



REPORT

Outfall 22B IRAM Performance Monitoring
2025 Annual Report

Submitted to:

Oregon Department of Environmental Quality

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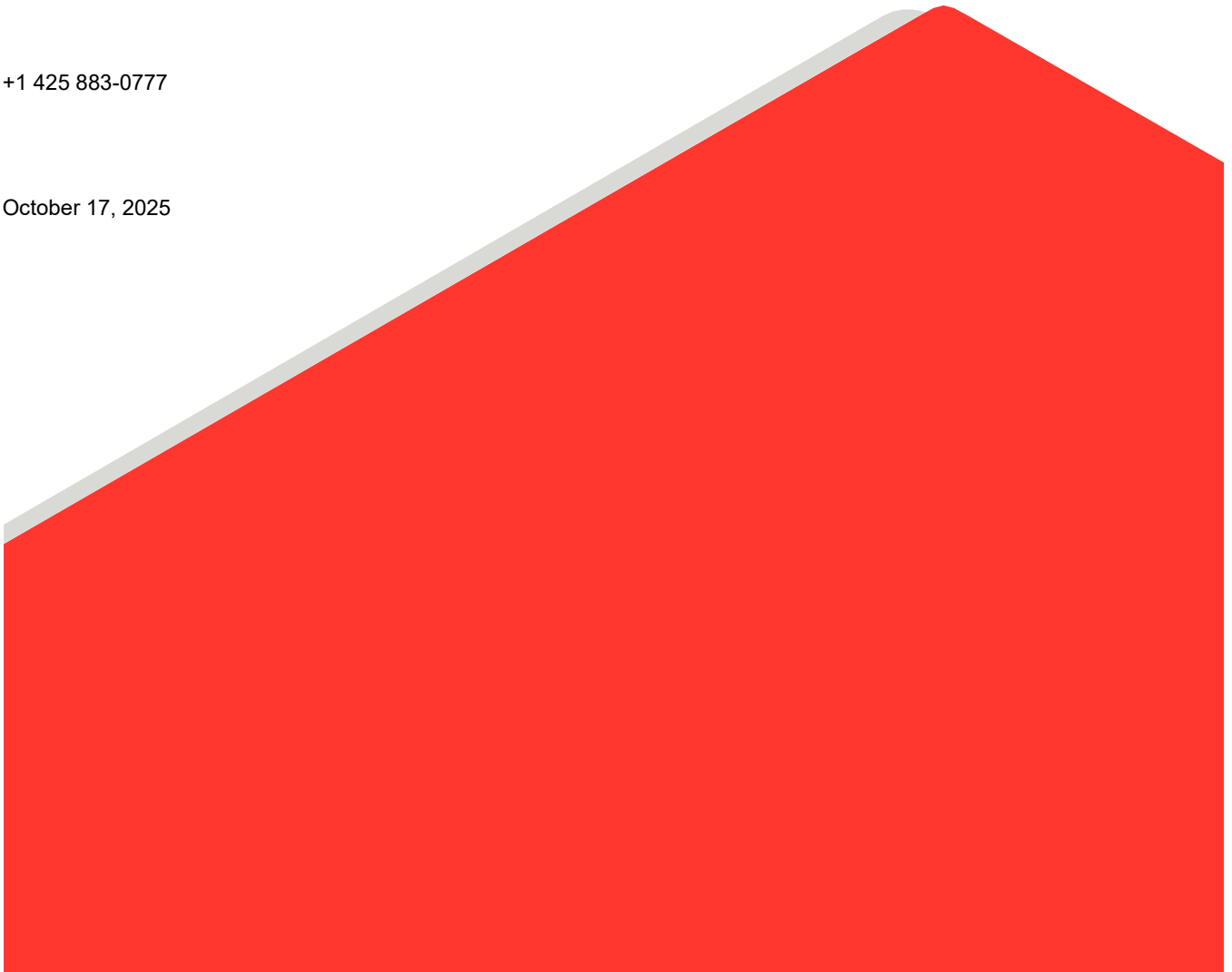
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October 17, 2025



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1.0 INTRODUCTION

This 2025 Annual Report for the Outfall 22B storm sewer system interim remedial action measures (IRAM) was prepared for the Oregon Department of Environmental Quality (DEQ) by WSP USA Inc. (WSP) on behalf of StarLink Logistics, Inc. (StarLink). This report was prepared in accordance with applicable documents (DEQ 2015, DEQ 2017a, DEQ 2017b, DEQ 2018, DEQ 2019, and DEQ 2020).

Five quarterly monitoring reports were submitted during 2015 and 2016 followed by a two-year performance evaluation report in 2017 (Golder 2017b). Annual monitoring reports were submitted in 2017 (Golder 2017c), 2018 (Golder 2018), 2019 (Golder 2020a), 2020 (Golder 2020b), 2021 (Golder 2021), 2022 (Golder 2022), 2023 (WSP 2023), and 2024 (WSP 2024a). This report is the ninth annual monitoring report.

This report is organized as follows:

- Section 1.0 describes the Outfall 22B storm sewer system and the objectives of the IRAM monitoring program.
- Section 2.0 describes the pre-sampling observations of precipitation and river flow.
- Section 3.0 provides sampling flow observations and measurements.
- Section 4.0 describes the Outfall 22B sampling.
- Section 5.0 describes deviations from the Sampling and Analysis Plan (SAP), if any.
- Section 6.0 presents the analytical laboratory results, a comparison of the results to the screening level values (SLVs) and Portland Harbor Superfund Site Surface Water Clean-up Levels (PHCLs) (EPA 2017), and temporal data trend plots.
- Section 7.0 provides a summary of the evaluation of protectiveness and recommended actions.
- Section 8.0 lists the references used in this report.

1.1 Background

The Outfall 22B storm sewer system consists of a City of Portland (City) storm sewer along NW Front Avenue that discharges to the Willamette River upstream of the Burlington Northern Santa Fe (BNSF) railroad bridge (Figure 1). Private laterals connect to the Outfall 22B storm sewer from the Metro, MMGL (formerly Schnitzer/Air Liquide), and Gould properties, and were previously connected from the Arkema property. The Outfall 22B system receives run-off and associated sediments from NW Front Avenue and City right-of-way (ROW), City property, BNSF, Arkema, ESCO, Gould, MMGL, Metro, Highway 30, and potentially during very high rainfall events, the former Rhône-Poulenc property. The North Front Avenue portion of 22B also receives river water and river sediments that are deposited in the sewer during higher river stages (see Photograph 19 in Appendix A and river stage figure [Appendix E-6]). Much of the North Front Avenue portion of the sewer line was either constructed where dredged material from the river had been placed or where the 22B trench was backfilled with dredged material. The total length of the City and private Outfall 22B storm sewer system is approximately 8,000 linear feet.

