0.377	-68.4	7.02	NA
08/14/25	12:06:43	220			5.95	1.31	17.9	6.10	0.376	-70.2	6.96	NA
08/14/25	12:10:14	220			6.00	1.19	17.9	6.10	0.375	-72.1	5.47	NA

5-Sample

Date	08/14/2025	Time	11:38:04
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/14/2025	Sample Time	12:10
Sample ID	RGW143S-R-20250814	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Jacklyn Perkins
No. of Containers	6	Matrix	Water
Filtered?	NO	Bottles	5x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW237S

1-Well Integrity

Date	08/14/2025	Time	10:45:51
Inspector Name	Gordon Davies	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	Yes
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	0	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/14/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/14/2025	Time	10:45:51
Top of Casing	18.85	PID	NA
Initial DTW (ft)	4.99	Final DTW (ft)	4.99
Groundwater elevation	13.86000	Well Depth (ft)	15
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/14/2025	Time	10:45:51
Weather Conditions	Cloudy	Purge Method	Low-flow Bladder Pump
Purge Volume Units	ml	Purge Rate	170
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	10	Depth to Water (ft bmp)	4.99
Measured Well Depth (ft bmp)	15	Water Column in Well	10.01
Gallons in Well	1.63269		
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/14/25	10:49:32	170		680	4.99	7.51	19.7	6.23	0.362	62.5	25.6	NA
08/14/25	10:53:30	170			4.99	6.56	18.9	6.34	0.392	3.4	472	NA
08/14/25	10:57:43	170			4.99	6.14	19.0	6.12	0.390	-11.8	193	NA
08/14/25	11:01:07	170			4.99	5.68	19.0	6.31	0.400	-28.9	53.7	NA
08/14/25	11:05:19	170			4.99	5.34	18.9	6.31	0.404	-40.6	22.7	NA
08/14/25	11:09:17	170			4.99	5.09	19.0	6.31	0.404	-48.3	16.9	NA
08/14/25	11:14:12	170			4.99	4.82	19.0	6.30	0.405	-55.1	8.18	NA
08/14/25	11:18:11	170			4.99	4.66	19.0	6.30	0.406	-58.8	9.20	NA

5-Sample

Date	08/14/2025	Time	10:45:51
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	08/14/2025	Sample Time	11:25
Sample ID	RGW237S-20250814	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Jacklyn Perkins
No. of Containers	6	Matrix	Water
Filtered?	NO	Bottles	5x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW240D

1-Well Integrity

Date	08/14/2025	Time	10:32:46
Inspector Name	Jacklyn Perkins	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	1.63	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/14/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/14/2025	Time	10:32:46
Top of Casing	19.81	PID	NA
Initial DTW (ft)	6.88	Final DTW (ft)	8.51
Groundwater elevation	12.93	Well Depth (ft)	27
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/14/2025	Time	10:32:47
Weather Conditions	Cloudy	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	220
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	24.5	Depth to Water (ft bmp)	6.88
Measured Well Depth (ft bmp)	27	Water Column in Well	20.12
Gallons in Well	3.28168		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/14/25	10:40:43	220		880	6.88	4.8	18.1	5.74	0.243	19.8	6.57	NA
08/14/25	10:44:51	220			7.50	3.32	16.4	6.17	0.233	-23.5	161	NA
08/14/25	10:48:08	220			8.10	2.62	16.3	6.35	0.234	-59.9	84.4	NA
08/14/25	10:50:37	220			8.37	2.00	16.5	6.35	0.232	-73.0	36.9	NA
08/14/25	10:56:29	220			8.39	1.80	16.5	6.28	0.231	-76.5	23.7	NA
08/14/25	11:00:50	220			8.68	1.51	16.3	6.29	0.228	-82.9	17.3	NA
08/14/25	11:04:11	220			8.70	1.42	16.4	6.31	0.227	-86.0	14.7	NA
08/14/25	11:08:17	220			8.51	1.27	16.4	6.32	0.227	-88.7	8.25	NA

5-Sample

Date	08/14/2025	Time	10:32:48
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/14/2025	Sample Time	11:10
Sample ID	RGW240D-R-20250814	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Jacklyn Perkins
No. of Containers	6	Matrix	Water
Filtered?	NO	Bottles	5x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Photos





Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW244S-R

1-Well Integrity

Date	08/14/2025	Time	09:20:46
Inspector Name	Gordon Davies	Well Permit Number	BNE-655
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	0	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/14/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/14/2025	Time	09:20:22
Top of Casing	19.42	PID	NA
Initial DTW (ft)	5.52	Final DTW (ft)	5.52
Groundwater elevation	13.90000	Well Depth (ft)	15
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/14/2025	Time	09:20:42
Weather Conditions	Cloudy	Purge Method	Low-flow Bladder Pump
Purge Volume Units	ml	Purge Rate	220
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	10	Depth to Water (ft bmp)	5.52
Measured Well Depth (ft bmp)	15	Water Column in Well	9.48
Gallons in Well	1.54624		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/14/25	09:24:25	220		880	5.51	7.19	20.1	5.92	0.640	44.0	10.5	NA
08/14/25	09:28:43	220			5.54	6.36	17.9	6.01	0.739	-2.9	14.1	NA
08/14/25	09:32:53	220			5.52	5.90	17.7	6.03	0.725	-26.0	10.6	NA
08/14/25	09:36:16	220			5.53	5.41	17.6	6.05	0.700	-45.2	10.6	NA
08/14/25	09:40:51	220			5.53	5.21	17.6	6.03	0.683	-51.4	2.53	NA
08/14/25	09:44:33	220			5.52	4.96	17.5	6.07	0.678	-58.9	2.53	NA
08/14/25	09:48:59	220			5.52	4.83	17.5	6.07	0.674	-61.5	2.53	NA
08/14/25	09:52:55	220			5.52	4.79	17.5	6.08	0.671	-62.6	2.85	NA

5-Sample

Date	08/14/2025	Time	10:00:52
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/14/2025	Sample Time	10:00
Sample ID	RGW244S-R-20250814	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	6	Matrix	Water
Filtered?	NO	Bottles	5x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW211S

1-Well Integrity

Date	08/15/2025	Time	09:12:55
Inspector Name	Gordon Davies	Well Permit Number	BAB-498
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	QED n.d. sample Pro SS & PE
Total drawdown	NA	Did well meet SAP/WP stabilization requirements before sampling?	NA
Instrument calibration date	08/15/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/15/2025	Time	09:12:55
Top of Casing	27.77	PID	NA
Initial DTW (ft)	11.43	Final DTW (ft)	NA
Groundwater elevation	16.34	Well Depth (ft)	14.75
Free Product?	No	Well Dry?	Y
Remarks	Several inches of thick mud above bladder. No liquid produced. See photo attached.		

3-Wellhead

Date	08/15/2025	Time	09:12:56
Weather Conditions	Rain	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	220
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)		Depth to Water (ft bmp)	11.43
Measured Well Depth (ft bmp)	14.75	Water Column in Well	3.32000
Gallons in Well	0.54151		
Remarks	NA		



Detailed Low Flow Sampling Info
Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

Project No: US0041831.2092

4-Stabilization Parameters

5-Sample

Date	08/15/2025	Time	09:12:56
Did Well Dewater?	Yes	Location of disposed purge water	NA
How were samples preserved?	NA	How were samples transported to lab?	NA
Sample Date	NA	Sample Time	NA
Sample ID	NA	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	2	Matrix	Water
Filtered?	NO	Bottles	NA
Remarks	NA		

Photos



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Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW221S

1-Well Integrity

Date	08/15/2025	Time	10:06:26
Inspector Name	Gordon Davies	Well Permit Number	BHB-417
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	QED n.d. sample Pro SS & PE
Total drawdown	0	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/15/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/15/2025	Time	10:06:26
Top of Casing	27.93	PID	NA
Initial DTW (ft)	11.55	Final DTW (ft)	11.54
Groundwater elevation	16.38	Well Depth (ft)	15
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/15/2025	Time	10:06:26
Weather Conditions	Rain	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	220
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	10	Depth to Water (ft bmp)	11.55
Measured Well Depth (ft bmp)	15	Water Column in Well	3.45000
Gallons in Well	0.56271		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/15/25	10:09:52	220		880	11.55	6.45	18.1	6.08	0.262	53.2	132	NA
08/15/25	10:13:23	220			11.54	4.66	17.8	6.17	0.252	26.3	31.8	NA
08/15/25	10:17:25	220			11.54	3.74	17.9	6.18	0.247	15.6	26.9	NA
08/15/25	10:21:22	220			11.54	3.14	17.9	6.21	0.244	8.1	16.7	NA
08/15/25	10:25:21	220			11.54	2.74	17.9	6.15	0.242	4.9	8.94	NA
08/15/25	10:29:02	220			11.55	2.42	17.9	6.14	0.240	1.9	6.6	NA
08/15/25	10:33:52	220			11.55	2.19	17.9	6.15	0.238	-1.2	5.56	NA
08/15/25	10:37:04	220			11.55	2.01	18.0	6.17	0.237	-3.9	5.09	NA

5-Sample

Date	08/15/2025	Time	10:06:27
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/15/2025	Sample Time	10:40
Sample ID	RGW221S-R2050815	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	2	Matrix	Water
Filtered?	NO	Bottles	2x 500mL amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW224S

1-Well Integrity

Date	08/15/2025	Time	09:20:04
Inspector Name	Jacklyn Perkins	Well Permit Number	BHB440
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	QED n.d. sample Pro SS & PE
Total drawdown	0.58	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/15/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/15/2025	Time	09:20:04
Top of Casing	27.98	PID	NA
Initial DTW (ft)	11.81	Final DTW (ft)	12.39
Groundwater elevation	16.17	Well Depth (ft)	15
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/15/2025	Time	09:20:04
Weather Conditions	Rain	Purge Method	Low-flow Bladder Pump
Purge Volume Units	ml	Purge Rate	150
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	10	Depth to Water (ft bmp)	11.81
Measured Well Depth (ft bmp)	15	Water Column in Well	3.19000
Gallons in Well	0.52031		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/15/25	09:26:32	150		600	12.04	8.63	19.7	5.55	0.213	196.0	64.6	NA
08/15/25	09:33:57	150			12.21	7.51	18.8	5.70	0.215	161.5	14.2	NA
08/15/25	09:37:28	150			12.21	7.23	18.8	5.74	0.214	148.5	11.5	NA
08/15/25	09:41:59	150			12.23	6.91	18.8	5.79	0.216	126.6	7.65	NA
08/15/25	09:45:46	150			12.21	6.64	18.8	5.82	0.214	107.0		NA
08/15/25	09:49:58	150			12.23	6.31	18.8	5.84	0.214	84.9	3.73	NA
08/15/25	09:53:53	150			12.24	6.27	18.7	5.85	0.213	82.4	3.76	NA
08/15/25	09:57:45	150			12.25	6.16	18.8	5.85	0.213	75.9	2.71	NA

5-Sample

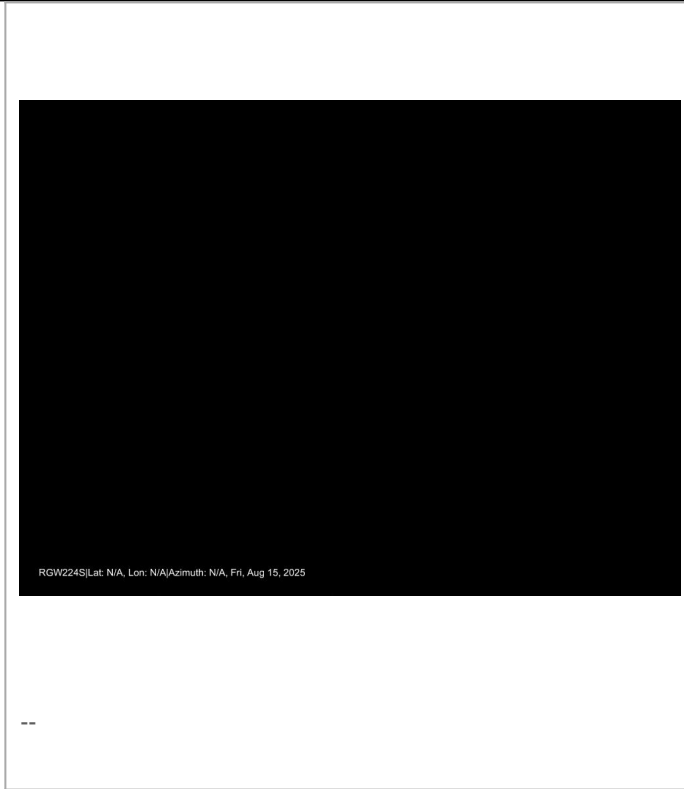
Date	08/15/2025	Time	09:20:05
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/15/2025	Sample Time	10:00
Sample ID	RGW224S-R-20250815	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	4	Matrix	Water
Filtered?	NO	Bottles	4x 500mL amber
Remarks	NA		



Detailed Low Flow Sampling Info
Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

Project No: US0041831.2092

Photos





Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW230I

1-Well Integrity

Date	08/13/2025	Time	14:18:54
Inspector Name	Jacklyn Perkins	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	Yes
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	Yes
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	0.16	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/13/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/13/2025	Time	14:18:54
Top of Casing	24.86	PID	NA
Initial DTW (ft)	8.29	Final DTW (ft)	8.45
Groundwater elevation	16.57	Well Depth (ft)	14
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/13/2025	Time	14:18:55
Weather Conditions	Hot, Sunny	Purge Method	Low-flow Bladder Pump
Purge Volume Units	ml	Purge Rate	200
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	9	Depth to Water (ft bmp)	8.29
Measured Well Depth (ft bmp)	14	Water Column in Well	5.71000
Gallons in Well	0.93133		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/13/25	14:19:53	200		800	8.36	3.57	20.3	6.07	0.350	-17.0	26.5	NA
08/13/25	14:23:17	200			8.29	2.37	19.7	6.20	0.351	-46.0	38.6	NA
08/13/25	14:27:13	200			8.39	1.86	19.6	6.19	0.338	-48.0	30.7	NA
08/13/25	14:31:32	200			8.44	1.45	19.5	6.19	0.333	-50.3	18.0	NA
08/13/25	14:36:29	200			8.38	1.16	20.0	6.19	0.330	-52.6	9.34	NA
08/13/25	14:40:58	200			8.39	1.03	19.8	6.20	0.336	-55.9	4.75	NA
08/13/25	14:45:58	200			8.39	0.91	19.7	6.24	0.328	-58.5	9.97	NA
08/13/25	14:50:03	200			8.44	0.85	19.8	6.19	0.326	-57.2	6.97	NA