StarLink began conducting Outfall 22B investigations when deterioration of the storm sewer and groundwater infiltration was identified in April 2004. Detections of constituents of interest (COIs) that could potentially impact Portland Harbor were partially attributed to activities conducted at the former Rhône-Poulenc facility and resulted in StarLink conducting the Outfall 22B IRAMs. These activities included injections of polyurethane at targeted

locations and repairs of the storm sewer in 2006 and 2007. A cutoff collar of polyurethane injected foam was installed in 2006 approximately 50 feet downstream of manhole MH-3 and approximately 290 feet upstream of the outfall to reduce the potential for seepage in the trench backfill surrounding the Outfall 22B pipe. There is no documentation of seepage through the backfill, nor was seepage observed during the quarterly (2015 and 2016) or annual (2017 through 2025) outfall sampling events as reported in this and previous monitoring reports:

- February 23, 2015: No seepage was observed
- June 8, 2015: No seepage was observed
- September 21, 2015: No seepage was observed
- December 30, 2015: No seepage was observed
- May 10, 2016: No seepage was observed
- September 12, 2016: No seepage was observed
- August 23, 2017: No seepage was observed
- April 25, 2018: No seepage was observed
- March 20, 2019: No seepage was observed
- April 10, 2020: No seepage was observed
- May 14, 2021: No seepage was observed
- July 13 and 19, 2022: No seepage was observed
- June 28 and 29, 2023: No seepage was observed
- June 26, 2024: No seepage was observed
- June 9, 2025: No seepage was observed

Parameter concentration trends at groundwater monitoring wells downgradient of the Outfall 22B cutoff collar will be evaluated and assessed as a potential pathway following completion of the Feasibility Study Report (Golder 2017a).

A cured-in-place pipe (CIPP) liner was installed throughout most of the City and private storm sewer system between 2010 and 2014 by Insituform Technologies Inc. (ITI). Figure 1 illustrates the location of the cutoff collar and segments of pipe and manholes that were lined, replaced, or abandoned. Since 2014, intermittent repair work has been completed to satisfy ITI's warranty on workmanship and materials. Final warranty CIPP repairs were completed in August 2020, the City of Portland Bureau of Environmental Services (BES) approved the work in September (BES 2020), and the first 5-year inspection video package was submitted to DEQ on November 24, 2020 (BSI 2020). The second 5-year video inspection was conducted in July 2025; the video package is under review and will be submitted to DEQ by BSI. BES or the respective private property owners will be notified if deterioration of IRAM linings is documented during future inspections.

Additionally, StarLink will continue to coordinate with Metro on any future repair activities or changes to the storm sewer infrastructure installed for the Metro facility stormwater treatment system. Further information regarding the Metro stormwater treatment and stormwater system may be found in Metro's stormwater pollution control plan (file# 110646).

1.2 Sampling and Analysis Plan Objectives

The objective of the performance monitoring is to demonstrate that the Outfall 22B storm sewer system pathway is adequately addressed and does not pose an unacceptable risk to the river. Protectiveness is assessed as follows (DEQ 2015):

- Determine if dry weather flow is present
- Determine if detected constituents exceed PHCLs and SLVs
- Evaluate if exceedances pose an unacceptable risk to the Willamette River
- Determine if additional actions are needed

1.3 2025 Annual Monitoring Event

The 2025 annual monitoring event was conducted on June 9 and 10, 2025. The following sections describe the monitoring activities.

2.0 PRE-SAMPLING OBSERVATIONS

2.1 Precipitation Monitoring

The SAP (DEQ 2015) specifies that sample collection must be preceded by at least 72 hours of no measurable precipitation as recorded at the NW Yeon Avenue, Portland, Oregon rain gage (USGS 2025). The 72-hour minimum dry period was met prior to the June 2025 sampling events (Table 1). It did not rain during the sampling event. Weather conditions are documented on the field sheet in Appendix B.

2.2 River Stage

The river stage at the Morrison Bridge, Willamette River gage was between 8.4 feet to 11.3 feet lower than the Outfall 22B invert (14.65 ft) from the beginning of the 72-hour dry period to the completion of the monitoring event (OWRD 2025).

The outfall historically has contained wood, debris, and significant amounts of sediment deposited inside the outfall pipe during periods of high flow in the Willamette River. The historical river stage measurements by USGS are provided in Figure E-6. The interior of the outfall was clear of debris during the 2025 sampling event.

2.3 Surface Water Inflow

No surface water was observed entering the Outfall 22B storm sewer system during the 2025 monitoring event.

3.0 SAMPLING FLOW OBSERVATIONS AND MEASUREMENTS

WSP measured the flow rate at Outfall 22B and documented flow conditions in manholes and catch basins as part of the 2025 sampling event. Field notes are provided in Appendix A, and observations are summarized below.

3.1 Outfall Flow Measurement

The approximate Outfall 22B flow rate on June 9 was 0.9 gallons per minute (gpm) as measured using a bucket and stopwatch.

3.2 Manhole and Catch Basin Observations

Dry weather observations of manholes and catch basins occurred on City, Gould, MMGL, and Metro properties in accordance with the SAP. DEQ (2017b) noted that MH-9 was “no longer a representative observation point for assessing groundwater intrusion” and recommended using MH-8 and SWMH-5. Observations are summarized below from the field notes in Appendix A, starting from the Metro upstream property and ending at the outfall (Figure 1).

Flow velocity could not be measured at the manholes with an electronic flow meter because the depth of flow in the channels was too shallow. In addition, it is not possible to calculate a flow rate using traditional methods of discharge in a partially filled pipe because manhole channel size is inconsistent, and the channels are generally not semi-circular. Therefore, qualitative estimates of flow rate at and between manholes are provided. These qualitative estimates are provided at DEQ’s request to aid in understanding how the flow compares at different locations in the system. The following summarizes the flow observations:

- Metro Property –
 - Metro MH-8: standing water, no discernible flow.
 - Metro MH-9: standing water, no discernible flow.
 - MH-15: standing water, trickle of flow observed.
 - SWMH-5: standing water, slight flow of water in and out of manhole area observed.
- MMGL Property –
 - MH-1: did not observe, unable to locate¹.
 - MH-17: very slight flow observed.
 - MH-18: very slow flow observed.
 - MH-19: very slow flow observed.
 - MH-20: flow observed, flow channel widens in middle.
 - MH-21: trickle of flow towards MH-10.
- City Property –
 - MH-10: observed trickle of flow from upstream MH-21, pooling after drop.
 - CB set 9: catch basins were dry.
 - MH-9: observed flow from the narrow to wider channel.
 - CB set 8: east catch basin was wet, west was dry.
 - MH-8: very little water, slow flow.
 - CB set 7: east catch basin had observable flow, west catch basin was wet below catch basin sock.

¹ The field crew observed catch basin 4 instead of MH-1. MH-1 was observed during the five year video inspection, and can be found as part of that inspection of the OF22B system.

- Gould Property –
 - MH-4: standing water, no flow observed.
- City Property –
 - MH-7: water flowing faster than MH-8, elevation drop within manhole.
 - CB set 6: west set dry, east set wet.
 - MH-6: flow observed.
 - CB set 1-5: dry.
 - MH-5: trickle of flow observed.
 - MH-4 and MH-3: ponded water present, unable to estimate flow due to bellies in the channels.

The approximate flow rate measured at Outfall 22B in June 2025 (0.9 gpm) is lower than historical measurements taken prior to completing the IRAM and lower than measurements since completion of the IRAM. Most of the dry weather flow in 2025 was observed entering the Outfall 22B system in catch basin CB-7. Water flow is anticipated to remain at a similarly low level since the IRAM has been completed.

3.3 Groundwater Elevation Measurements

WSP measured groundwater levels on June 10, 2025 in shallow monitoring wells ASW-05, ASW-01, ASW-08, and W-15-S(14) on the Metro property and W-16-S(13), W-11-S(21), W-04-S(16) and W-03-S(17) adjacent to NW Front Avenue (Figure 1).

Table 2 provides groundwater elevations and pipe invert elevations. On the Metro property, groundwater elevations at most locations were below the nearby pipe invert elevations, while groundwater elevations measured along NW Front Ave were well above nearby Outfall 22B mainline pipe invert elevations.