5-Sample

Date	08/13/2025	Time	14:18:56
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/13/2025	Sample Time	14:55
Sample ID	RGW230I-20250813	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	2	Matrix	Water
Filtered?	NO	Bottles	2 HCl VOA
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

RGW152S

1-Well Integrity

Date	08/13/2025	Time	11:14:17
Inspector Name	Gordon Davies	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	1.55	Did well meet SAP/WP stabilization requirements before sampling?	Yes
Instrument calibration date	08/13/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/13/2025	Time	11:14:17
Top of Casing	26.98	PID	NA
Initial DTW (ft)	10.25	Final DTW (ft)	11.8
Groundwater elevation	16.73	Well Depth (ft)	14.95
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/13/2025	Time	11:14:17
Weather Conditions	Hot, Sunny	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	200
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	12.5	Depth to Water (ft bmp)	10.25
Measured Well Depth (ft bmp)	14.95	Water Column in Well	4.70000
Gallons in Well	0.76660		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/13/25	11:14:40	200		800	10.25	6.84	19.4	5.64	0.274	76.6	169	NA
08/13/25	11:18:43	200			11.19	5.60	18.4	5.67	0.242	65.3	800	NA
08/13/25	11:22:21	200			11.8	5.27	18.7	5.64	0.226	57.0	595	NA
08/13/25	11:26:29	200			11.8	4.9	19.3	5.63	0.227	53.0	403	NA
08/13/25	11:30:35	200			11.8	4.6	19.8	5.60	0.235	39.4	269	NA
08/13/25	11:34:00	200			11.8	4.44	19.8	5.6	0.241	32.8	246	NA
08/13/25	11:38:31	200			11.8	4.18	20.0	5.59	0.259	19.6	151	NA

5-Sample

Date	08/13/2025	Time	11:14:17
Did Well Dewater?	Yes	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/13/2025	Sample Time	11:45
Sample ID	RGW152S-20250813	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	4	Matrix	Water
Filtered?	NO	Bottles	2x HCl VOA, 1x 250mL H2SO4 amber, 1x 250mL HDPE HNO3 poly
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW153S

1-Well Integrity

Date	08/13/2025	Time	12:58:53
Inspector Name	Gordon Davies	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	1.45	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/13/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/13/2025	Time	12:58:53
Top of Casing	27.47	PID	NA
Initial DTW (ft)	10.95	Final DTW (ft)	12.4
Groundwater elevation	16.52	Well Depth (ft)	14.65
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/13/2025	Time	12:58:53
Weather Conditions	Hot, Sunny	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	200
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	12.5	Depth to Water (ft bmp)	10.95
Measured Well Depth (ft bmp)	14.65	Water Column in Well	3.70000
Gallons in Well	0.60349		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/13/25	13:03:51	200		800	11.47	5.51	18.0	6.0	0.275	28.9	292	NA
08/13/25	13:07:21	200			11.45	4.85	17.7	6.07	0.275	15.7	192	NA
08/13/25	13:15:11	200			NA	4.0	17.5	6.06	0.265	3.4	72.1	NA
08/13/25	13:19:26	200			NA	3.83	17.4	6.05	0.264	1.4	39.5	NA
08/13/25	13:23:09	200			NA	3.68	17.4	6.05	0.263	-0.3	29.4	NA
08/13/25	13:27:05	200			NA	3.53	17.4	6.04	0.262	-2.0	23.0	NA
08/13/25	13:31:04	200			NA	3.41	17.4	6.05	0.262	-3.7	12.1	NA
08/13/25	13:35:15	200			NA	3.30	17.3	6.05	0.262	-5.5	10.2	NA

5-Sample

Date	08/13/2025	Time	12:58:53
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/13/2025	Sample Time	13:35
Sample ID	RGW153S-R-20250813	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	4	Matrix	Water
Filtered?	NO	Bottles	2x HCl VOA, 1x 250mL H2SO4 amber, 1x 250mL HDPE HNO3 poly
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW172S

1-Well Integrity

Date	08/13/2025	Time	10:35:45
Inspector Name	Jacklyn Perkins	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	No
Well Cap Present	Yes	Inside Measurement Point	No
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	Yes
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	1.4	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/13/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/13/2025	Time	10:35:46
Top of Casing	26.44	PID	NA
Initial DTW (ft)	10.12	Final DTW (ft)	11.52
Groundwater elevation	16.32	Well Depth (ft)	17.82
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/13/2025	Time	10:35:46
Weather Conditions	Hot, Sunny	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	200
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	13	Depth to Water (ft bmp)	10.12
Measured Well Depth (ft bmp)	17.82	Water Column in Well	7.70000
Gallons in Well	1.25591		
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/13/25	10:39:01	200		800	10.5	4.04	17.4	6.33	0.287	-60.7	387	NA
08/13/25	10:43:08	200			11.45	2.38	17.3	6.31	0.260	-58.0	111	NA
08/13/25	10:47:03	200			11.46	1.76	17.7	6.21	0.253	-47.7	42.5	NA
08/13/25	10:51:43	200			11.56	1.36	17.7	6.23	0.249	-41.3	17.3	NA
08/13/25	10:55:20	200			11.62	1.16	17.9	6.11	0.248	-38.3	12.9	NA
08/13/25	10:59:05	200			11.52	1.03	17.9	6.07	0.247	-36.2	7.16	NA
08/13/25	11:04:14	200			11.52	0.90	17.9	6.03	0.247	-34.0	5.23	NA
08/13/25	11:08:18	200			11.52	0.83	18.0	6.02	0.246	-33.7	6.73	NA

5-Sample

Date	08/13/2025	Time	10:35:47
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/13/2025	Sample Time	11:20
Sample ID	RGW172S-20250813	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Jacklyn Perkins
No. of Containers	8	Matrix	Water
Filtered?	NO	Bottles	2x HCl VOA, 1x 250mL H2SO4 amber, 1x 250mL HDPE HNO3 poly
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW173S

1-Well Integrity

Date	08/13/2025	Time	12:43:49
Inspector Name	Gordon Davies	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	0.6	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/13/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/13/2025	Time	12:43:50
Top of Casing	26.51	PID	NA
Initial DTW (ft)	10.55	Final DTW (ft)	11.15
Groundwater elevation	15.96	Well Depth (ft)	17.2
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/13/2025	Time	12:43:10
Weather Conditions	Hot, Sunny	Purge Method	Low-flow Bladder Pump
Purge Volume Units	ml	Purge Rate	200
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	13	Depth to Water (ft bmp)	10.55
Measured Well Depth (ft bmp)	17.2	Water Column in Well	6.65000
Gallons in Well	1.08465		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/13/25	12:44:28	200		800	10.59	4.06	18.2	6.35	0.309	-25.8	83.9	NA
08/13/25	12:48:19	200			11.28	2.28	18.3	6.32	0.298	-38.6	167	NA
08/13/25	12:52:42	200			11.15	1.91	18.6	6.31	0.299	-40.5	112	NA
08/13/25	12:56:31	200			11.09	1.61	18.4	6.40	0.296	-42.7	83.9	NA
08/13/25	13:00:20	200			11.15	1.34	18.3	6.29	0.292	-44.0	57.4	NA
08/13/25	13:04:17	200			11.09	1.14	18.4	6.28	0.290	-45.3	44.5	NA
08/13/25	13:08:17	200			11.14	1.0	18.3	6.27	0.288	-46.5	26.2	NA
08/13/25	13:12:15	200			11.15	0.91	18.3	6.31	0.286	-47.3	14.9	NA

5-Sample

Date	08/13/2025	Time	12:43:18
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/13/2025	Sample Time	13:15
Sample ID	RGW173S-R-20250813	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	4	Matrix	Water
Filtered?	NO	Bottles	2x HCl VOA, 1x 250mL H2SO4 amber, 1x 250mL HDPE HNO3 poly
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW226S

1-Well Integrity

Date	08/12/2025	Time	11:48:55
Inspector Name	Gordon Davies	Well Permit Number	BHB-419
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	0.39	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/12/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/12/2025	Time	11:48:55
Top of Casing	26.86	PID	NA
Initial DTW (ft)	10.41	Final DTW (ft)	10.80
Groundwater elevation	16.45	Well Depth (ft)	20
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/12/2025	Time	11:48:55
Weather Conditions	Sunny, Hot	Purge Method	Low-flow Bladder Pump
Purge Volume Units	ml	Purge Rate	250
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	12.5	Depth to Water (ft bmp)	10.41
Measured Well Depth (ft bmp)	20	Water Column in Well	9.59
Gallons in Well	1.56418		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/13/25	11:53:03	250		800	10.76	4.62	18.5	6.37	0.339	-49.7	77.4	NA
08/13/25	11:57:09	250			10.72	2.73	18.1	6.31	0.301	-61.0	73.5	NA
08/13/25	12:01:06	250			10.81	1.90	18.0	6.26	0.283	-57.1	31.5	NA
08/13/25	12:05:46	250			10.71	1.44	18.1	6.24	0.275	-53.0	12.3	NA
08/13/25	12:09:15	250			10.80	1.23	18.3	6.34	0.273	-52.2	10.3	NA
08/13/25	12:13:25	250			10.73	1.08	18.1	6.23	0.272	-52.4	8.04	NA
08/13/25	12:17:36	250			10.76	0.96	18.1	6.23	0.271	-53.1	5.53	NA
08/13/25	12:21:20	250	933.3333		10.75	0.87	18.3	6.23	0.272	-54.3	3.91	NA

5-Sample

Date	08/12/2025	Time	11:48:56
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/13/2025	Sample Time	12:25
Sample ID	RGW226S-R-20250813	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	4	Matrix	Water
Filtered?	NO	Bottles	2x HCl VOA, 1x 250mL H2SO4 amber, 1x 250mL HDPE HNO3 poly
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW232S

1-Well Integrity

Date	08/13/2025	Time	14:08:23
Inspector Name	Gordon Davies	Well Permit Number	BID-798
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	NA	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/13/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/13/2025	Time	14:08:23
Top of Casing	24.45	PID	NA
Initial DTW (ft)	7.75	Final DTW (ft)	NA
Groundwater elevation	16.7	Well Depth (ft)	14
Free Product?	No	Well Dry?	N
Remarks	Well dry by end of sample		

3-Wellhead

Date	08/13/2025	Time	14:08:23
Weather Conditions	Hot, Sunny	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	200
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	9	Depth to Water (ft bmp)	7.75
Measured Well Depth (ft bmp)	14	Water Column in Well	6.25
Gallons in Well	1.01941		
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/13/25	14:20:14	200		800	7.75	6.48	19.5	5.94	0.533	40.1	82.4	NA
08/13/25	14:24:33	200			8.85	5.99	18.5	6.1	0.533	9.4	24.9	NA
08/13/25	14:28:07	200			9.34	5.45	18.3	6.12	0.519	-15.8	9.72	NA
08/13/25	14:32:05	200			10.03	4.91	18.6	6.12	0.500	-32.5	7.24	NA
08/13/25	14:36:15	200			10.88	4.54	19.1	6.11	0.490	-39.9	8.93	NA
08/13/25	14:40:17	200			NA	4.26	19.3	6.11	0.488	-44.4	9.87	Water below top off pump
08/13/25	14:44:04	200			NA	4.07	19.6	6.11	0.488	-48.3	9.72	NA
08/13/25	14:48:02	200			NA	3.85	20.6	6.11	0.495	-52.9	8.68	NA

5-Sample

Date	08/13/2025	Time	14:08:23
Did Well Dewater?	Yes	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/13/2025	Sample Time	13:48
Sample ID	RGW232S-R-20250813	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	4	Matrix	Water
Filtered?	NO	Bottles	2x HCl VOA, 1x 250mL H2SO4 amber, 1x 250mL HDPE HNO3 poly
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW234S

1-Well Integrity

Date	08/13/2025	Time	10:15:50
Inspector Name	Gordon Davies	Well Permit Number	BID-841
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	No	Ponded Water Inside Casing	Yes
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	0	Did well meet SAP/WP stabilization requirements before sampling?	Yes
Instrument calibration date	08/13/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/13/2025	Time	10:15:50
Top of Casing	24.95	PID	NA
Initial DTW (ft)	9.16	Final DTW (ft)	9.04
Groundwater elevation	15.79	Well Depth (ft)	13
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/13/2025	Time	10:15:50
Weather Conditions	Hot, Sunny	Purge Method	Low-flow Bladder Pump
Purge Volume Units	ml	Purge Rate	200
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	8	Depth to Water (ft bmp)	9.16
Measured Well Depth (ft bmp)	13	Water Column in Well	3.84
Gallons in Well	0.62633		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/13/25	10:20:24	200		800	9.05	6.82	18.3	5.95	0.245	51.5	252	NA
08/13/25	10:24:17	200			9.12	6.25	17.4	6.05	0.233	19.7	178	NA
08/13/25	10:28:03	200			9.08	5.76	17.3	6.05	0.234	7.4	60.3	NA
08/13/25	10:32:10	200			9.05	5.37	17.0	6.06	0.235	-1.9	33.0	NA
08/13/25	10:36:21	200			9.07	5.06	17.3	6.07	0.236	-7.9	15.8	NA
08/13/25	10:40:33	200			9.03	4.83	17.3	6.07	0.236	-12.5	11.1	NA
08/13/25	10:44:01	200			9.06	4.67	17.3	6.16	0.235	-15.9	6.03	NA

5-Sample

Date	08/13/2025	Time	10:15:50
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/13/2025	Sample Time	10:45
Sample ID	RGW234S-20250813	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Gordon Davies
No. of Containers	4	Matrix	Water
Filtered?	NO	Bottles	2x HCl VOA, 1x 250mL H2SO4 amber, 1x 250mL HDPE HNO3 poly
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW235I

1-Well Integrity

Date	08/13/2025	Time	09:15:36
Inspector Name	Gordon Davies	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	No
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	Yes
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	Water pumped out of monument
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	0.03	Did well meet SAP/WP stabilization requirements before sampling?	Yes
Instrument calibration date	08/13/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/13/2025	Time	09:15:36
Top of Casing	24.9	PID	NA
Initial DTW (ft)	8.33	Final DTW (ft)	8.36
Groundwater elevation	16.57	Well Depth (ft)	25
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/13/2025	Time	09:15:36
Weather Conditions	Hot, Sunny	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	220
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	20	Depth to Water (ft bmp)	8.33
Measured Well Depth (ft bmp)	25	Water Column in Well	16.67
Gallons in Well	2.71897		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/13/25	09:20:45	220		880	8.42	8.06	16.0	6.18	0.216	55.6	44.4	NA
08/13/25	09:24:34	220			8.37	7.34	15.0	6.26	0.212	17.7	43.8	NA
08/13/25	09:28:18	220			8.39	6.78	15.0	6.29	0.209	1.4	13.7	NA
08/13/25	09:32:21	220			8.39	6.29	14.9	6.31	0.208	-10.7	8.3	NA
08/13/25	09:36:13	220			8.40	5.86	15.1	6.32	0.209	-18.8	5.88	NA
08/13/25	09:40:21	220			8.39	5.62	15.2	6.32	0.209	-22.7	4.91	NA
08/13/25	09:44:50	220			8.4	5.37	15.1	6.33	0.209	-26.4	3.03	NA

5-Sample

Date	08/13/2025	Time	09:15:36
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/13/2025	Sample Time	09:45
Sample ID	RGW235I-20250813	Duplicate Sample ID	DUP1-20250813
Dup Sample Time	00:00	Sampler's Name	Gordon Davies
No. of Containers	4	Matrix	Water
Filtered?	NO	Bottles	2x HCl VOA, 1x 250mL H2SO4 amber, 1x 250mL HDPE HNO3 poly
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW236S

1-Well Integrity

Date	08/13/2025	Time	09:24:28
Inspector Name	Jacklyn Perkins	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	Yes
Well Cap Present	Yes	Inside Measurement Point	No
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	Yes
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	GeoTech Bladder Pump
Total drawdown	0.74	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/13/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/13/2025	Time	09:24:28
Top of Casing	24.36	PID	NA
Initial DTW (ft)	8.36	Final DTW (ft)	9.1
Groundwater elevation	16.0	Well Depth (ft)	15
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/13/2025	Time	09:24:28
Weather Conditions	Cloudy	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	250
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	10	Depth to Water (ft bmp)	8.36
Measured Well Depth (ft bmp)	15	Water Column in Well	6.64000
Gallons in Well	1.08302		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/13/25	09:28:43	250		1000	9.32	4.08	16.5	6.04	0.416	-63.5	123	NA
08/13/25	09:33:26	250			9.40	2.19	16.8	6.20	0.338	-80.4	65.9	NA
08/13/25	09:37:04	250			9.46	1.77	17.0	6.2	0.226	-74.3	24.0	NA
08/13/25	09:41:04	250			9.48	1.46	17.2	6.20	0.275	-66.1	6.74	NA
08/13/25	09:45:04	250			9.52	1.30	17.3	6.21	0.271	-62.2	3.68	NA
08/13/25	09:49:18	250			9.46	1.20	17.3	6.25	0.271	-59.3	2.44	NA
08/13/25	09:53:25	250			9.54	1.15	17.3	6.25	0.271	-57.0	1.81	NA
08/13/25	09:57:02	250	904.1666		9.47	1.14	17.3	6.26	0.271	-53.7	0.99	NA

5-Sample

Date	08/13/2025	Time	09:24:29
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/13/2025	Sample Time	10:00
Sample ID	RGW236S-20250813	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Jacklyn Perkins
No. of Containers	4	Matrix	Water
Filtered?	NO	Bottles	2x HCl VOA, 1x 250mL H2SO4 amber, 1x 250mL HDPE HNO3 poly
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW009S

1-Well Integrity

Date	08/15/2025	Time	14:37:29
Inspector Name	Jacklyn Perkins	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	No
Well Cap Present	Yes	Inside Measurement Point	No
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	QED Bladder Pump
Total drawdown	0	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/15/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/15/2025	Time	14:37:30
Top of Casing	19.36	PID	NA
Initial DTW (ft)	5.28	Final DTW (ft)	5.28
Groundwater elevation	14.08000	Well Depth (ft)	14.5
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/15/2025	Time	14:37:30
Weather Conditions	Rain	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	250
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	9.5	Depth to Water (ft bmp)	5.47
Measured Well Depth (ft bmp)	14.5	Water Column in Well	9.22000
Gallons in Well	1.50383		
Remarks	NA		



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

4-Stabilization Parameters

Date	Time	Flow Rate	Purge Volume	Cuml Vol Purged	DTW (ft)	Dissolve Oxygen (mg/L)	Tempera (C)	pH (SU)	Spec Cond (mS/cm)	ORP (mV)	Turbidity (NTU)	Remarks
08/15/25	14:39:38	250	125	125	5.28	6.46	20.7	6.19	0.355	36.3	8.91	NA
08/15/25	14:43:45	250	1029.166		5.28	6.00	20.4	6.26	0.392	19.6	6.56	NA
08/15/25	14:47:19	250	891.6666		5.28	5.74	20.2	6.28	0.390	-3.1	3.79	NA
08/15/25	14:51:07	250	950.0		5.28	5.56	20.2	6.30	0.392	-19.3	2.75	NA
08/15/25	14:55:18	250	1045.833		5.28	5.38	20.1	6.31	0.394	-34.8	4.02	NA
08/15/25	14:59:26	250			5.28	5.23	20.1	6.32	0.393	-44.7	3.14	NA
08/15/25	15:03:55	250	1120.833		5.28	5.11	20.1	6.32	0.393	-50.8	5.12	NA
08/15/25	15:07:39	250	933.3333		5.28	5.00	20.1	6.33	0.393	-55.9	2.21	NA

5-Sample

Date	08/15/2025	Time	14:37:31
Did Well Dewater?	No	Location of disposed purge water	Boeing RTN wastewater treatment plant
How were samples preserved?	Cooler with regular ice	How were samples transported to lab?	Sampler drop-off at lab
Sample Date	8/15/2025	Sample Time	15:10
Sample ID	RGW009S-20250815	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	Jacklyn Perkins
No. of Containers	3	Matrix	Water
Filtered?	NO	Bottles	2x HCl VOA, 1x 250mL H2SO4 amber
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW010S

1-Well Integrity

Date	08/15/2025	Time	15:01:10
Inspector Name	Gordon Davies	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	No
Well Cap Present	Yes	Inside Measurement Point	No
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	NA
Total drawdown	NA	Did well meet SAP/WP stabilization requirements before sampling?	No
Instrument calibration date	08/15/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/15/2025	Time	15:01:10
Top of Casing	19.47	PID	NA
Initial DTW (ft)	5.47	Final DTW (ft)	NA
Groundwater elevation	14.0	Well Depth (ft)	14.5
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/15/2025	Time	15:01:10
Weather Conditions	Rain	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	NA
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	9.5	Depth to Water (ft bmp)	5.47
Measured Well Depth (ft bmp)	14.5	Water Column in Well	
Gallons in Well			
Remarks	NA		



Detailed Low Flow Sampling Info
Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

Project No: US0041831.2092

4-Stabilization Parameters

5-Sample

Date	08/15/2025	Time	15:01:10
Did Well Dewater?	NA	Location of disposed purge water	NA
How were samples preserved?	NA	How were samples transported to lab?	NA
Sample Date	NA	Sample Time	NA
Sample ID	NA	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	NA
No. of Containers	NA	Matrix	Water
Filtered?	NO	Bottles	NA
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW011D

1-Well Integrity

Date	08/15/2025	Time	15:04:15
Inspector Name	Gordon Davies	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	No
Well Cap Present	Yes	Inside Measurement Point	No
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	NA
Total drawdown	NA	Did well meet SAP/WP stabilization requirements before sampling?	NA
Instrument calibration date	08/15/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/15/2025	Time	15:04:15
Top of Casing	19.49	PID	NA
Initial DTW (ft)	5.47	Final DTW (ft)	NA
Groundwater elevation	14.02	Well Depth (ft)	39
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/15/2025	Time	15:04:15
Weather Conditions	Rain	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	NA
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	34	Depth to Water (ft bmp)	4.98
Measured Well Depth (ft bmp)	39	Water Column in Well	
Gallons in Well			
Remarks	NA		



Detailed Low Flow Sampling Info
Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

Project No: US0041831.2092

4-Stabilization Parameters

5-Sample

Date	08/15/2025	Time	15:04:15
Did Well Dewater?	NA	Location of disposed purge water	NA
How were samples preserved?	NA	How were samples transported to lab?	NA
Sample Date	NA	Sample Time	NA
Sample ID	NA	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	NA
No. of Containers	NA	Matrix	Water
Filtered?	NO	Bottles	NA
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW263S

1-Well Integrity

Date	08/15/2025	Time	12:05:00
Inspector Name	Jacklyn Perkins	Well Permit Number	BIX-489
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	NA
Total drawdown	NA	Did well meet SAP/WP stabilization requirements before sampling?	NA
Instrument calibration date	08/15/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/15/2025	Time	13:51:17
Top of Casing	21.68	PID	NA
Initial DTW (ft)	7.86	Final DTW (ft)	NA
Groundwater elevation	13.82	Well Depth (ft)	18
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/15/2025	Time	12:05:00
Weather Conditions	Rain	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	200
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	13	Depth to Water (ft bmp)	6.46
Measured Well Depth (ft bmp)	18	Water Column in Well	
Gallons in Well		Date	08/15/2025
Time	13:51:17	Weather Conditions	Rain



Detailed Low Flow Sampling Info

Project No: US0041831.2092

Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057

Client: The Boeing Company

Purge Method	Low-flow Bladder Pump	Purge Volume Units	mL
Purge Rate	NA	Water Quality Meter	YSI
Sampling Type	Low Flow	Casing Material	PVC
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	13
Depth to Water (ft bmp)	6.29	Measured Well Depth (ft bmp)	18
Water Column in Well		Gallons in Well	
Remarks	NA		
Remarks	NA		

4-Stabilization Parameters

5-Sample

Date	08/15/2025	Time	13:51:17
Did Well Dewater?	NA	Location of disposed purge water	NA
How were samples preserved?	NA	How were samples transported to lab?	NA
Sample Date	NA	Sample Time	NA
Sample ID	NA	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	NA
No. of Containers	NA	Matrix	Water
Filtered?	NO	Bottles	NA
Remarks	NA		



Detailed Low Flow Sampling Info
 Site: Boeing Renton
 737 Logan Avenue N, Renton, Washington
 98057
 Client: The Boeing Company

Project No: US0041831.2092

RGW265S

1-Well Integrity

Date	08/15/2025	Time	13:50:46
Inspector Name	Gordon Davies	Well Permit Number	No tag
Type of well head	Flush Mount	Freely accessible	Yes
Ground Pad Intact	Yes	Security Case and Cover	Yes
Lock Present and Operable	Yes	Outside ID Intact	NA
Well Cap Present	Yes	Inside Measurement Point	Yes
Inside Casing Clear of Debris	Yes	Ponded Water Inside Casing	No
No Apparent Physical Damage	Yes	Any cleanup performed (explain)	No
Any repairs/replacement (explain)	No	Pump	NA
Total drawdown	NA	Did well meet SAP/WP stabilization requirements before sampling?	NA
Instrument calibration date	08/15/2025	Instrument calibration time	07:00
Comments	NA		

2-Gauging

Date	08/15/2025	Time	13:50:46
Top of Casing	21.64	PID	NA
Initial DTW (ft)	6.29	Final DTW (ft)	NA
Groundwater elevation	15.35000	Well Depth (ft)	18
Free Product?	No	Well Dry?	N
Remarks	NA		

3-Wellhead

Date	08/15/2025	Time	13:50:46
Weather Conditions	Rain	Purge Method	Low-flow Bladder Pump
Purge Volume Units	mL	Purge Rate	NA
Water Quality Meter	YSI	Sampling Type	Low Flow
Casing Material	PVC	Casing Diameter (in)	2
Pump Intake Depth (ft bmp)	13	Depth to Water (ft bmp)	6.29
Measured Well Depth (ft bmp)	18	Water Column in Well	
Gallons in Well			
Remarks	NA		



Detailed Low Flow Sampling Info
Site: Boeing Renton
737 Logan Avenue N, Renton, Washington
98057
Client: The Boeing Company

Project No: US0041831.2092

4-Stabilization Parameters

5-Sample

Date	08/15/2025	Time	13:50:46
Did Well Dewater?	NA	Location of disposed purge water	NA
How were samples preserved?	NA	How were samples transported to lab?	NA
Sample Date	NA	Sample Time	NA
Sample ID	NA	Duplicate Sample ID	NA
Dup Sample Time	NA	Sampler's Name	NA
No. of Containers	NA	Matrix	Water
Filtered?	NO	Bottles	NA
Remarks	NA		



APPENDIX C
DATA VALIDATION
MEMOS



6. Field Duplicates – Acceptable

Field duplicates were not collected at this site during this sampling event. The project frequency requirement of one field duplicate for every 20 samples was achieved with field duplicate samples collected at other sites included in this sampling event.

7. Reporting Limits and Laboratory Flags – Acceptable

OVERALL ASSESSMENT OF DATA

The table below summarizes the data assessment. The completeness of ARI work order number 25H0270 is 100 percent. The usefulness of these data was evaluated based on EPA guidance documents listed in the introduction to this report. No problems were identified, and analytical performance was within specified limits.

Sample ID	Qualified Analyte
RGW230I-20250813	none
Trip Blank	none

REFERENCES

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler), 2016, Quality Assurance Project Plan, Boeing Renton Facility, Renton, Washington: Prepared for the Boeing Company, February.

U.S. Environmental Protection Agency (EPA), 2020, U.S. EPA National Functional Guidelines for Organic Superfund Methods Data Review: EPA 540-R-20-005, November.

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ARI received the samples on August 13, 2025. The temperature of the coolers was recorded upon receipt and all coolers were below the maximum acceptable temperature of 6 degrees Celsius.