3.4 Seepage Through Outfall Backfill

An inspection of the soil adjacent to the outfall pipe was conducted June 9, 2025 and no seepage was observed. No seepage has been observed from the soil surrounding Outfall 22B during any monitoring event.

4.0 OUTFALL 22B SAMPLING

A primary sample, field duplicate sample, and matrix spike/matrix spike duplicate (MS/MSD) sample were collected from Outfall 22B for the 2025 sampling event. An equipment rinsate blank sample was collected for dissolved parameters requiring a 0.45-micron filter.

4.1 Sample Collection

Sampling was conducted in accordance with the SAP (DEQ 2015) except as discussed in Section 5.0.

4.2 Field Parameter Results

Table 3 presents the field parameter monitoring results.

5.0 DEVIATIONS FROM THE SAP

There were minor deviations from the SAP, which are outlined below.

The 8270 Selected Ion Monitoring Polyaromatic Hydrocarbon (SIM PAH) method indicated in the SAP has been phased out by the analytical laboratory; SIM requests are analyzed using the United States Environmental Protection Agency (EPA) 8270E method. The methods, instruments, and RLs are essentially the same, but the lab reports that the 8270E method is more stable.

In accordance with DEQ's May 2, 2024 letter, "Subject: DEQ Review "Outfall 22B IRAM Performance Monitoring 2023 Annual Report" Rhone -Poulenc Portland Site ECSI No. 155", data summation methods detailed in the Program Data Management Plan (EPA 2021) were used to calculate total values for cPAHs, dioxins/furans, DDX, and chlordanes. This is a change from OF22B IRAM Performance Monitoring Reports prior to the 2024 report. The equations used are provided in note "T" in Table 4. The data summation rules from the data management plan (EPA 2021) were followed for these calculations. The total PCB values were calculated by the analytical laboratory as the sum of detected values, which differs from the Portland Harbor Data Management Plan but is consistent with the past total PCB reporting for this project.

Quantification of flow rates at each manhole could not be performed, as stated in the SAP, given the low flow rates and actual geometry of the manhole pipes.

6.0 LABORATORY RESULTS

Samples were submitted to Apex Labs of Tigard, Oregon on June 9, 2025. Laboratory analytical reports are provided in Appendix C. Validated analytical results are presented in Table 4. Table 5 summarizes the analytical results for compounds detected in Outfall 22B samples since 2015.

A Level II validation of the laboratory analytical results was completed in accordance with the SAP. The data validation report is provided in Appendix D. The validation concludes that the majority of data are acceptable for their intended use. The following analyte results were rejected in either the primary and/or duplicate sample:

- Results for the following analytes were rejected based on low MS/MSD recovery:
 - 3,3'-Dichlorobenzidine (primary and duplicate) and Benzoic acid (primary and duplicate).

The detection limits for some of the individual analytes (e.g., benzo(a)pyrene) analyzed by the methods provided in the 2015 SAP are above the PHCLs and SLVs. Therefore, although these constituents were not detected in the samples, there is uncertainty as to whether they are potentially present at concentrations that exceed screening levels. As discussed in Section 6.1.2, most of the analytes are decreasing in concentration over time. Therefore, the concentrations of analytes present below detection limits likely are also decreasing over time, although this remains an uncertainty. If concentrations of these analytes change and are measured above PHCLs and SLVs, additional manhole sampling would be warranted, as it would indicate a change to the outfall system. Overall, given the downward trend of analytes greater than detection limits, it is likely that the performance monitoring objectives are still being met.

6.1 Discussion of Outfall 22B Results

6.1.1 Comparison to PHCLs and SLVs

Table 5 summarizes the analytical results for detected compounds over the past five years and indicates those compounds detected in 2025 at concentrations above their respective surface water PHCLs (EPA 2017). For compounds without PHCLs, results are compared to SLVs.

There were no detections of the following classes of compounds or they were not detected above their respective PHCL (or SLV if a PHCL is not available):

- Petroleum hydrocarbons (including diesel-range organics and gasoline-range organics) were not detected in the 2025 annual sample (or duplicate), consistent with previous sampling events.
- There were no herbicides detected in 2025 above the PHCL or SVL, consistent with previous sampling events.
- There were no volatile organic compounds (VOCs) detected in 2025.
- There were no semi-volatile compounds (SVOCs) detected above the PHCL or SVL.

The following analytes were detected during the 2025 sampling event at concentrations above their respective PHCL or SLV if a PHCL is not available:

- Polychlorinated dibenzo-para-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs): 1,2,3,4,6,7,8-HpCDD (duplicate sample only) was the only detected compound in this class and exceeded the SLV. The result is “J” qualified as ‘estimated’ since it was measured below the method detection level. The resulting 2,3,7,8-TCDD Equivalents calculation, using half the detection limits for all compounds, exceeded the PHCL.
- Polychlorinated biphenyls (PCBs): Only PCBs 77, 156, and 106 & 118 were detected above their respective SLVs, which occurred in both the primary and duplicate samples. Other PCB compounds were detected but did not have a PHCL or SLV to compare with. The total PCBs calculated value was above the PHCL. Overall, the 2025 analytical results for PCBs are consistent with previous analytical results.
- Insecticides: 2,4'-dichlorodiphenyldichloroethane (DDD), 4,4'-DDD, 2,4'-dichlorodiphenyldichloroethylene (DDE), 4,4'-DDE, 2,4'-dichlorodiphenyltrichloroethane (DDT), 4,4'-DDT, alrin, hexachlorobenzene, and total chlordanes (calculated values) were detected at concentrations above their respective PHCLs and SLVs. Alpha-BHC, alpha-chlordane, cis-nonachlor, dieldrin, heptachlor epoxide, and trans-heptachlor epoxide were detected at concentrations above their respective SLVs. The calculation for total chlordanes was above the PHCL. The 2025 analytical results are generally consistent with previous analytical results.
- Metals: total and dissolved arsenic and total copper (duplicate sample) were detected at concentrations above their PHCLs and SLVs. Total and dissolved barium, total cadmium (duplicate sample), total hexavalent chromium (unfiltered sample), total iron and lead (duplicate sample), and total and dissolved manganese were detected at concentrations above their respective SLVs. The 2025 analytical results are generally consistent with previous analytical results.
- Total suspended solids (TSS) (Table 4): TSS was not detected above the 5,000 micrograms per liter ($\mu\text{g/L}$) detection limit in either the primary or duplicate sample, consistent with previous results. There is neither a PHCL nor SLV for TSS.

6.1.2 Temporal Trends

Temporal data plots are presented in Appendix E for major analytes and include data collected prior to 2007, as requested by DEQ (2017a). The pre-2007 data may not be representative of dry weather flow and may not have been analyzed using the same analytical techniques currently used; therefore, comparison of pre-2007 to post-2007 data may not be appropriate. The pre-2007 datasets do not contain the complete set of analytes reported in the post-2007 datasets. Significant flow was observed entering the system from the Metro property during the

second quarter 2016 sampling event, as previously reported. This inflow influenced sampling results during the second quarter 2016 sampling event.