ORGANIC ANALYSES

Samples were analyzed for VOCs. Laboratory data were evaluated for the following parameters:

1. Preservation and Holding Times – Acceptable
2. Blanks – Acceptable
3. Surrogates – Acceptable
4. LCS/LCSD – Acceptable
5. MS/MSD – Acceptable

Extra volume was not submitted for analysis of MS/MSD samples. The project frequency requirement was achieved with MS/MSD analysis conducted at other sites included in this sampling event.

6. Field Duplicates – Acceptable

One field duplicate was submitted for each analysis during this sampling event, meeting the project frequency requirement of five percent, or one for every 20 samples. Primary and duplicate results are summarized in the table below. The project-specific control limit for field duplicate relative percent differences (RPDs) is 30 percent for concentrations greater than five times the reporting limit. The RPD is not calculated for results that are less than five times the reporting limit, as indicated on the table below by "NC." In these cases, the absolute value of the difference between the primary and duplicate result should not exceed the value of the reporting limit. The field duplicate RPDs were within the control limits.

Sample ID/ Field Duplicate ID	Analyte	Primary Result (ng/L)	Duplicate Result (ng/L)	Reporting Limit (ng/L)	RPD (%)
RGW2531-20250813/ DUP1-20250813	Vinyl chloride	63.3	65.7	20.0	NC
	cis-1,2-Dichloroethene	343	340	20.0	1

Abbreviations

ng/L = nanograms per liter

RPD = relative percent difference

NC = not calculated

7. Reporting Limits and Laboratory Flags – Acceptable

INORGANIC ANALYSES

Samples were analyzed for metals and TOC. Laboratory data were evaluated for the following parameters.

1. Preservation and Holding Times – Acceptable
2. Blanks – Acceptable
3. LCS – Acceptable
4. MS – Acceptable
5. Laboratory Duplicate – Acceptable
6. Field Duplicates – Acceptable

One field duplicate was submitted for each analysis during this sampling event, meeting the project frequency requirement of five percent, or one for every 20 samples. Primary and duplicate results are summarized in the table below. The project-specific control limit for field duplicate RPDs is 30 percent for concentrations greater than five times the reporting limit. The RPD is not calculated for results that are less than five times the reporting limit, as indicated on the table below by "NC." In these cases, the



absolute value of the difference between the primary and duplicate result should not exceed the value of the reporting limit. The field duplicate RPDs were within control limits.

Sample ID/ Field Duplicate ID	Analyte	Primary Result	Duplicate Result	Average Reporting Limit	RPD (%)
RGW235I-20250813/ DUP1-20250813	TOC	0.80 mg/L	0.78 mg/L	0.50 mg/L	NC
	total arsenic	0.163 µg/L	0.150 µg/L	0.200 µg/L	NC
	total copper	0.518 µg/L	0.391 µg/L	0.500 µg/L	NC

Abbreviations:

µg/L = micrograms per liter
mg/L = milligrams per liter

NC = not calculated
RPD = relative percent difference

TOC = total organic carbon

7. Reporting Limits and Laboratory Flags – Acceptable

ARI J qualified the detected total copper results from samples RGW172S-20250813, RGW226S-20250813, RGW234S-20250813, and DUP1-20250813 because the detected results were less than the reporting limit. WSP agrees that these results are quantitatively uncertain and has maintained ARI's J qualifiers. (J, DL)

ARI J qualified the detected total lead results from samples RGW153S-20250813, RGW232S-20250813, and RGW234S-20250813 because the detected results were less than the reporting limit. WSP agrees that these results are quantitatively uncertain and has maintained ARI's J qualifiers. (J, DL)

ARI J qualified the detected total arsenic result from samples RGW235I-20250813 and DUP1-20250813 because the detected result was less than the reporting limit. WSP agrees that this result is quantitatively uncertain and has maintained ARI's J qualifier. (J, DL)

OVERALL ASSESSMENT OF DATA

The table below summarizes the data assessment. The completeness of work order numbers 25H0254 is 100 percent. The usefulness of these data was evaluated based on EPA guidance documents listed in the introduction to this report. Few problems were identified, and analytical performance was generally within specified limits. The data meet the project's data quality objectives.

Sample ID	Qualified Analyte	Reason for Qualifier	Qualified Result
RGW152S-20250813	None	NA	NA
RGW153S-20250813	Total lead	Detected result less than the RL	0.148 µg/L J
RGW172S-20250813	Total copper	Detected result less than the RL	0.493 µg/L J
RGW173S-20250813	None	NA	NA
RGW226S-20250813	Total copper	Detected result less than the RL	0.485 µg/L J
RGW232S-20250813	Total lead	Detected result less than the RL	0.153 µg/L J
RGW234S-20250813	Total copper	Detected result less than the RL	0.396 µg/L J
	Total lead	Detected result less than the RL	0.102 µg/L J
RGW235I-20250813	Total arsenic	Detected result less than the RL	0.163 µg/L J
RGW236S-20250813	None	NA	NA
DUP1-20250813	Total arsenic	Detected result less than the RL	0.150 µg/L J
	Total copper	Detected result less than the RL	0.391 µg/L J
Trip Blank	None	NA	NA

Abbreviation

NA = not applicable

µg/L = micrograms per liter

mg/L = milligram per liter

RL = reporting limit



REFERENCES

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler), 2016, Quality Assurance Project Plan, Boeing Renton Facility, Renton, Washington: Prepared for the Boeing Company, February.

U.S. Environmental Protection Agency (EPA), 2020a, U.S. EPA National Functional Guidelines for Organic Superfund Methods Data Review: EPA 540-R-20-005, November.

EPA, 2020b, U.S. EPA National Functional Guidelines for Inorganic Superfund Methods Data Review: EPA 542-R-20-006, November.

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only received 4 containers for the trip blank associated with the samples reviewed in this report, while the COC listed a total of 6 containers. There was sufficient volume remaining and ARI proceeded with analysis.

ORGANIC ANALYSES

Samples were analyzed for VOCs and TPH-G. Laboratory data were evaluated for the following parameters:

1. Preservation and Holding Times – Acceptable
2. Blanks – Acceptable
3. Surrogates – Acceptable
4. LCS/LCSD – Acceptable
5. MS/MSD – Acceptable

Extra volume was not submitted for analysis of MS/MSD samples. The project frequency requirement was achieved with MS/MSD analysis conducted at other sites included in this sampling event.

6. Field Duplicates – Acceptable

One field duplicate was submitted for each analysis during this sampling event, meeting the project frequency requirement of five percent, or one for every 20 samples. Primary and duplicate results are summarized in the table below. The relative percent differences (RPDs) for the field duplicate are within the project-specific control limit of 30 percent for concentrations greater than five times the reporting limit. The RPD is not calculated for results that are less than five times the reporting limit, as indicated on the table below by “NC.” In these cases, the absolute value of the difference between the primary and duplicate result should not exceed the value of the reporting limit. As shown in the table below, the field duplicate results are acceptable.

Sample ID/ Field Duplicate ID	Analyte	Primary Result (µg/L)	Duplicate Result (µg/L)	Reporting Limit (µg/L)	RPD (%)
RGW033S-20250814/ DUP2-20250814	Vinyl Chloride	0.54	0.50	0.20	NC
	cis-1,2-Dichloroethene	0.21	0.23	0.20	NC
	Benzene	3.70	4.00	0.20	8
	TPH-G	247	212	100	NC

Abbreviations

µg/L = micrograms per liter

RPD = relative percent difference

TPH-G = total petroleum hydrocarbons as gasoline

7. Reporting Limits and Laboratory Flags – Acceptable

INORGANIC ANALYSES

Samples were analyzed for TOC. Laboratory data were evaluated for the following parameters:

1. Preservation and Holding Times – Acceptable except as noted:

According to the laboratory, the 250 mL amber glass jar for sample RGW031S-R-20250814 was received at an elevated pH >2. ARI adjusted the pH upon receipt and proceeded with analysis.

2. Blanks – Acceptable
3. LCS – Acceptable
4. MS/MSD – Acceptable



Extra volume was not submitted for analysis of MS/MSD samples. The project frequency requirement was achieved with MS/MSD analysis conducted at other sites included in this sampling event.

5. Laboratory Duplicates – Acceptable

ARI did not perform a laboratory duplicate analysis on the samples reviewed in this report.

6. Field Duplicates – Acceptable

One field duplicate was submitted for each analysis during this sampling event, meeting the project frequency requirement of five percent, or one for every 20 samples. Primary and duplicate results are summarized in the table below. The RPD is acceptable.

Sample ID/ Field Duplicate ID	Analyte	Primary Result (mg/L)	Duplicate Result (mg/L)	Reporting Limit (mg/L)	RPD (%)
RGW033S-20250814/ DUP2-20250814	TOC	10.93	11.26	0.50	3

Abbreviations:

mg/L = milligrams per liter
 RPD = relative percent difference
 TOC = total organic carbon

7. Reporting Limits and Laboratory Flags – Acceptable

OVERALL ASSESSMENT OF DATA

The table below summarizes the data assessment. The completeness of work order number 25H0284 is 100 percent. Evaluation of the usefulness of these data is based on EPA guidance documents identified in the introduction to this report. Few problems were identified, and analytical performance was within specified limits. The data meet the project's data quality objectives.

Sample ID	Qualified Analyte	Reason for Qualifier	Qualified Result (µg/L)
RGW031S-R-20250814	none	NA	none
RGW033S-20250814	none	NA	none
RGW034S-20250814	none	NA	none
RGW143S-20250814	none	NA	none
RGW237S-20250814	none	NA	none
RGW240D-20250814	none	NA	none
RGW-244S-R-20250814	none	NA	none
DUP2-20250814	none	NA	none
Trip Blank	none	NA	none

Abbreviations:

NA = not applicable



REFERENCES

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler), 2016, Quality Assurance Project Plan, Boeing Renton Facility, Renton, Washington: Prepared for the Boeing Company, February.

U.S. Environmental Protection Agency (EPA), 2020a, U.S. EPA National Functional Guidelines for Organic Superfund Methods Data Review: EPA 540-R-20-005, November.

EPA, 2020b, U.S. EPA National Functional Guidelines for Inorganic Superfund Methods Data Review: EPA 542-R-20-006, November.

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Field duplicates were not collected at this site during this sampling event. The project frequency requirement of one field duplicate for every 20 samples was achieved with field duplicate samples collected at other sites included in this sampling event.

7. Reporting Limits and Laboratory Flags – Acceptable

OVERALL ASSESSMENT OF DATA

The table below summarizes the data review. The completeness of ARI work order numbers 25H0315 is 100 percent. Evaluation of the usefulness of these data is based on EPA guidance documents listed in the introduction to this report. Few problems were identified, and analytical performance was generally within specified limits. The data meet the project's data quality objectives.

Sample ID	Qualified Analyte	Reason for Qualifier	Qualified Result (mg/L)
RGW221S-20250815	none	NA	none
RGW224S-20250815	TPH-D	Low MS recovery	0.865 J

Abbreviations:

NA = not applicable

TPH-D = diesel range organics

REFERENCES

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler), 2016, Quality Assurance Project Plan, Boeing Renton Facility, Renton, Washington: Prepared for the Boeing Company, February.

U.S. Environmental Protection Agency (EPA), 2020a, U.S. EPA National Functional Guidelines for Organic Superfund Methods Data Review: EPA 540-R-20-005, November.

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Sample ID	Laboratory Sample ID	Requested Analyses
RGW247S-R-20250812	25H0229-03	SIM VOCs, TOC
RGW248I-20250812	25H0229-04	SIM VOCs, TOC
Trip Blank	25H0229-05	SIM VOCs

Data were reviewed in accordance with the appropriate method procedures and criteria documented in the Quality Assurance Project Plan (QAPP) (Amec Foster Wheeler, 2016). The control limits provided in the QAPP are advisory limits; therefore, the most current control limits provided by the laboratory were used to evaluate the quality control data. In cases where the laboratory did not track limits for an analyte, the limits in the QAPP were used.

Holding times, method/trip blanks, surrogate recoveries, laboratory control samples (LCS) and laboratory control sample duplicates (LCSD), matrix spike/matrix spike duplicates (MS/MSD), field duplicates, and reporting limits were reviewed where available to assess compliance with applicable methods. If qualification was required, data were qualified based on the definitions and use of qualifying flags outlined in the EPA guidance documents (EPA, 2020a and b).

ARI received the samples between August 11 and 12, 2025. The temperature of the coolers was recorded upon receipt and all the coolers were below the maximum acceptable temperature of 6 degrees Celsius.

ORGANIC ANALYSES

Samples were analyzed for VOCs. Laboratory data were evaluated for the following parameters:

1. Preservation and Holding Times – Acceptable except as noted:

Almost all or all of the VOA vials for all samples in SDGs 25H0209 and 25H0229 contained air bubbles upon laboratory receipt. Data limitations are summarized below.

- WSP J qualified the detected and UJ qualified the non-detect VOC results from samples RGW185S-R-20250811, RGW196D-R-20250811, RGW190S-R-20250811, RGW246S-R-20250811, RGW188S-20250812, RGW249S-20250812, and RGW248I-20250812 due to improper preservation. (J/UJ, NP)
- There were sufficient remaining vials with acceptable preservation for the remaining associated samples and ARI proceeded with analysis. No data were qualified.

2. Blanks – Acceptable

3. Surrogates – Acceptable

4. LCS/LCSD – Acceptable

5. MS/MSD – Acceptable

Extra volume was not submitted for analysis of MS/MSD samples. The project frequency requirement was achieved with MS/MSD analysis conducted at other sites included in this sampling event.

6. Field Duplicates – Acceptable

Field duplicates were not collected at this site during this sampling event. The project frequency requirement of one field duplicate for every 20 samples was achieved with field duplicate samples collected at other sites included in this sampling event.

7. Reporting Limits and Laboratory Flags – Acceptable



INORGANIC ANALYSES

Samples were analyzed for TOC. Laboratory data were evaluated for the following parameters:

1. Preservation and Holding Times – Acceptable
2. Blanks – Acceptable
3. LCS – Acceptable
4. MS – Acceptable

Extra volume was not submitted for analysis of MS/MSD samples. The project frequency requirement was achieved with MS/MSD analysis conducted at other sites included in this sampling event.

5. Laboratory Duplicates – Acceptable

The laboratory did not perform duplicate analyses on the samples reviewed in this report.

6. Field Duplicates – Acceptable

Field duplicates were not collected at this site during this sampling event. The project frequency requirement of one field duplicate for every 20 samples was achieved with field duplicate samples collected at other sites included in this sampling event.

7. Reporting Limits and Laboratory Flags – Acceptable

OVERALL ASSESSMENT OF DATA

The table below summarizes the data assessment. The completeness of work order numbers 25H0209, 25H0228, and 25H0229 is 100 percent. The usefulness of these data was evaluated based on EPA guidance documents listed in the introduction to this report. Few problems were identified, and analytical performance was generally within specified limits.

Sample ID	Qualified Analyte	Reason for Qualifier	Qualified Result
RGW195S-R-20250811	none		
RGW185S-R-20250811	Benzene	Improper preservation	0.20 µg/L UJ
	Vinyl chloride	Improper preservation	144 ng/L J
	1,1-Dichloroethene	Improper preservation	20.0 ng/L UJ
	cis-1,2-Dichloroethene	Improper preservation	265 ng/L J
	Trichloroethene	Improper preservation	20.0 ng/L UJ
RGW193S-R-20250811	none	NA	none
RGW197S-R-20250811	none	NA	none
RGW196D-R-20250811	Benzene	Improper preservation	0.20 µg/L UJ
	Vinyl chloride	Improper preservation	20.0 ng/L UJ
	1,1-Dichloroethene	Improper preservation	20.0 ng/L UJ
	cis-1,2-Dichloroethene	Improper preservation	42.8 ng/L J
	Trichloroethene	Improper preservation	20.0 ng/L UJ



Sample ID	Qualified Analyte	Reason for Qualifier	Qualified Result
RGW190S-R-20250811	Benzene	Improper preservation	0.20 µg/L UJ
	Vinyl chloride	Improper preservation	77.7 ng/L J
	1,1-Dichloroethene	Improper preservation	20.0 ng/L UJ
	cis-1,2-Dichloroethene	Improper preservation	188 ng/L J
	Trichloroethene	Improper preservation	20.0 ng/L UJ
RGW246S-R-20250811	Benzene	Improper preservation	0.20 µg/L UJ
	Vinyl chloride	Improper preservation	106 ng/L J
	1,1-Dichloroethene	Improper preservation	20.0 ng/L UJ
	cis-1,2-Dichloroethene	Improper preservation	224 ng/L J
	Trichloroethene	Improper preservation	20.0 ng/L UJ
Trip Blank	none	NA	none
RGW245S-R-20250812	none	NA	none
RGW191D-R-20250812	none	NA	none
RGW192S-R-20250812	none	NA	none
RGW215S-R-20250812	none	NA	none
RGW214S-R-20250812	none	NA	none
RGW213S-R-20250812	none	NA	none
Trip Blank	none	NA	none
RGW188S-20250812	Vinyl chloride	Improper preservation	198 ng/L J
	1,1-Dichloroethene	Improper preservation	30.1 ng/L J
	cis-1,2-Dichloroethene	Improper preservation	20.0 ng/L UJ
	Trichloroethene	Improper preservation	20.0 ng/L UJ
RGW249S-20250812	Vinyl chloride	Improper preservation	338 ng/L J
	1,1-Dichloroethene	Improper preservation	63.2 ng/L J
	cis-1,2-Dichloroethene	Improper preservation	20.0 ng/L UJ
	Trichloroethene	Improper preservation	20.0 ng/L UJ
RGW247S-R-20250812	none	NA	none
RGW248I-20250812	Vinyl chloride	Improper preservation	478 ng/L J
	1,1-Dichloroethene	Improper preservation	20.0 ng/L UJ
	cis-1,2-Dichloroethene	Improper preservation	20.0 ng/L UJ
	Trichloroethene	Improper preservation	20.0 ng/L UJ
Trip Blank	none	NA	none

Abbreviations

NA = not applicable

µg/L = micrograms per liter

ng/L = nanograms per liter



REFERENCES

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler), 2016, Quality Assurance Project Plan, Boeing Renton Facility, Renton, Washington: Prepared for the Boeing Company, February.

U.S. Environmental Protection Agency (EPA), 2020a, U.S. EPA National Functional Guidelines for Organic Superfund Methods Data Review: EPA 540-R-20-005, November.

EPA, 2020b, U.S. EPA National Functional Guidelines for Inorganic Superfund Methods Data Review: EPA 542-R-20-006, November.

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OVERALL ASSESSMENT OF DATA

The table below summarizes the data review. The completeness of work order number 25H0321 is 100 percent. The usefulness of these data was evaluated based on EPA guidance documents listed in the introduction to this report. No problems were identified, and analytical performance was within specified limits.

Sample ID	Qualified Analyte
RGW250S-20250815	None

REFERENCES

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler), 2016, Quality Assurance Project Plan, Boeing Renton Facility, Renton, Washington: Prepared for the Boeing Company, February.

EPA, 2020b, U.S. EPA National Functional Guidelines for Inorganic Superfund Methods Data Review: EPA 542-R-20-006, November.

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2. Blanks – Acceptable
3. Surrogates – Acceptable
4. LCS/LCSD – Acceptable
5. MS/MSD – Acceptable

Extra volume was not submitted for analysis of MS/MSD samples. The project frequency requirement was achieved with MS/MSD analysis conducted at other sites included in this sampling event.

6. Field Duplicates – Acceptable

One field duplicate was submitted for each analysis during this sampling event, meeting the project frequency requirement of five percent, or one for every 20 samples. Primary and duplicate results are summarized in the table below. The project-specific control limit for field duplicate relative percent differences (RPDs) is 30 percent for concentrations greater than five times the reporting limit. The RPD is not calculated for results that are less than five times the reporting limit, as indicated on the table below by "NC." In these cases, the absolute value of the difference between the primary and duplicate result should not exceed the value of the reporting limit. The field duplicate RPDs were within the control limits.

Sample ID/ Field Duplicate ID	Analyte	Primary Result (ng/L)	Duplicate Result (ng/L)	Reporting Limit (ng/L)	RPD (%)
RGW014S-20250815/ DUP3-20250815	vinyl chloride	324	327	20.0	1
	cis-1,2-dichloroethene	193	199	20.0	3
	trichloroethene	20.2	19.6	20.0	NC

Abbreviations

ng/L = nanograms per liter

NC = not calculated

RPD = relative percent difference

7. Reporting Limits and Laboratory Flags – Acceptable except as noted:

ARI J qualified the detected trichloroethene results from samples RGW150S-20250815, RGW253I-20250815, and DUP3-20250815 because the detected results were less than the reporting limit. WSP agrees that these results are quantitatively uncertain and has maintained ARI's J qualifiers. (J, DL)

INORGANIC ANALYSES

Samples were analyzed for TOC. Laboratory data were evaluated for the following parameters:

1. Preservation and Holding Times – Acceptable
2. Blanks – Acceptable
3. LCS – Acceptable
4. MS – Acceptable
5. Laboratory Duplicates – Acceptable
6. Field Duplicates – Acceptable

One field duplicate was submitted for TOC analysis during this sampling event, meeting the project frequency requirement of five percent, or one for every 20 samples. Primary and duplicate results are summarized in the table below. The project-specific control limit for field duplicate RPDs is 30 percent for concentrations greater than five times the reporting limit. The field duplicate RPD was within the control limits.



Sample ID/ Field Duplicate ID	Analyte	Primary Result (mg/L)	Duplicate Result (mg/L)	Reporting Limit (mg/L)	RPD (%)
RGW014S-20250815/ DUP3-20250815	TOC	3.74	3.70	0.50	1

Abbreviations

mg/L = milligrams per liter
 RPD= relative percent difference
 TOC = total organic carbon

7. Reporting Limits and Laboratory Flags – Acceptable

OVERALL ASSESSMENT OF DATA

A summary of the data assessment is presented in the table below. The completeness of work order number 25H0316 is 100 percent. Evaluation of the usefulness of these data is based on the EPA guidance document listed in the introduction to this report. Few problems were identified, and analytical performance was generally within specified limits. The data meet the project’s data quality objectives.

Sample ID	Qualified Analyte	Reason for Qualifier	Qualified Result (ng/L)
RGW009S-20250815	None	NA	None
RGW012S-20250815	None	NA	None
RGW014S-20250815	None	NA	None
RGW147S-20250815	None	NA	None
RGW150S-20250815	Trichloroethene	Detected result less than the RL	15.8 J
RGW253I-20250815	Trichloroethene	Detected result less than the RL	14.2 J
DUP3-20250815	Trichloroethene	Detected result less than the RL	19.6 J
Trip Blank	None	NA	None

Abbreviations:

NA = not applicable
 ng/L = nanograms per liter
 RL = reporting limit

REFERENCES

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler), 2016, Quality Assurance Project Plan, Boeing Renton Facility, Renton, Washington: Prepared for the Boeing Company, February.

U.S. Environmental Protection Agency (EPA), 2020a, U.S. EPA National Functional Guidelines for Organic Superfund Methods Data Review: EPA 540-R-20-005, November.

EPA, 2020b, U.S. EPA National Functional Guidelines for Inorganic Superfund Methods Data Review: EPA 542-R-20-006, November.

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while the COC listed nine total containers. There was sufficient volume remaining and ARI proceeded with analysis.

The trip blank associated with the samples in this report was marked for analysis for vinyl chloride (SIM) and TOC on the COC, but the sample was run by ARI for all VOCs and TPH-G. Confirmed with WSP that it was analyzed correctly.

ORGANIC ANALYSES

Samples were analyzed for VOCs and TPH. Laboratory data were evaluated for the following parameters:

1. Preservation and Holding Times – Acceptable
2. Blanks – Acceptable
3. Surrogates – Acceptable
4. LCS/LCSD – Acceptable
5. MS/MSD – Acceptable except as noted:
TPH-G (155%, 152%) and TPH-D (29.0%, 34.8%) recoveries were outside limits in the MS and MSD performed on sample RGW189S-20250814. Data limitations are summarized below.
 - WSP J qualified the detected TPH-G result from sample RGW189S-20250814 due to potential high analytical bias. (J, HM)
 - WSP J qualified the detected TPH-D result from sample RGW189S-20250814 due to potential low analytical bias. (J, LM)
6. Field Duplicates – Acceptable
Field duplicates were not collected at this site during this sampling event. The project frequency requirement of one field duplicate for every 20 samples was achieved with field duplicate samples collected at other sites included in this sampling event.
7. Reporting Limits and Laboratory Flags – Acceptable

INORGANIC ANALYSES

Samples were analyzed for TOC. Laboratory data were evaluated for the following parameters:

1. Preservation and Holding Times – Acceptable
2. Blanks – Acceptable
3. LCS – Acceptable
4. MS – Acceptable
5. Laboratory Duplicates – Acceptable
6. Field Duplicates – Acceptable
Field duplicates were not collected at this site during this sampling event. The project frequency requirement of one field duplicate for every 20 samples was achieved with field duplicate samples collected at other sites included in this sampling event.
7. Reporting Limits and Laboratory Flags – Acceptable



OVERALL ASSESSMENT OF DATA

The completeness of ARI work order number 25H0285 is 100 percent. Evaluation of the usefulness of these data was evaluated based on EPA guidance documents listed in the introduction to this report. Few problems were identified, and analytical performance was generally within specified limits. The data meet the project's data quality objectives.

Sample ID	Qualified Analyte	Reason for Qualifier	Qualified Result
RGW176S-20250814	none	NA	none
RGW178S-20250814	none	NA	none
RGW189S-20250814	TPH-G TPH-D	High MS recoveries Low MS recoveries	150 µg/L J 0.144 mg/L J
RGW207S-20250814	none	NA	none
RGW208S-20250814	none	NA	none
Trip Blank	none	NA	none

Abbreviations:

NA = not applicable

TPH-G = gasoline range organics

TPH-D = diesel range organics

REFERENCES

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler), 2016, Quality Assurance Project Plan, Boeing Renton Facility, Renton, Washington: Prepared for the Boeing Company, February.

U.S. Environmental Protection Agency (EPA), 2020a, U.S. EPA National Functional Guidelines for Organic Superfund Methods Data Review: EPA 540-R-20-005, November.

EPA, 2020b, U.S. EPA National Functional Guidelines for Inorganic Superfund Methods Data Review: EPA 542-R-20-006, November.

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Memo

To: Chelsea Foster, Project Manager Project: US0041831.2092.03
From: Caitlin Riechmann c: Project File
Date: September 19, 2025
Tel: (503) 207-9629
Subject: Summary Data Quality Review
August 2025 Boeing Renton Groundwater Sampling
Apron A
ARI Work Order Number: 25H0320

This memo presents the summary data quality review of one primary groundwater sample and one trip blank sample collected on August 15, 2025. The samples were submitted to Analytical Resources, Inc., (ARI), located in Tukwila, Washington, a laboratory accredited by the Washington State Department of Ecology. The samples were analyzed for the following:

- Volatile organic compounds (VOCs) vinyl chloride and cis-1,2-dichloroethene by U.S. Environmental Protection Agency (EPA) Method 8260D; and
- Total organic carbon (TOC) by Standard Method 5310B.

The samples and the analyses conducted on the samples are listed below.

Sample ID	Laboratory Sample ID	Requested Analyses
RGW264S-20250815	25H0320-01	all
Trip Blank	25H0320-02	VOCs

Data were reviewed in accordance with the appropriate method procedures and criteria documented in the Quality Assurance Project Plan (QAPP) (Amec Foster Wheeler, 2016). The control limits provided in the QAPP are advisory limits; therefore, the most current control limits provided by the laboratory were used to evaluate the quality control data. In cases where the laboratory did not track limits for an analyte, the limits in the QAPP were used.

Holding times, method/trip blanks, surrogate recoveries, laboratory control samples (LCS) and laboratory control sample duplicates (LCSD), matrix spike/matrix spike duplicates (MS/MSD), field duplicates, and reporting limits were reviewed where available to assess compliance with applicable methods. If qualification was required, data were qualified based on the definitions and use of qualifying flags outlined in the EPA guidance documents (EPA, 2020a and b).

ARI received the samples on August 15, 2025. The temperature of the coolers was recorded upon receipt and was below the maximum acceptable temperature of 6 degrees Celsius (°C).