Trend lines are presented on the Appendix E graphs based on linear regression using a linear, logarithmic, or exponential trendline. The regression line shown was based on the visual fit to the data and highest calculated r^2 values for the possible trendlines. A quantitative analysis for some of the analytes shown in Appendix E over time was performed using a Mann-Kendal Test in ProUCL (version 5.2). The ProUCL output also is provided in Appendix E. While the trend lines shown in the Appendix E graphs indicate stable or decreasing trends, the correlation coefficients (r^2 values) are generally low (i.e., generally less than 0.5) which indicates that the data do not closely follow the trend line. For recent dry weather only data, a visual evaluation of the data trends indicates similar or slightly decreasing analyte concentrations between 2017 and 2025, except for the PCB data which increased in 2025. Overall, key findings as presented in the 2-Year Evaluation Report (Golder 2017b) and updated with Mann-Kendall results provided below remain valid:

- Organochlorine insecticide (OCI) concentrations in 2025 are generally the same as 2022, when they were on a decreasing trend through 2024 (Appendix Figure E-1). Trend lines for the following representative compounds are shown in the Appendix E figure: trans-heptachlor epoxide (blue line, steady and slightly decreasing trend even though this year's and last year's data were much lower than previous years), endrin (yellow, decreasing trend), and hexachlorobenzene (green, decreasing trend). Due to the number of analytes shown on the graph, a trend line for each analyte is not displayed; however, other analytes are likely to be similar to one of these three trends. A Mann-Kendall test of the 4,4'-DDD, alpha-BHC, alpha-chlordane, beta-BHC, dieldrin, endrin, gamma-BHC (lindane), gamma-chlordane, and trans-heptachlor epoxide data from 2007 to 2025 indicate no significant trend at the 0.05 level (Appendix E). The Mann-Kendall test of the 4,4'-DDE and hexachlorobenzene data found a decreasing trend at the 0.05 level (Appendix E).
- Limited or no discernible trend is observed in PCDD/PCDF and PCB temporal data, except for an increase in PCB concentrations in 2025 (Appendix Figures E-2 and E-3). A Mann-Kendall test of the OCDD data from 2007 to 2025 indicates a decreasing trend at the 0.05 level. The Mann-Kendall tests of PCB 77, 105, 106 & 118 and total congeners showed no significant trend at the 0.05 level (Appendix E).
- Concentrations of chlorophenols (SVOCs) are lower in post-IRAM monitoring results compared to fourth quarter 2007 and have been stable since 2019 (Appendix Figure E-4). A Mann-Kendall test of the 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, and pentachlorophenol data from 2007 to 2025 indicates a significant decreasing trend at the 0.05 level.
- Metals concentrations have remained relatively constant since fourth quarter 2007. The Mann-Kendall tests of the unfiltered arsenic, cadmium, and manganese data from 2007 to 2025 indicate no significant trend at the 0.05 level. Hexavalent chromium, which was not detected until low-level analytical methods were introduced in 2015, has decreased overall, and detected values since 2019 are at concentrations similar to detected values in 2015 and 2016 (Appendix Figure E-5). The concentration of barium is significantly increasing over this time period.

6.2 Permitted Discharges Near Outfall 22B

The 2025 Outfall 22B performance monitoring results were compared to nearby permitted National Pollutant Discharge Elimination System (NPDES) discharge limits for the Arkema property (see table below) for general comparison purposes only. The comparison is not to determine if the IRAM is functioning, but to compare the magnitude of the Outfall 22B results with other potential releases into the Willamette River. Comparisons of the

Outfall 22B results to the PHCLs and SLVs were provided in Section 6.1.1. Key observations compared to nearby NPDES discharge limits include:

- VOCs: The annual 2025 sampling result for chlorobenzene was less than the detection limit of 0.25 µg/L and was below the nearby permitted discharge limit.
- Chlorinated insecticides: Recent sampling results for DDT and degradants (DDx) are significantly lower than recently permitted discharge limits for DDD (0.01 µg/L), DDE (0.01 µg/L), and DDT (0.01 µg/L). Permit limits are greater than the PHCLs and SLVs.
- Filtered and unfiltered metals: Cadmium and hexavalent chromium results are below the nearby permitted discharge limits. The cadmium and hexavalent chromium permit limits are greater than the PHCL and SLV.

Arkema – Permitted Discharge Limits ¹		
Constituent Group	Constituent	Discharge Limit (µg/L)
VOCs	Chlorobenzene	<150
SVOCs	2-Chlorophenol	<28
Chlorinated Insecticide	DDD	<0.01
	DDE	<0.01
	DDT	<0.01
Metals	Cadmium	<0.83
	Chromium VI	<16

1 – Oregon DEQ NPDES Waste Discharge Permit for Treated Groundwater, Permit #103075, Effective Date April 3, 2014. EPA Reference # OR0044695.

7.0 SUMMARY AND EVALUATION OF PROTECTIVENESS

The SAP specifies that the objective of the Outfall 22B performance monitoring is to demonstrate that the storm sewer system pathway is adequately addressed and does not pose an unacceptable risk to the river.

Protectiveness is to be assessed as follows:

- Determine if dry weather flow is present.
- Determine if detected constituents exceed PHCLs or SLVs.
- Evaluate if exceedances pose an unacceptable risk to the Willamette River.
- Determine if additional actions are needed.

Evaluation of the above objectives is summarized below.

7.1 Dry Weather Flow

Flow was present at Outfall 22B during the annual 2025 event, and samples were collected representative of Outfall 22B discharge under dry weather flow conditions (Section 2.1) as determined by a lack of rainfall within the previous 72 hours. Dry weather flow was identified at the MMGL and City properties, with the majority of the observed flow coming from catch basin set 7 along NW Front Avenue (Section 3.2).

7.2 Comparison to PHCLs, SLVs, and Previous Sampling Results

Outfall 22B sampling results show limited detections of COIs at concentrations above the PHCLs and SLVs (when there are no PHCLs) as discussed in Section 6.1. The flow measured in 2025 was lower than the historically low

measurements collected following completion of the IRAM. Flow is expected to remain at a similarly low level since the IRAM has been completed. Overall, measured concentrations of the analytes remain consistent with previous sampling results.

7.3 Risk Evaluation

Risk is qualitatively evaluated as follows:

- The short-term risk evaluation of dry weather discharge to river receptors concluded that Outfall 22B does not pose a significant risk (Golder 2017b). Measured concentrations of detected analytes have not significantly changed; therefore, the conclusions of the short-term risk evaluation are still valid. Detected concentrations of some analytes remain above PHCLs. An evaluation of remedial alternatives for the groundwater to Outfall 22B pathway was addressed in the “Revised Draft Feasibility Study Report – Operable Unit 1 Former Rhône-Poulenc Site, Portland, Oregon” (WSP 2024b).
- Risk to river receptors from Outfall 22B sediment during non-stormwater flow conditions is considered low because TSS concentrations in outfall discharge were less than the reporting limit of 5 milligrams per liter (mg/L) which is well below the industrial stormwater discharge benchmark of 100 mg/L (there is no PHCL or SLV for TSS).
- The June 2025 dry weather discharge rate of 0.9 gpm is lower than the annual average of 5 gpm used for the short-term risk evaluation (Golder 2017b). Dry weather flow appears to have decreased to less than 5 gpm since additional repairs were completed following the 2020 compliance monitoring event. An evaluation of remedial alternatives for the groundwater to Outfall 22B pathway is presented in the feasibility study (WSP 2024b).

7.4 Recommended Actions

Warranty repairs to Outfall 22B IRAM CIPP and manhole were completed in 2020. It is recommended that performance monitoring (annual sampling) of Outfall 22B continue in accordance with the SAP and DEQ comments associated with annual performance monitoring reports as applicable.