ORGANIC ANALYSES

Samples were analyzed for VOCs. Laboratory data were evaluated for the following parameters:

1. Preservation and Holding Times – Acceptable
2. Blanks – Acceptable
3. Surrogates – Acceptable
4. LCS/LCSD – Acceptable
5. MS/MSD – Acceptable

Extra volume was not submitted for analysis of MS/MSD samples. The project frequency requirement was achieved with MS/MSD analysis conducted at other sites included in this sampling event.



6. Field Duplicates – Acceptable

Field duplicates were not collected at this site during this sampling event. The project frequency requirement of one field duplicate for every 20 samples was achieved with field duplicate samples collected at other sites included in this sampling event.

7. Reporting Limits and Laboratory Flags – Acceptable.

INORGANIC ANALYSES

Samples were analyzed for TOC. Laboratory data were evaluated for the following parameters:

1. Preservation and Holding Times – Acceptable

2. Blanks – Acceptable

3. LCS – Acceptable

4. MS/MSD – Acceptable

Extra volume was not submitted for analysis of MS/MSD samples. The project frequency requirement was achieved with MS/MSD analysis conducted at other sites included in this sampling event.

5. Laboratory Duplicates – Acceptable

The laboratory did not perform duplicate analyses on the samples reviewed in this report.

6. Field Duplicates – Acceptable

Field duplicates were not collected at this site during this sampling event. The project frequency requirement of one field duplicate for every 20 samples was achieved with field duplicate samples collected at other sites included in this sampling event.

7. Reporting Limits and Laboratory Flags – Acceptable.

OVERALL ASSESSMENT OF DATA

The table below summarizes the data assessment. The completeness of work order number 25H0320 is 100 percent. The usefulness of these data was evaluated based on EPA guidance documents listed in the introduction to this report. No problems were identified, and analytical performance was within specified limits. The data meet the project's data quality objectives.

Sample ID	Qualified Analyte
RGW264S-20250815	none
Trip Blank	none

REFERENCES

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler), 2016, Quality Assurance Project Plan, Boeing Renton Facility, Renton, Washington: Prepared for the Boeing Company, February.

U.S. Environmental Protection Agency (EPA), 2020a, U.S. EPA National Functional Guidelines for Organic Superfund Methods Data Review: EPA 540-R-20-005, November.

EPA, 2020b, U.S. EPA National Functional Guidelines for Inorganic Superfund Methods Data Review: EPA 542-R-20-006, November.

APPENDIX D

HISTORICAL GROUNDWATER DATA TABLES

TABLE D-1: SWMU-168 HISTORICAL CONCENTRATIONS OF CONSTITUENTS OF CONCERN^{1,2}
Boeing Renton Facility, Renton, Washington

Analyte	Current Cleanup Level ⁴	Well ID ³ CPOC Area							
		GW229S							
		11/7/2016	3/1/2017	8/14/2017	3/5/2018	8/13/2018	3/4/2019	8/12/2019	3/9/2020
Volatile Organic Compounds (µg/L)									
Vinyl Chloride	0.11	0.020 U	0.020 U	0.021	0.0273	0.020 U	0.0211	0.020 U	0.020 U

Analyte	Current Cleanup Level ⁴	Well ID ³ CPOC Area							
		GW230I							
		2/21/2022	8/17/2022	2/9/2023	8/24/2023	2/6/2024	8/13/2024	2/11/2025	8/13/2025
Volatile Organic Compounds (µg/L)									
Vinyl Chloride	0.11	0.164	0.539 J	0.146	0.101	0.087	0.0784	0.0428	0.0810

Analyte	Current Cleanup Level ⁴	Well ID ³ CPOC Area							
		GW231S							
		11/7/2016	3/1/2017	8/14/2017	3/5/2018	8/13/2018	3/4/2019	8/12/2019	3/9/2020
Volatile Organic Compounds (µg/L)									
Vinyl Chloride	0.11	0.020 U	0.020 U	0.020 U	0.039	0.033	0.033	0.026	0.020 U

Notes:

- Data qualifiers are as follows:
U = The analyte was not detected at the reporting limit indicated.
- Bolded** values exceed the cleanup levels.
- S = shallow well; I = intermediate well.
- Current cleanup levels obtained from Table 2 of the Cleanup Action Plan and are based on each individual SWMU or AOC.

Abbreviations:

µg/L = micrograms per liter
AOC = area of concern
CPOC = conditional point of compliance
SWMU = solid waste management unit

TABLE D-2: SWMU-172 AND SWMU-174 GROUP HISTORICAL CONCENTRATIONS OF CONSTITUENTS OF CONCERN^{1,2}
Boeing Renton Facility, Renton, Washington

Analyte	Current Cleanup Level ⁴	Well ID ³																	
		Source Area										GW153S							
		GW152S					GW153S					GW152S				GW153S			
		2/21/2022	2/21/2022	8/24/2022	2/8/2023	8/15/2023	2/5/2024	8/15/2024	2/14/2025	8/13/2025	8/10/2021	2/21/2022	8/24/2022	2/8/2023	8/15/2023	2/2/2024	8/13/2024	2/13/2025	8/13/2025
Volatile Organic Compounds (µg/L)																			
cis-1,2-Dichloroethene	0.03	1.57	1.59	0.877	3.16 J	1.46	4.59	1.41	1.57	1.41	0.0582 J	0.0517	0.100	0.0569 J	0.053	0.068	0.0574	0.167	0.302
Tetrachloroethene	0.02	1.84	1.71	1.05	0.234 J	1.06	0.238	0.848	0.188	0.288	0.020 UJ	0.0200 U	0.0200 U	0.0200 UJ	0.0161 J	0.198	0.0200 U	0.352	0.0200 U
Trichloroethene	0.02	0.522	0.497	0.534	0.101 J	0.412	0.104	0.303	0.0673	0.119	0.020 UJ	0.0200 U	0.0525	0.0200 UJ	0.0172 J	0.049	0.0200 U	0.242	0.239
Vinyl Chloride	0.11	0.200	0.219	0.346	0.195 J	0.209	0.264	0.152	0.0675	0.364	0.193 J	0.174	0.214	0.148 J	0.0881	0.108	0.153	0.0768	0.0748
Total Metals (µg/L)																			
Arsenic	8.0	2.88	2.34	47.7	6.92	39.8	7.95	62.4	6.72	66.2	5.47	4.98	2.85	4.76	2.39	4.12	4.11	1.75	2.57
Copper	3.5	5.07	3.88	9.17	6.61	4.98 J	2.44	131	5.36	210	2.37	1.45	0.641	1.14	0.408 J	1.00 U	1.11	1.00 U	0.558
Lead	1.0	2.78 J	1.90 J	5.75	4.24 J	32.2	1.18	74.4	1.58 J	138	0.448	0.302	0.123	0.256	0.200 U	0.232	0.271	0.400 U	0.148 J

Analyte	Current Cleanup Level ⁴	Well ID ³																	
		Downgradient Plume Area										GW173S							
		GW172S					GW173S					GW172S				GW173S			
		8/10/2021	2/21/2022	8/24/2022	2/8/2023	8/16/2023	2/5/2024	8/13/2024	2/13/2025	8/13/2025	8/10/2021	2/21/2022	8/24/2022	2/8/2023	8/17/2023	2/5/2024	8/15/2024	2/13/2025	8/13/2025
Volatile Organic Compounds (µg/L)																			
cis-1,2-Dichloroethene	0.03	0.0746	0.0532	0.0436	0.155 J	0.528	0.877	0.585	0.362	0.635	0.0424 J	0.0280	0.168	0.0909 J	0.107	0.145	0.226	0.224	0.227
Tetrachloroethene	0.02	0.020 U	0.0677	0.0200 U	0.0200 UJ	0.0237	0.0200 U	0.0417	0.0302	0.0200 U	0.020 UJ	0.0200 U	0.0200 U	0.0429 J	0.0102 J	0.0543	0.0257	0.0206	0.0200 U
Trichloroethene	0.02	0.020 U	0.0201	0.0200 U	0.0200 UJ	0.199	0.266	0.185	0.135	0.0619	0.020 UJ	0.0200 U	0.0496	0.0479 J	0.0262	0.0307	0.0706	0.0973	0.0272
Vinyl Chloride	0.11	0.155	0.137	0.0887	0.601 J	0.277	0.907	0.180	0.0816	0.156	0.176 J	0.0696	0.175	0.210 J	0.132	0.280	0.214	0.0618	0.201
Total Metals (µg/L)																			
Arsenic	8.0	7.18	11.2	4.86	6.64	23.6	6.68	6.99	5.13	6.36	11.4	13.8	6.04	5.69	7.26	9.51	5.81	6.14	5.77
Copper	3.5	2.86	2.86	1.52	6.17	17.70	1.08	0.500 U	0.654 J	0.493 J	5.96	2.58	1.54	2.98	1.09	3.07	1.00 U	4.67	0.697
Lead	1.0	1.33	1.37	1.32	3.80	14.7 J	0.714	0.172 J	0.348 J	0.251	1.65	0.788	0.468	0.752	0.384	1.41	0.302	0.882	0.346

Analyte	Current Cleanup Level ⁴	Well ID ³																	
		Downgradient Plume Area										CPOC Area							
		GW226S					GW232S					GW226S				GW232S			
		8/10/2021	2/21/2022	8/24/2022	2/8/2023	8/16/2023	2/2/2024	8/13/2024	2/13/2025	8/13/2025	8/10/2021	2/21/2022	8/24/2022	2/8/2023	8/16/2023	2/5/2024	8/13/2024	2/14/2025	8/13/2025
Volatile Organic Compounds (µg/L)																			
cis-1,2-Dichloroethene	0.03	0.0335 J	0.0363	0.0255	0.0431 J	0.0169 J	0.0465	0.0232	0.0412	0.0288	0.464 J	0.197	0.325	0.206 J	0.236	0.167	0.238	0.179	0.315
Tetrachloroethene	0.02	0.0202 J	0.0200 U	0.0200 U	0.0200 UJ	0.0200 U	0.0200 U	0.0248	0.0200 U	0.0328	0.020 UJ	0.0200 U	0.0200 U	0.0200 UJ	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Trichloroethene	0.02	0.020 UJ	0.0200 U	0.0200 U	0.0200 UJ	0.00910 J	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.020 UJ	0.0200 U	0.0200 U	0.0200 UJ	0.0129 J	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Vinyl Chloride	0.11	0.0516 J	0.0414	0.128	0.0734 J	0.0886	0.0394	0.0923	0.0638	0.0900	0.653 J	0.307	0.558	0.290 J	0.348	0.187	0.256	0.144	0.378
Total Metals (µg/L)																			
Arsenic	8.0	5.57	7.33	3.09	4.28	5.22	9.01	6.74	3.55	3.27	6.19	3.75	3.83	3.51	6.16	2.19	6.92	2.29	9.31
Copper	3.5	1.48	2.40	0.500 U	0.500 U	1.31 J	6.69	2.17	0.492 J	0.485 J	1.79	1.09	0.500 U	0.915	1.26 J	1.00 U	2.04	1.00	0.655
Lead	1.0	0.124	0.237	0.100 U	0.100 U	0.500 U	0.95	0.324	0.400 U	0.200 U	0.262	0.234	0.122	0.124	0.285 J	0.200 U	0.680	0.362 J	0.153 J

TABLE D-2: SWMU-172 AND SWMU-174 GROUP HISTORICAL CONCENTRATIONS OF CONSTITUENTS OF CONCERN^{1,2}
Boeing Renton Facility, Renton, Washington

Analyte	Current Cleanup Level ⁴	Well ID ³ CPOC Area																	
		GW234S									GW235I								
		8/10/2021	2/21/2022	8/24/2022	2/9/2023	8/16/2023	2/2/2024	8/13/2024	2/14/2025	8/13/2025	8/10/2021	2/21/2022	8/24/2022	2/9/2023	8/16/2023	2/2/2024	8/13/2024	2/14/2025	8/13/2025
Volatile Organic Compounds (µg/L)																			
cis-1,2-Dichloroethene	0.03	0.0892	0.0591	0.134	0.0581 J	0.103	0.0495	0.114	0.0692	0.130	0.179	0.175	0.227	0.235 J	0.225	0.229	0.240	0.302	0.343
Tetrachloroethene	0.02	0.020 U	0.0200 U	0.0200 U	0.0200 UJ	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.020 U	0.0200 U	0.0200 U	0.0200 UJ	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Trichloroethene	0.02	0.020 U	0.0200 U	0.0200 U	0.0200 UJ	0.0163 J	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0285	0.0253	0.0250	0.0296 J	0.0189 J	0.0207	0.0200 U	0.0239	0.0200 U
Vinyl Chloride	0.11	0.0497	0.0318	0.170	0.0304 J	0.0726	0.0200 U	0.0981	0.0310	0.0998	0.24	0.0259	0.0280	0.0310 J	0.0313	0.0215	0.0258	0.0221	0.0633
Total Metals (µg/L)																			
Arsenic	8.0	1.18	1.76	0.974	5.90	0.93	0.626	1.05	0.876	0.985	0.200 U	0.200 U	0.200 U	0.283	0.318 J	0.400 U	0.200 U	0.232 J	0.163 J
Copper	3.5	2.58	2.13	2.31	16.6	1.3	2.26	0.639	1.76	0.396 J	0.689	0.687	0.500 U	1.23	0.676 J	1.00 U	0.500 U	1.00 U	0.518
Lead	1.0	1.01	0.930	0.830	6.75	0.27	0.876	0.256	0.522	0.102 J	0.179	0.159	0.100 U	0.332	0.224	0.200 U	0.100 U	0.400 U	0.200 U

Analyte	Current Cleanup Level ⁴	Well ID ³ CPOC Area									
		GW236S									
		8/10/2021	2/21/2022	8/24/2022	2/9/2023	8/17/2023	2/5/2024	8/13/2024	2/14/2025	8/13/2025	
Volatile Organic Compounds (µg/L)											
cis-1,2-Dichloroethene	0.03	0.0791	0.0200 U	0.0572	0.0364 J	0.0473	0.020 U	0.0523	0.0299	0.0575	
Tetrachloroethene	0.02	0.020 U	0.0206	0.0200 U	0.0200 UJ	0.0200 U	0.0262	0.0200 U	0.0200 U	0.0200 U	
Trichloroethene	0.02	0.020 U	0.0200 U	0.0200 U	0.0200 UJ	0.0187 J	0.0200 U	0.0200 U	0.0200 U	0.0215	
Vinyl Chloride	0.11	0.0223	0.0200 U	0.0200 U	0.0200 UJ	0.0128 J	0.0200 U	0.0200 U	0.0200 U	0.0200 U	
Total Metals (µg/L)											
Arsenic	8.0	5.49	1.97	0.995	1.64	1.55	1.00 U	4.17	1.33	3.15	
Copper	3.5	2.47	5.27	1.22	2.07	1.00 U	2.50 U	1.63	1.16	1.18	
Lead	1.0	1.79	3.32	0.798	1.38	0.160 J	0.795	1.29	0.420	0.951	

Notes

- Data qualifiers are as follows:
U = The analyte was not detected at the reporting limit indicated.
J = The value is an estimate.
- Bolded** values exceed the cleanup levels.
- S = shallow well; I = intermediate well.
- Current cleanup levels obtained from Table 2 of the Cleanup Action Plan and are based on each individual SWMU or AOC.

Abbreviations

- µg/L = micrograms per liter
- AOC = area of concern
- CPOC = conditional point of compliance
- SWMU = solid waste management unit

TABLE D-3: BUILDING 4-78/79 SWMU/AOC GROUP HISTORICAL CONCENTRATIONS OF CONSTITUENTS OF CONCERN^{1,2}
Boeing Renton Facility, Renton, Washington

Analyte	Current Cleanup Level ⁴	Well ID ³ Source Area																		
		GW031S										GW033S								
		2/15/2021	8/11/2021	8/23/2022	2/7/2023	8/22/2023	2/6/2024	8/14/2024	2/13/2025	8/14/2025	2/22/2022	2/22/2022	8/17/2022	2/7/2023	8/18/2023	2/6/2024	8/14/2024	2/13/2025	8/14/2025	
Volatile Organic Compounds (µg/L)																				
Benzene	0.80	0.200 U	1.08	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	8.41	8.57	14.2 J	0.20 U	8.85	6.49	7.27	6.39	3.70
cis-1,2-Dichloroethene	0.70	0.200 U	0.20 U	0.26	0.18 J	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	3.82	4.04	0.45 J	0.09 J	0.42	0.480	0.610	1.14	0.210
Trichloroethene	0.23	0.200 U	0.20 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Vinyl Chloride	0.20	0.510	0.20 U	0.39	0.26	0.28	0.230	0.290	0.260	0.260	8.90	9.28	1.53 J	0.24	0.94	0.830	0.200 U	1.49	0.540	
Total Petroleum Hydrocarbons (µg/L)																				
TPH-G (C7-C12)	800	100.0 U	1,540	100 U	100 U	100 U	100 U	100.0 U	100 U	100 U	100 U	168	166	300 J	100 U	223	141	202	193	247

Analyte	Current Cleanup Level ⁴	Well ID ³ Source Area																		
		GW034S										GW244S								
		8/11/2021	2/22/2022	8/17/2022	2/8/2023	8/18/2023	2/6/2024	8/14/2024	2/13/2025	8/14/2025	2/15/2021	8/11/2021	8/23/2022	2/7/2023	8/22/2023	1/30/2024	8/14/2024	2/13/2025	8/14/2025	
Volatile Organic Compounds (µg/L)																				
Benzene	0.80	0.20 U	0.200 U	1.47	9.62	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.46	0.20 U	0.25	0.12 J	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
cis-1,2-Dichloroethene	0.70	0.20 U	0.200 U	2.03	0.74	0.110 J	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.68	0.22	0.25	0.25	0.22	0.340	0.520	0.200 U	0.200 U
Trichloroethene	0.23	0.20 U	0.200 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.29	0.20 U	0.20 U	0.20 U	0.200 U	0.200 U	0.330	0.200 U	0.200 U
Vinyl Chloride	0.20	1.20	0.330	1.45	4.12	0.47	0.260	0.200 U	0.200 U	0.400	0.64	0.37	0.46	0.55	0.28	0.610	0.330	0.200 U	0.340	
Total Petroleum Hydrocarbons (µg/L)																				
TPH-G (C7-C12)	800	100 U	100 U	100 U	350	100 U	100 U	100.0 U	100 U	100.0 U	100 U	100 U	100 U	100 U	100 U	100 U	100.0 U	100 U	100.0 U	100.0 U

Analyte	Current Cleanup Level ⁴	Well ID ³ CPOC Area																		
		GW143S										GW237S								
		8/11/2021	2/22/2022	8/17/2022	2/7/2023	8/18/2023	2/5/2024	8/14/2024	2/13/2025	8/14/2025	8/11/2021	2/22/2022	8/17/2022	2/6/2023	8/18/2023	2/5/2024	8/14/2024	2/13/2025	8/14/2025	
Volatile Organic Compounds (µg/L)																				
Benzene	0.80	0.20 U	0.200 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.20 U	3.73	0.20 U	4.18	0.150 J	6.47	0.200 U	3.78	0.200 U	
cis-1,2-Dichloroethene	0.70	0.65	0.430	0.76 J	0.36	0.30	0.280	0.980	0.200 U	0.390	0.20 U	0.200 U	0.20 U	0.22	0.0900 J	0.200 U	0.200 U	0.200 U	0.200 U	
Trichloroethene	0.23	0.20 U	0.200 U	0.53 J	0.10 J	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.20 U	0.200 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	
Vinyl Chloride	0.20	0.20 U	0.200 U	0.20 U	0.09 J	0.120 J	0.200 U	0.200 U	0.200 U	0.200 U	0.20	0.200 U	0.20 U	0.26	0.25	0.290	0.210	0.230	0.280	
Total Petroleum Hydrocarbons (µg/L)																				
TPH-G (C7-C12)	800	100 U	100 U	100 U	100 U	100 U	100 U	100.0 U	100 U	100.0 U	360	664	100 U	805	100 U	915	100.0 U	576	301	

Analyte	Current Cleanup Level ⁴	Well ID ³ CPOC Area									
		GW240D									
		8/11/2021	2/22/2022	8/17/2022	2/7/2023	8/18/2023	2/5/2024	8/14/2024	2/13/2025	8/14/2025	
Volatile Organic Compounds (µg/L)											
Benzene	0.80	0.20 U	0.200 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	
cis-1,2-Dichloroethene	0.70	0.20 U	0.200 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	
Trichloroethene	0.23	0.20 U	0.200 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	
Vinyl Chloride	0.20	0.20 U	0.200 U	0.20 U	0.13 J	0.150 J	0.200 U	0.200 U	0.200 U	0.200 U	
Total Petroleum Hydrocarbons (µg/L)											
TPH-G (C7-C12)	800	100 U	100 U	100 U	100 U	100 U	100 U	100.0 U	100 U	100.0 U	

Notes

- Data qualifiers are as follows:
 - U = The analyte was not detected at the reporting limit indicated.
 - UJ = The result is estimated and was not detected at the reporting limit indicated.
 - J = The value is an estimate.
- Bolded** values exceed the cleanup levels.
- S = shallow well; D = deep well.
- Current cleanup levels obtained from Table 2 of the Cleanup Action Plan and are based on each individual SWMU or AOC.

Abbreviations

- µg/L = micrograms per liter
- AOC = area of concern
- CPOC = conditional point of compliance
- SWMU = solid waste management unit
- TPH-G = total petroleum hydrocarbons as gasoline

TABLE D-4: FORMER FUEL FARM HISTORICAL CONCENTRATIONS OF CONSTITUENTS OF CONCERN¹
Boeing Renton Facility, Renton, Washington

Analyte	Current Cleanup Level ³	Well ID ² CPOC Area																	
		GW211S									GW221S								
		2/15/2021	8/10/2021	2/21/2022	8/19/2022	2/9/2023	8/15/2023	2/8/2024	8/15/2024	2/11/2025	8/10/2021	2/21/2022	8/19/2022	2/9/2023	8/15/2023	2/6/2024	8/15/2024	2/11/2025	8/15/2025
Total Petroleum Hydrocarbons (mg/L)																			
TPH-D (C12-C24)	0.5	0.284	0.140	1.00 U	0.100 U	0.100 U	0.100 U	0.100 U	0.548	0.321	1.02	0.575	0.940	1.75	0.258	3.57	0.974	0.422	1.84
TPH-O (C24-C38)	NE	0.225 U	0.200 U	2.00 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Jet A	0.5	0.262	0.100 U	1.00 U	0.100 U	0.100 U	0.100 U	0.100 U	0.408	0.312	0.718	0.460	0.562	1.20	0.229	2.65	0.637	0.341	1.47

Analyte	Current Cleanup Level ³	Well ID ² CPOC Area									
		GW224S									
		2/21/2022	2/21/2022	8/19/2022	2/9/2023	8/15/2023	2/6/2024	8/15/2024	2/11/2025	8/15/2025	
Total Petroleum Hydrocarbons (mg/L)											
TPH-D (C12-C24)	0.5	0.682	1.01	0.881	1.15	0.526 J	0.764	0.686 J	0.850	0.865 J	
TPH-O (C24-C38)	NE	0.200 U	0.200 U	0.200 U	0.200 U	0.324	0.200 U	0.200 U	0.200 U	0.200 U	
Jet A	0.5	1.04	1.76	1.25	1.61	0.913 J	1.27	0.943	1.43	1.48	

Notes

- Bolded** values exceed the cleanup levels.
- S = shallow well.
- Current cleanup levels obtained from Table 2 of the Cleanup Action Plan and are based on each individual SWMU or AOC.

Abbreviations

AOC = area of concern
 CPOC = conditional point of compliance
 mg/L = milligrams per liter
 NE = not established
 SWMU = solid waste management unit
 TPH-D = total petroleum hydrocarbons as diesel

TABLE D-5: AOC-003 HISTORICAL CONCENTRATIONS OF CONSTITUENTS OF CONCERN^{1,2}
Boeing Renton Facility, Renton, Washington

Analyte	Current Cleanup Level ⁴	Well ID ³																	
		Source Area									Downgradient Plume Area								
		GW249S									GW188S								
		8/12/2021	2/23/2022	8/24/2022	2/6/2023	8/22/2023	2/1/2024	8/13/2024	2/11/2025	8/12/2025	8/12/2021	2/22/2022	8/23/2022	2/6/2023	8/23/2023	2/2/2024	8/13/2024	2/11/2025	8/12/2025
Volatile Organic Compounds (µg/L)																			
cis-1,2-Dichloroethene	0.78	NA	NA	NA	NA	0.0529	0.0576	0.0566	0.0541	0.0632 J	NA	NA	NA	NA	0.0408	0.0315	0.0293	0.0373	0.0301 J
Tetrachloroethene	0.02	NA	NA	NA	NA	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U	NA	NA	NA	NA	0.0200 U	0.0200 U	0.0200 U	0.0390	0.0200 U
Trichloroethene	0.16	NA	NA	NA	NA	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U	NA	NA	NA	NA	0.0200 U	0.0200 U	0.0200 U	0.0353	0.0200 U
Vinyl Chloride	0.24	0.517	0.359 J	0.404 J	0.217	0.263	0.214	0.291	0.243	0.338 J	0.698	0.141 J	0.404	0.104	0.197	0.207	0.229	0.0669	0.198 J

Analyte	Current Cleanup Level ⁴	Well ID ³																	
		CPOC Area																	
		GW247S									GW248I								
		8/11/2021	2/23/2022	8/23/2022	2/6/2023	8/22/2023	2/2/2024	8/13/2024	2/11/2025	8/12/2025	8/11/2021	2/23/2022	8/23/2022	2/6/2023	8/22/2023	2/2/2024	8/13/2024	2/11/2025	8/12/2025
Volatile Organic Compounds (µg/L)																			
cis-1,2-Dichloroethene	0.78	NA	NA	NA	NA	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U	NA	NA	NA	NA	0.0219	0.0207	0.0200 U	0.0200 U	0.0200 U
Tetrachloroethene	0.02	NA	NA	NA	NA	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U	NA	NA	NA	NA	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Trichloroethene	0.16	NA	NA	NA	NA	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U	NA	NA	NA	NA	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Vinyl Chloride	0.24	0.678	0.127 J	0.379	NA	0.715	0.467	0.581	0.483	0.519	0.711	0.598 J	0.742	0.588	0.482	0.383	0.458	0.445	0.478 J

Notes

- Data qualifiers are as follows:
U = The analyte was not detected at the reporting limit indicated.
- Bolded** values exceed the cleanup levels.
- S = shallow well; I = intermediate well.
- Current cleanup levels obtained from Table 2 of the Cleanup Action Plan and are based on each individual SWMU or AOC.

Abbreviations

µg/L = micrograms per liter
AOC = area of concern
CPOC = conditional point of compliance
NA = not analyzed
SWMU = solid waste management unit

TABLE D-6: AOC-004 HISTORICAL CONCENTRATIONS OF CONSTITUENTS OF CONCERN¹
Boeing Renton Facility, Renton, Washington

Analyte	Current Cleanup Level ³	Well ID ² Source Area							
		2/22/2022	8/23/2022	2/7/2023	8/14/2023	2/6/2024	8/12/2024	2/11/2025	8/15/2025
Metals (mg/L)									
Lead	0.001	0.000588	0.00131	0.000820	0.0000570 J	0.000112	0.000062 J	0.0006	0.200 U

Notes

1. **Bolded** values exceed the cleanup levels.
2. S = shallow well.
3. Current cleanup levels obtained from Table 2 of the Cleanup Action Plan and are based on each individual SWMU or AOC.