As presented in Sections 1.1, 3.2, and 7.3, there have been no significant changes in dry weather flow quantity or quality since the spatial evaluation in the 2017 Outfall 22B IRAM 2-year performance report (Golder 2017b); therefore, manhole sampling is not needed.

The next annual sampling will occur during the next qualifying dry weather period in the spring of 2026.

WSP USA Inc.



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Ted Norton
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Tables

**TABLE 1
Rainfall Data
Outfall 22B IRAM Performance Monitoring
Annual 2025 Report**

Date	Daily Total	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
06/03/25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06/04/25	11	0	0	0	0	0	0	0	1	6	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0
06/05/25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06/06/25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06/07/25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06/08/25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06/09/25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes & Legend:

Rainfall data are raw and uncorrected from the City of Portland HYDRA rainfall network Yeon Rain Gage located at 3395 NW Yeon Avenue, Portland, OR (USGS 2025)

Rainfall totals are measured in number of tips of the rain gauge bucket. One tip equals 0.01 inches of rainfall.

- 72 hour dry period leading up to sampling event
- Sample collection

**TABLE 2
Groundwater Level and Pipe Invert Elevations
Outfall 22B IRAM Performance Monitoring
Annual 2025 Report**

Date	Monitoring Well	DTW (ft BTOC)	Ground Surface Elevation (ft COPD)	Casing Elevation (ft COPD)	Water Level Elevation (ft COPD)	Respective Manhole	Downstream Pipe Invert Elevation (ft COPD)	Invert Elevation vs. Groundwater Elevation	Below Water Table
6/10/2025	ASW-05	8.60	42.26	41.58	32.98	Metro MH-1	37.14	4.16	no
						Metro MH-2	35.28	2.30	no
	W-15-S(14)	11.15	41.73	41.42	30.27	Metro MH-5	31.76	1.49	no
						Metro MH-6	29.87	-0.40	yes
						Metro MH-7	31.50	1.23	no
	ASW-01A	6.59	40.21	39.61	33.02	Metro MH-14	30.41	-2.61	yes
	ASW-08	6.58	36.87	36.67	30.09	Metro MH-15	29.61	-0.48	yes
	W-16-S(13)	6.20	32.41	34.93	28.73	MH-9	19.97	-8.76	yes
	W-04-S(16)	5.53	32.59	34.95	29.42	MH-8	18.92	-10.50	yes
	W-03-S(17)	5.00	33.12	35.10	30.10	MH-7	17.39	-12.71	yes
W-11-S(21)	10.90	39.10	40.90	30.00	MH-6	16.79	-13.21	yes	

Notes:

DTW Depth to water
 BTOC Below top of casing
 COPD City of Portland Datum

- Invert elevations of Outfall 22B piping from GIS data were provided by the City of Portland Bureau of Environmental Services, October 13, 2010; and from Metro and Schnitzer plan drawings C-6A and C-6C dated February 1990.
- Monitoring wells ASW-05, W-16-S, W-04-S, and W-03-S were resurveyed on November 21, 2016.



TABLE 3
Field Parameters
Outfall 22B IRAM Performance Monitoring
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Parameter	Outfall 22B 06/09/2025
Air Temp (°C)	22.8
Water Temp (°C)	14.9
Sample Depth (inches)	approx. 1/4 inch
pH (S.U.)	7.75
ORP (mV)	-55
Conductivity (uS/cm)	457
Turbidity (NTU)	5.01
Dissolved Oxygen (mg/L)	7.17

Notes:

Data collected with YSI 556 MPS

TABLE 4
2025 Annual Laboratory Analytical Results - All Compounds
Outfall 22B IRAM Performance Monitoring
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Parameter	CAS	Portland Harbor Cleanup Level	Toxicity Equivalency Factor (TEF)	Site Specific SLV	Sample ID	Outfall 22B	Outfall 22B	Outfall 22B	Outfall 22B
					Sample Name	22B-U-S-20250609	22B-U-D-20250609	22B-F-S-20250609	22B-F-D-20250609
					Sample Date	6/9/2025	6/9/2025	6/9/2025	6/9/2025
					N=Normal, FD=Field Duplicate	N	FD	N	FD
					Result	Result	Result	Result	Result
PCDD/PCDFs, µg/L									
1,2,3,4,6,7,8-HpCDD	35822-46-9	---	0.01	5.10E-08	< 5.31E-006 U	2.77E-06 J			
1,2,3,4,6,7,8-HpCDF	67562-39-4	---	0.01	5.10E-08	< 1.93E-006 U	< 1.37E-006 U			
1,2,3,4,7,8,9-HpCDF	55673-89-7	---	0.01	5.10E-08	< 2.37E-006 U	< 1.61E-006 U			
1,2,3,4,7,8-HxCDD	39227-28-6	---	0.1	5.1E-09	< 1.93E-006 U	< 1.17E-006 U			
1,2,3,4,7,8-HxCDF	70648-26-9	---	0.1	5.1E-09	< 1.07E-006 U	< 7.41E-007 U			
1,2,3,6,7,8-HxCDD	57653-85-7	---	0.1	5.1E-09	< 2.19E-006 U	< 1.26E-006 U			
1,2,3,6,7,8-HxCDF	57117-44-9	---	0.1	5.1E-09	< 1.17E-006 U	< 7.63E-007 U			
1,2,3,7,8,9-HxCDD	19408-74-3	---	0.1	5.1E-09	< 2.42E-006 U	< 1.34E-006 U			
1,2,3,7,8,9-HxCDF	72918-21-9	---	0.1	5.1E-09	< 1.72E-006 U	< 1.24E-006 U			
1,2,3,7,8-PeCDD	40321-76-4	---	1	5.1E-10	< 1.27E-006 U	< 1.59E-006 U			
1,2,3,7,8-PeCDF	57117-41-6	---	0.03	1.70E-08	< 1.12E-006 U	< 9E-007 U			
2,3,4,6,7,8-HxCDF	60851-34-5	---	0.1	5.10E-09	< 1.33E-006 U	< 9.32E-007 U			
2,3,4,7,8-PeCDF	57117-31-4	---	0.3	1.70E-09	< 9.44E-007 U	< 7.53E-007 U			
2,3,7,8-TCDD	1746-01-6	---	1	5.10E-10	< 1.24E-006 U	< 9.9E-007 U			
2,3,7,8-TCDF	51207-31-9	---	0.1	5.10E-09	< 1E-006 U	< 8.99E-007 U			
OCDD	3268-87-9	---	0.0003	1.70E-06	< 1.29E-005 U	< 9.31E-06 U			
OCDF	39001-02-0	---	0.0003	1.70E-06	< 1.31E-005 EMPC, U	< 1.64E-006 U			
2,3,7,8-TCDD Equivalents ¹	---	5.00E-10	---	---	ND	3.08E-08			
PCBs, µg/L									
PCB 1	2051-60-7	---	---	---	< 1.84E-006 EMPC, U	< 1.87E-006 EMPC, U			
PCB 100	39485-83-1	---	---	---	< 2.06E-007 U	< 1.87E-007 U			
PCB 103	60145-21-3	---	---	---	< 1.99E-007 U	< 1.8E-007 U			
PCB 104	56558-16-8	---	---	---	< 1.73E-007 U	< 1.57E-007 U			
PCB 105	32598-14-4	---	---	1.70E-05	5.39E-04 J	3.81E-04 J			
PCB 11	2050-67-1	---	---	---	1.23E-05 J+	8.28E-06 J+			
PCB 110	38380-03-9	---	---	---	3.03E-04 J	2.10E-04 J			
PCB 113	68194-10-5	---	---	---	< 1.62E-007 U	< 1.54E-007 U			
PCB 114	74472-37-0	---	---	1.70E-05	1.53E-05	1.18E-05			
PCB 119	56558-17-9	---	---	---	2.75E-06 J	2.15E-06 J			
PCB 12	2974-92-7	---	---	---	< 2.11E-007 U	< 1.9E-007 U			
PCB 120	68194-12-7	---	---	---	< 1.32E-007 U	< 1.22E-007 U			
PCB 121	56558-18-0	---	---	---	< 1.37E-007 U	< 1.31E-007 U			
PCB 122	76842-07-4	---	---	---	8.25E-06	5.97E-06			
PCB 123	65510-44-3	---	---	---	1.02E-05	7.68E-06			
PCB 124	70424-70-3	---	---	---	1.11E-05	7.69E-06			
PCB 126	57465-28-8	---	---	---	4.40E-06 J	< 1.66E-006 EMPC, U			
PCB 127	39635-33-1	---	---	---	< 2.41E-007 U	< 2.03E-007 U			
PCB 129	55215-18-4	---	---	---	1.50E-05	1.06E-05			
PCB 130	52663-66-8	---	---	---	1.39E-05 J	8.23E-06 J			
PCB 135	52744-13-5	---	---	---	9.66E-06	4.92E-06 J			
PCB 136	38411-22-2	---	---	---	7.96E-06 J	4.61E-06 J			
PCB 137	35694-06-5	---	---	---	1.19E-05	7.97E-06			