Abbreviations

AOC = area of concern
 CPOC = conditional point of compliance
 mg/L = milligrams per liter
 SWMU = solid waste management unit

TABLE D-7: AOC-060 HISTORICAL CONCENTRATIONS OF CONSTITUENTS OF CONCERN^{1, 2}
Boeing Renton Facility, Renton, Washington

Analyte	Current Cleanup Levels ⁴	Well ID ³																	
		Source Area									Downgradient Plume Area								
		GW009S									GW012S								
		8/11/2021	2/22/2022	8/19/2022	2/6/2023	8/18/2023	2/7/2024	8/15/2024	2/12/2025	8/15/2025	8/11/2021	2/22/2022	8/18/2022	2/6/2023	8/17/2023	2/7/2024	8/15/2024	2/12/2025	8/15/2025
Volatile Organic Compounds (µg/L)																			
cis -1,2-Dichloroethene	0.08	0.368	0.15	0.229	0.231	0.157	0.165	0.170	0.169	0.188	2.210	0.693	1.91 J	2.78	2.46	1.45	1.83	0.696	0.489
Trichloroethene	0.02	0.0316	0.0284	0.0288	0.0409	0.0292	0.0336	0.0346	0.0328	0.0372	0.0908	0.0506	1.02 J	0.208	1.61	0.143	0.0990	0.0604	0.0537
Vinyl Chloride	0.26	0.160	0.434	0.570	0.550	0.371	0.353	0.439	0.333	0.399	0.795	1.57	0.294 J	0.881	0.625	0.632	0.936	0.911	0.984

Analyte	Current Cleanup Levels ⁴	Well ID ³																	
		Downgradient Plume Area																	
		GW014S									GW147S								
		8/11/2021	2/22/2022	8/18/2022	2/6/2023	8/17/2023	2/7/2024	8/15/2024	2/12/2025	8/15/2025	8/11/2021	2/22/2022	8/19/2022	2/6/2023	8/17/2023	2/7/2024	8/15/2024	2/12/2025	8/15/2025
Volatile Organic Compounds (µg/L)																			
cis -1,2-Dichloroethene	0.08	0.147	0.133	0.134 J	0.137	0.179	0.207	0.189	0.180	0.193	0.180	0.679	8.37	0.766	4.46	0.442	5.10	2.86	4.88
Trichloroethene	0.02	0.0227	0.020 U	0.0246 J	0.0200 U	0.0158 J	0.0247	0.0144 J	0.0193 J	0.0202	0.498	0.425	0.937	0.376	2.76	0.0802	2.76	1.68	0.239
Vinyl Chloride	0.26	0.367	0.276	0.514 J	0.231	0.551	0.380	0.410	0.209	0.324	0.020 U	0.0623	3.39	0.0215	0.928	0.0638	1.61	0.395	0.497

Analyte	Current Cleanup Levels ⁴	Well ID ³																	
		CPOC Area																	
		GW150S									GW253I								
		8/11/2021	2/22/2022	8/22/2022	2/6/2023	8/17/2023	2/7/2024	8/15/2024	2/12/2025	8/15/2025	8/11/2021	2/22/2022	8/22/2022	2/6/2023	8/17/2023	2/7/2024	8/15/2024	2/12/2025	8/15/2025
Volatile Organic Compounds (µg/L)																			
cis -1,2-Dichloroethene	0.08	0.0991	0.0547	0.126	0.0849	0.0901	0.0509	0.105	0.0859	0.122	0.106	0.0846	0.138	0.0991	0.0997	0.0929	0.0934	0.122	0.15
Trichloroethene	0.02	0.020 U	0.020 U	0.0212	0.0200 U	0.0115 J	0.0200 U	0.0106 J	0.0132 J	0.0158 J	0.0202	0.020 U	0.0205	0.0200 U	0.0147 J	0.0145 J	0.0137 J	0.013 J	0.0142 J
Vinyl Chloride	0.26	0.122	0.0969	0.100	0.138	0.15	0.0608	0.165	0.109	0.111	0.146	0.177	0.255	0.156	0.17	0.133	0.146	0.149	0.186

Notes:

- Data qualifiers are as follows:
U = The analyte was not detected at the reporting limit indicated.
J = The value is an estimate.
- Bolded** values exceed the cleanup levels.
- S = shallow well; I = intermediate well.
- Current cleanup levels obtained from Table 2 of the Cleanup Action Plan and are based on each individual SWMU or AOC.

Abbreviations:

µg/L = micrograms per liter
AOC = area of concern
CPOC = conditional point of compliance
SWMU = solid waste management unit

TABLE D-8: AOC-090 HISTORICAL CONCENTRATIONS OF CONSTITUENTS OF CONCERN^{1,2}
Boeing Renton Facility, Renton, Washington

Analyte	Current Cleanup Levels ⁴	Well ID ³																	
		Source Area										Downgradient Plume Area							
		GW189S ⁵										GW176S							
		8/12/2021	2/23/2022	8/24/2022	2/7/2023	8/24/2023	2/8/2024	8/14/2024	2/12/2025	8/14/2025	8/17/2021	2/23/2022	8/23/2022	2/7/2023	8/24/2023	2/8/2024	8/14/2024	2/12/2025	8/14/2025
Volatile Organic Compounds (µg/L)																			
1,1,2,2-Tetrachloroethane	0.17	0.020 U	0.24 U	0.158	0.153	0.153	0.158	0.181	0.131	0.0200 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	0.2	0.20 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	0.057	0.020 U	0.0200 U	0.0432	0.0200 U	0.0322	0.0200 U	0.0338	0.0288	0.0200 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	300	5.00 U	5.00 U	6.28	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.8	0.20 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	0.23	0.20 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	2	0.20 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	2.4	3.15	0.20 U	1.78	0.230	1.7	0.200 U	1.15	1.60	1.77	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	2	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	0.05	0.020 U	0.0200 U	0.0206	0.200 U	17.2 J	0.0200 U	0.0200 U	0.0200 U	0.0200 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	75	2.42	0.47 J	43.7	0.690 J	0.200 U	0.200 U	1.34	0.220	1.68	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	53.9	0.20 U	0.20 U	0.20 U	0.200 U	0.0200 U	0.200 U	0.200 U	0.200 U	0.200 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	0.08	0.386	0.0505 UJ	0.43	0.0593	0.511	0.0200 U	0.109	0.100	0.0746	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	0.13	0.575	0.0867 J	0.460	0.0230	0.438	0.0200 U	0.121	0.162	1.53	0.431	0.311 J	0.364	0.349	0.314	0.21	0.287	0.287	0.321
Total Petroleum Hydrocarbons (µg/L)																			
TPH-G (C7-C12)	800	504	370 J	555	246	288	100 U	470	170	150.0 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH-D (C12-C24)	500	390	192 J	521	648 J	100.0 U	100 U	427	100 U	144.0 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH-O (C24-C40)	500	689	263 J	586	1,120	211	200 U	838	200 U	200.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA

Analyte	Current Cleanup Levels ⁴	Well ID ³																											
		Shallow Zone CPOC Area																											
		GW178S									GW207S									GW208S									
		8/12/2021	2/23/2022	8/24/2022	2/7/2023	8/24/2023	2/8/2024	8/14/2024	2/12/2025	8/14/2025	2/23/2022	8/23/2022	2/7/2023	8/24/2023	2/8/2024	8/14/2024	2/12/2025	8/14/2025	2/17/2021	8/12/2021	2/23/2022	8/24/2022	2/7/2023	8/24/2023	2/8/2024	8/14/2024	2/12/2025	8/14/2025	
Volatile Organic Compounds (µg/L)																													
1,1,2,2-Tetrachloroethane	0.17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	0.057	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	0.23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	2.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	75	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	53.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	0.08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	0.13	0.182	0.361 J	0.390	0.531	0.343	0.27	0.395	0.395	0.463	0.356 J	0.326	0.0200 U	0.293	0.111	0.313	0.313	0.233	0.349	0.313	0.404 J	0.400	0.419	0.242	0.298	0.359	0.359	0.25	
Total Petroleum Hydrocarbons (µg/L)																													
TPH-G (C7-C12)	800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH-D (C12-C24)	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH-O (C24-C40)	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

- Data qualifiers are as follows:
U = The analyte was not detected at the reporting limit indicated.
J = The value is an estimate.
UJ = The analyte was not detected at the estimated reporting limit indicated.
- Bolded** values exceed the cleanup levels.
- S = shallow well.
- Current cleanup levels obtained from Table 2 of the Cleanup Action Plan and are based on each individual SWMU or AOC.
- GW189S is the replacement well for GW168S.

Abbreviations:

- µg/L = micrograms per liter
- AOC = area of concern
- CPOC = conditional point of compliance
- NA = Not analyzed
- SWMU = solid waste management unit
- TPH-D = total petroleum hydrocarbons as diesel
- TPH-G = total petroleum hydrocarbons as gasoline
- TPH-O = total petroleum hydrocarbons as oil

TABLE D-9: APRON A HISTORICAL CONCENTRATIONS OF CONSTITUENTS OF CONCERN¹
Boeing Renton Facility, Renton, Washington

Analyte	Well ID ² GW264S								
	8/10/2021	2/21/2022	8/24/2022	2/8/2023	8/14/2023	2/7/2024	8/15/2024	2/13/2025	8/14/2025
Volatile Organic Compounds (µg/L)									
cis-1,2-Dichloroethene	0.20 U	0.200 U	0.200 U	2.00 U	2.00 U	0.200 U	0.200 U	0.200 U	0.200 U
Vinyl Chloride	1.37	2.54	1.41	2.00 U	2.00 U	0.810	0.480	0.200 U	0.460

Notes:

1. Data qualifiers are as follows:

U = The analyte was not detected at the reporting limit indicated.

2. S = shallow well

Abbreviations:

µg/L = micrograms per liter

TABLE D-10: AOC-001,-002 HISTORICAL CONCENTRATIONS OF CONSTITUENTS OF CONCERN^{1,2}
Boeing Renton Facility, Renton, Washington

Analyte	Current Cleanup Level ⁴	Well ID ³											
		AOC-001 / AOC-002 Source Area			AOC-001 / AOC-002 Cross-Gradient Wells								
		GW193S-R			GW213S-R			GW214S-R			GW215S-R		
		8/12/2024	2/10/2025	8/11/2025	8/12/2024	2/10/2025	8/12/2025	8/12/2024	2/10/2025	8/12/2025	8/12/2024	2/10/2025	8/12/2025
Volatile Organic Compounds (µg/L)													
Benzene	0.80	0.200 U	0.200 U	0.2 U	1.00 U	1.00 U	0.2 U	1.00 U	1.00 U	0.2 U	1.00 U	1.00 U	0.37
1,1-Dichloroethene	0.057	0.0200 U	0.0200 U	0.02 U	0.0200 U	0.100 U	0.02 U	0.0200 U	0.100 U	0.02 U	0.0200 U	0.100 U	0.02 U
cis-1,2-Dichloroethene	0.020	2.19	2.38	3.77	0.134	0.111	0.128	0.0200 U	0.100 U	0.0746	0.156	0.100 U	0.0814
Trichloroethene	0.02	1.51	0.844	0.142	0.0266	0.100 U	0.0364	0.0200 U	0.100 U	0.02 U	0.0200 U	0.100 U	0.02 U
Vinyl Chloride	0.05	1.21	0.460	0.575	0.0482	0.100 U	0.0333	0.0200 U	0.100 U	0.02 U	0.0200 U	0.100 U	0.02 U

Analyte	Current Cleanup Level ⁴	Well ID ³											
		CPOC Area											
		AOC-001 / AOC-002 Downgradient Plume Wells											
		GW190S-R			GW191D-R			GW192S-R			GW246S-R		
		8/12/2024	2/10/2025	8/11/2025	8/12/2024	2/10/2025	8/12/2025	8/12/2024	2/10/2025	8/12/2025	8/12/2024	2/10/2025	8/11/2025
Volatile Organic Compounds (µg/L)													
Benzene	0.80	0.200 U	0.200 U	0.2 UJ	0.200 U	0.200 U	0.2 U	0.200 U	0.200 U	0.2 U	0.200 U	0.200 U	0.2 UJ
1,1-Dichloroethene	0.057	0.0200 U	0.0200 U	0.02 UJ	0.0200 U	0.0200 U	0.02 U	0.0200 U	0.0200 U	0.02 U	0.0200 U	0.0200 U	0.02 UJ
cis-1,2-Dichloroethene	0.020	0.194	0.0934	0.188 J	0.0200 U	0.0309	0.0298	1.78	0.359	2.12	0.176	0.0932	0.224 J
Trichloroethene	0.02	0.0200 U	0.0200 U	0.02 UJ	0.0200 U	0.0200 U	0.02 U	0.0538	0.0273	0.0678	0.0200 U	0.0200 U	0.02 UJ
Vinyl Chloride	0.05	0.0818	0.0458	0.0777 J	0.0934	0.0574	0.079	1.07	0.0842	1.17	0.181	0.122	0.106 J

Analyte	Current Cleanup Level ⁴	Well ID ³														
		AOC-001 / AOC-002 CPOC Wells														
		GW185S-R			GW195S-R			GW196D-R			GW197S-R			GW245S-R		
		8/12/2024	2/10/2025	8/11/2025	8/12/2024	2/10/2025	8/11/2025	8/12/2024	2/11/2025	8/11/2025	8/12/2024	2/10/2025	8/11/2025	8/12/2024	2/10/2025	8/12/2025
Volatile Organic Compounds (µg/L)																
Benzene	0.80	0.200 U	0.200 U	0.2 UJ	0.200 U	0.200 U	0.2 U	0.200 U	0.200 U	0.2 UJ	0.760	0.650	0.97	0.390	1.00 U	0.5
1,1-Dichloroethene	0.057	0.0200 U	0.0200 U	0.02 UJ	0.0200 U	0.0200 U	0.02 U	0.0200 U	0.0200 U	0.02 UJ	0.0468	0.107	0.0233	0.0200 U	0.100 U	0.02 U
cis-1,2-Dichloroethene	0.020	0.240	0.172	0.265 J	0.102	0.0878	0.0909	0.0250	0.0279	0.0428 J	18.9	39.9	11.2	0.204	0.190	0.219
Trichloroethene	0.02	0.0200 U	0.0200 U	0.02 UJ	0.0200 U	0.0200 U	0.02 U	0.0200 U	0.0200 U	0.02 UJ	0.268	0.181	0.161	0.0252	0.100 U	0.02 U
Vinyl Chloride	0.05	0.124	0.156	0.144 J	0.117	0.0936	0.103	0.0213	0.0200 U	0.02 UJ	12.6	26.3	5.00	0.141	0.100 U	0.119

Notes

- Data qualifiers are as follows:
U = The analyte was not detected at the reporting limit indicated.
UJ = The result is estimated and was not detected at the reporting limit indicated.
- Bolded** values exceed the cleanup levels.
- S = shallow well; I = intermediate well.
- Current cleanup levels obtained from Table 2 of the Cleanup Action Plan and are based on each individual SWMU or AOC.

Abbreviations

µg/L = micrograms per liter
AOC = area of concern
CPOC = conditional point of compliance
NA = not analyzed