TABLE 4
2025 Annual Laboratory Analytical Results - All Compounds
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Parameter	CAS	Portland Harbor Cleanup Level	Toxicity Equivalency Factor (TEF)	Site Specific SLV	Sample ID	Outfall 22B	Outfall 22B	Outfall 22B	Outfall 22B
					Sample Name	22B-U-S-20250609	22B-U-D-20250609	22B-F-S-20250609	22B-F-D-20250609
					Sample Date	6/9/2025	6/9/2025	6/9/2025	6/9/2025
					N=Normal, FD=Field Duplicate	N	FD	N	FD
					Result	Result	Result	Result	
PCB 14	34883-41-5	---	---	---	< 2.06E-007 U	< 1.86E-007 U			
PCB 140	59291-64-4	---	---	---	< 1.67E-006 EMPC, U	< 7.98E-008 U			
PCB 141	52712-04-6	---	---	---	2.36E-05 J	1.40E-05 J			
PCB 142	41411-61-4	---	---	---	< 2.15E-007 U	< 1.64E-007 U			
PCB 144	68194-14-9	---	---	---	< 1.71E-006 EMPC, U	2.43E-06 J			
PCB 145	74472-40-5	---	---	---	< 5.48E-008 U	< 5.87E-008 U			
PCB 147	68194-13-8	---	---	---	2.04E-06 J	< 1.59E-006 EMPC, U			
PCB 148	74472-41-6	---	---	---	< 7.24E-008 U	< 7.75E-008 U			
PCB 15	2050-68-2	---	---	---	4.31E-06 J	3.81E-06 J			
PCB 150	68194-08-1	---	---	---	< 5.58E-008 U	< 5.97E-008 U			
PCB 151	52663-63-5	---	---	---	1.64E-05 J	9.47E-06 J			
PCB 152	68194-09-2	---	---	---	1.73E-07 J	< 5.54E-008 U			
PCB 153	35065-27-1	---	---	---	1.11E-04 J	6.47E-05 J			
PCB 154	60145-22-4	---	---	---	8.39E-07 J	< 1.37E-006 EMPC, U			
PCB 155	33979-03-2	---	---	---	< 5.89E-008 U	< 6.3E-008 U			
PCB 156	38380-08-4	---	---	1.70E-05	5.40E-05 J	3.36E-05 J			
PCB 157	69782-90-7	---	---	1.70E-05	1.41E-05 J	8.98E-06 J			
PCB 159	39635-35-3	---	---	---	< 1.47E-007 U	< 1.11E-007 U			
PCB 166	41411-63-6	---	---	---	< 1.15E-006 EMPC, U	< 1.17E-006 EMPC, U			
PCB 167	52663-72-6	---	---	1.70E-05	1.28E-05	8.28E-06			
PCB 168	59291-65-5	---	---	---	< 1.49E-007 U	< 1.13E-007 U			
PCB 169	32774-16-6	---	---	---	< 1.89E-007 U	< 1.44E-006 EMPC, U			
PCB 17	37680-66-3	---	---	---	7.77E-06	7.05E-06			
PCB 170	35065-30-6	---	---	---	2.72E-05 J	1.59E-05 J			
PCB 171	52663-71-5	---	---	---	6.00E-06	3.04E-06 J			
PCB 172	52663-74-8	---	---	---	< 1.64E-006 EMPC, U	2.67E-06 J			
PCB 173	68194-16-1	---	---	---	< 1.38E-006 EMPC, U	< 1.41E-006 EMPC, U			
PCB 174	38411-25-5	---	---	---	2.36E-05 J	1.17E-05 J			
PCB 175	40186-70-7	---	---	---	< 1.1E-006 EMPC, U	< 1.12E-006 EMPC, U			
PCB 176	52663-65-7	---	---	---	2.75E-06 J	1.14E-06 J			
PCB 177	52663-70-4	---	---	---	1.27E-05 J	< 1.56E-006 UJ			
PCB 178	52663-67-9	---	---	---	4.91E-06	2.19E-06 J			
PCB 179	52663-64-6	---	---	---	8.58E-06	3.96E-06 J			
PCB 18	37680-65-2	---	---	---	2.27E-05	2.08E-05			
PCB 180	35065-29-3	---	---	---	5.80E-05	3.12E-05			
PCB 181	74472-47-2	---	---	---	< 1.12E-006 EMPC, U	< 8.9E-008 U			
PCB 183	52663-69-1	---	---	---	1.35E-05	6.83E-06			
PCB 184	74472-48-3	---	---	---	< 1.05E-007 U	< 6.73E-008 U			
PCB 185	52712-05-7	---	---	---	3.14E-06 J	< 1.27E-006 EMPC, U			
PCB 186	74472-49-4	---	---	---	< 9.92E-008 U	< 6.37E-008 U			
PCB 188	74487-85-7	---	---	---	< 9.86E-008 U	< 6.34E-008 U			
PCB 189	39635-31-9	---	---	1.70E-05	1.51E-06 J	9.78E-07 J			
PCB 19	38444-73-4	---	---	---	4.55E-06 J	4.40E-06 J			

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Outfall 22B IRAM Performance Monitoring
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Parameter	CAS	Portland Harbor Cleanup Level	Toxicity Equivalency Factor (TEF)	Site Specific SLV	Sample ID	Outfall 22B	Outfall 22B	Outfall 22B	Outfall 22B
					Sample Name	22B-U-S-20250609	22B-U-D-20250609	22B-F-S-20250609	22B-F-D-20250609
					Sample Date	6/9/2025	6/9/2025	6/9/2025	6/9/2025
					N=Normal, FD=Field Duplicate	N	FD	N	FD
					Result	Result	Result	Result	
PCB 190	41411-64-7	---	---	---	5.26E-06	3.40E-06 J			
PCB 191	74472-50-7	---	---	---	1.02E-06 J	4.98E-07 J			
PCB 192	74472-51-8	---	---	---	< 1.09E-007 U	< 7.31E-008 U			
PCB 193	69782-91-8	---	---	---	2.26E-06 J	1.33E-06 J			
PCB 194	35694-08-7	---	---	---	7.91E-06	5.39E-06			
PCB 195	52663-78-2	---	---	---	3.49E-06 J	< 1.53E-006 EMPC, U			
PCB 197	33091-17-7	---	---	---	4.93E-07 J	2.44E-07 J			
PCB 198	68194-17-2	---	---	---	< 2.02E-006 EMPC, U	3.48E-07 J			
PCB 199	52663-75-9	---	---	---	1.33E-05 J	7.40E-06 J			
PCB 2	2051-61-8	---	---	---	3.05E-07 J	2.54E-07 J			
PCB 200	52663-73-7	---	---	---	1.61E-06 J	< 8.82E-007 EMPC, U			
PCB 201	40186-71-8	---	---	---	1.71E-06 J	< 1.32E-006 EMPC, U			
PCB 202	2136-99-4	---	---	---	< 1.21E-006 EMPC, U	1.36E-06 J			
PCB 204	74472-52-9	---	---	---	< 9.42E-008 U	< 7.8E-008 U			
PCB 205	74472-53-0	---	---	---	6.06E-07 J	< 1.27E-007 U			
PCB 206	40186-72-9	---	---	---	5.29E-06	3.19E-06 J			
PCB 207	52663-79-3	---	---	---	< 1.52E-006 EMPC, U	< 1.55E-006 EMPC, U			
PCB 208	52663-77-1	---	---	---	1.22E-06 J	< 1.52E-006 EMPC, U			
PCB 209 (Total Decachlorobiphenyl)	2051-24-3	---	---	---	1.59E-06 J	2.04E-06 J			
PCB 22	38444-85-8	---	---	---	6.34E-06	4.23E-06 J			
PCB 23	55720-44-0	---	---	---	< 1.72E-007 U	< 1.23E-007 U			
PCB 25	55712-37-3	---	---	---	1.22E-06 J	1.13E-06 J			
PCB 26	38444-81-4	---	---	---	2.43E-06 J	2.39E-06 J			
PCB 28	7012-37-5	---	---	---	1.83E-05	1.43E-05			
PCB 29	15862-07-4	---	---	---	< 1.85E-007 U	< 1.33E-007 U			
PCB 3	2051-62-9	---	---	---	< 3E-006 EMPC, U	< 3.05E-006 EMPC, U			
PCB 30	35693-92-6	---	---	---	< 6E-008 U	< 9.25E-008 U			
PCB 31	16606-02-3	---	---	---	1.96E-05	1.62E-05			
PCB 34	37680-68-5	---	---	---	< 1.76E-007 U	< 1.26E-007 U			
PCB 35	37680-69-6	---	---	---	4.42E-07 J	5.00E-07 J			
PCB 36	38444-87-0	---	---	---	< 1.77E-007 U	< 1.18E-007 U			
PCB 37	38444-90-5	---	---	---	8.19E-06	7.29E-06			
PCB 38	53555-66-1	---	---	---	< 1.91E-007 U	< 1.28E-007 U			
PCB 39	38444-88-1	---	---	---	< 1.81E-007 U	< 1.21E-007 U			
PCB 40	38444-93-8	---	---	---	1.36E-05	1.01E-05			
PCB 44	41464-39-5	---	---	---	4.69E-05	3.77E-05			
PCB 45	70362-45-7	---	---	---	< 1.57E-006 EMPC, U	< 1.59E-006 EMPC, U			
PCB 46	41464-47-5	---	---	---	< 1.54E-006 EMPC, U	1.72E-06 J			
PCB 47	2437-79-8	---	---	---	7.23E-06	6.70E-06			
PCB 50	62796-65-0	---	---	---	< 1.76E-007 U	< 1.76E-007 U			
PCB 51	68194-04-7	---	---	---	1.62E-06 J	< 1.14E-006 EMPC, U			
PCB 53	41464-41-9	---	---	---	4.36E-06 J	3.46E-06 J			
PCB 54	15968-05-5	---	---	---	< 1.28E-006 EMPC, U	< 1.3E-007 U			



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Parameter	CAS	Portland Harbor Cleanup Level	Toxicity Equivalency Factor (TEF)	Site Specific SLV	Sample ID	Outfall 22B	Outfall 22B	Outfall 22B	Outfall 22B
					Sample Name	22B-U-S-20250609	22B-U-D-20250609	22B-F-S-20250609	22B-F-D-20250609
					Sample Date	6/9/2025	6/9/2025	6/9/2025	6/9/2025
					N=Normal, FD=Field Duplicate	N	FD	N	FD
					Result	Result	Result	Result	Result
PCB 55	74338-24-2	---	---	---	1.29E-06 J	< 1.23E-006 EMPC, U			
PCB 57	70424-67-8	---	---	---	3.29E-07 J	< 1.3E-007 U			
PCB 58	41464-49-7	---	---	---	< 1.3E-006 EMPC, U	< 1.23E-007 U			
PCB 6	25569-80-6	---	---	---	< 1.84E-006 EMPC, U	< 1.87E-007 U			
PCB 62	54230-22-7	---	---	---	< 1.31E-007 U	< 1.28E-007 U			
PCB 63	74472-34-7	---	---	---	3.43E-06 J	< 1.1E-006 EMPC, U			
PCB 65	33284-54-7	---	---	---	< 1.36E-007 U	< 1.33E-007 U			
PCB 67	73575-53-8	---	---	---	1.72E-06 J	1.36E-06 J			
PCB 68	73575-52-7	---	---	---	5.40E-07 J	< 1.2E-007 U			
PCB 73	74338-23-1	---	---	---	< 1.26E-007 U	< 1.25E-007 U			
PCB 74	32690-93-0	---	---	---	5.47E-05	4.79E-05			
PCB 77	32598-13-3	---	---	5.20E-07	4.87E-05	3.73E-05			
PCB 78	70362-49-1	---	---	---	< 1.34E-007 U	< 1.29E-007 U			
PCB 79	41464-48-6	---	---	---	1.16E-06 J	< 1.29E-006 EMPC, U			
PCB 80	33284-52-5	---	---	---	< 1.1E-007 U	< 1.08E-007 U			
PCB 81	70362-50-4	---	---	---	< 1.11E-006 EMPC, U	1.11E-06 J			
PCB 82	52663-62-4	---	---	---	6.57E-05	5.10E-05			
PCB 83	60145-20-2	---	---	---	< 1.47E-007 U	< 1.36E-007 U			
PCB 86	55312-69-1	---	---	---	2.02E-06 J	1.65E-06 J			
PCB 88	55215-17-3	---	---	---	1.50E-05	1.10E-05			
PCB 89	73575-57-2	---	---	---	2.17E-06 J	1.79E-06 J			
PCB 93	73575-56-1	---	---	---	2.97E-06 J	2.22E-06 J			
PCB 94	73575-55-0	---	---	---	< 2.45E-007 U	< 2.34E-007 U			
PCB 96	73575-54-9	---	---	---	< 1.36E-006 EMPC, U	5.16E-07 J			
PCB 97	41464-51-1	---	---	---	7.25E-05 J	5.11E-05 J			
PCB 99	38380-01-7	---	---	---	6.57E-05	5.02E-05			
PCB004 & 010	PCB004 010	---	---	---	1.01E-05	9.66E-06 J			
PCB005 & 008	PCB005 008	---	---	---	2.87E-06 J	1.47E-06 J			
PCB007 & 009	PCB007 009	---	---	---	< 2.16E-006 EMPC, U	< 1.87E-007 U			
PCB016 & 032	PCB016 032	---	---	---	1.56E-05	1.45E-05			
PCB020 & 021 & 033	PCB020 021 033	---	---	---	5.79E-06 J	3.68E-06 J			
PCB024 & 027	PCB024 027	---	---	---	2.35E-06 J	2.02E-06 J			
PCB041 & 064 & 071 & 072	PCB41 64 71 72	---	---	---	4.86E-05	3.85E-05			
PCB042 & 059	PCB042 059	---	---	---	1.24E-05	1.05E-05			
PCB043 & 049	PCB043 049	---	---	---	2.41E-05	2.07E-05			
PCB048 & 075	PCB048 075	---	---	---	5.67E-06 U	4.83E-06 U			
PCB052 & 069	PCB052 069	---	---	---	4.30E-05	3.54E-05			
PCB056 & 060	PCB056 060	---	---	---	1.61E-04	1.33E-04			
PCB061 & 070	PCB061 070	---	---	---	1.75E-04	1.44E-04			
PCB066 & 076	PCB066 076	---	---	---	1.26E-04	1.08E-04			
PCB084 & 092	PCB084 092	---	---	---	5.08E-05 J	3.58E-05 J			
PCB085 & 116	PCB085 116	---	---	---	5.98E-05 J	4.48E-05 J			
PCB087 & 117 & 125	PCB087 117 125	---	---	---	8.92E-05 J	6.52E-05 J			



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Parameter	CAS	Portland Harbor Cleanup Level	Toxicity Equivalency Factor (TEF)	Site Specific SLV	Sample ID	Outfall 22B	Outfall 22B	Outfall 22B	Outfall 22B
					Sample Name	22B-U-S-20250609	22B-U-D-20250609	22B-F-S-20250609	22B-F-D-20250609
					Sample Date	6/9/2025	6/9/2025	6/9/2025	6/9/2025
					N=Normal, FD=Field Duplicate	N	FD	N	FD
					Result	Result	Result	Result	Result
PCB090 & 101	PCB090 101	---	---	---	1.38E-04 J	9.95E-05 J			
PCB095 & 098 & 102	PCB095 098 102	---	---	---	6.17E-05 J	4.47E-05 J			
PCB106 & 118	PCB106 118	---	---	1.70E-05	4.83E-04 J	3.52E-04 J			
PCB107 & 109	PCB107 109	---	---	---	2.59E-05 J	1.88E-05 J			
PCB108 & 112	PCB108 112	---	---	---	8.23E-06 J	6.33E-06 J			
PCB111 & 115	PCB111 115	---	---	---	5.93E-06 J	4.65E-06 J			
PCB128 & 162	PCB128 162	---	---	---	5.61E-05 J	3.54E-05 J			
PCB131 & 133	PCB131 133	---	---	---	2.82E-06 J	1.69E-06 J			
PCB132 & 161	PCB132 161	---	---	---	3.71E-05 J	2.08E-05 J			
PCB134 & 143	PCB134 143	---	---	---	< 1.72E-006 EMPC, U	3.06E-06 J			
PCB138 & 163 & 164	PCB138 163 164	---	---	---	2.19E-04 J	1.31E-04 J			
PCB139 & 149	PCB139 149	---	---	---	7.44E-05 J	4.17E-05 J			
PCB146 & 165	PCB146 165	---	---	---	1.34E-05	8.52E-06 J			
PCB158 & 160	PCB158 160	---	---	---	2.32E-05	1.43E-05			
PCB182 & 187	PCB182 187	---	---	---	3.48E-05 J	1.70E-05 J			
PCB196 & 203	PCB196 203	---	---	---	1.35E-05	7.82E-06 J			
Total PCBs ²	1336-36-3	0.0000064	---	0.0000064	0.00394 J	0.0028 J			
Insecticides, µg/L									
2,4'-DDD	53-19-0	0.000031	---	0.000031	0.0016 J	0.000215 J			
2,4'-DDE	3424-82-6	0.000018	---	0.000022	0.0000763 J	0.0000125 J			
2,4'-DDT	789-02-6	0.000022	---	0.000022	0.000127 J	< 0.0000101 UJ			
4,4'-DDD	72-54-8	0.000031	---	0.000031	0.00348 J	0.000519 J			
4,4'-DDE	72-55-9	0.000018	---	0.000022	0.000894 J	0.0000867 J			
4,4'-DDT	50-29-3	0.000022	---	0.000022	0.00198 J	0.0000477 J			
DDx	---	0.01	---	---	0.00816	0.00088			
Aldrin	309-00-2	0.00000077	---	0.000005	0.0000998 J	0.0000114 J			
alpha-BHC	319-84-6	---	---	0.00049	0.000595	0.000596			
alpha-Chlordane	5103-71-9	---	---	0.000081	0.000768 J	0.00012 J			
beta-BHC	319-85-7	---	---	0.0017	0.00169	0.00156			
cis-Nonachlor	5103-73-1	---	---	0.000081	0.000194 J	< 0.0000071 UJ			
delta-BHC	319-86-8	---	---	0.037	0.000695	0.000643			
Dieldrin	60-57-1	---	---	0.0000054	0.0111 J	0.00408 J			
Endosulfan I	959-98-8	---	---	0.051	0.0000877 J	< 0.0000918 EMPC, U			
Endosulfan II	33213-65-9	---	---	0.051	0.000148 J	0.0000936 J			
Endosulfan Sulfate	1031-07-8	---	---	0.051	0.000192	0.000129 J			
Endrin	72-20-8	---	---	0.0023	0.000532 J	0.000267 J			
Endrin Aldehyde	7421-93-4	---	---	0.0023	< 0.0000099 U	< 0.0000049 U			
Endrin Ketone	53494-70-5	---	---	0.0023	0.000376	0.000311			
gamma-BHC (Lindane)	58-89-9	---	---	0.08	0.000149	0.000155			
gamma-Chlordane	5103-74-2	---	---	0.000081	0.000969 J	0.0000997 J			
Heptachlor	76-44-8	---	---	0.0000079	< 0.000023 EMPC, U	< 0.0000009 U			
Heptachlor Epoxide	1024-57-3	---	---	0.0000039	0.0000895 J	0.0000499 J			
Hexachlorobenzene	118-74-1	0.000029	---	0.000029	0.000129 J	0.0000466 J			



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Parameter	CAS	Portland Harbor Cleanup Level	Toxicity Equivalency Factor (TEF)	Site Specific SLV	Sample ID	Outfall 22B	Outfall 22B	Outfall 22B	Outfall 22B
					Sample Name	22B-U-S-20250609	22B-U-D-20250609	22B-F-S-20250609	22B-F-D-20250609
					Sample Date	6/9/2025	6/9/2025	6/9/2025	6/9/2025
					N=Normal, FD=Field Duplicate	N	FD	N	FD
Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Methoxychlor	72-43-5	---	---	0.019	0.000112 J	0.0000302 J			
Mirex	2385-85-5	---	---	0.001	0.0000125 J	< 0.0000015 U			
Oxychlorane	27304-13-8	---	---	0.000081	< 0.0000119 U	< 0.0000057 U			
trans-Heptachlor Epoxide	28044-83-9	---	---	0.0000039	0.000187 J	0.000349 J			
trans-Nonachlor	39765-80-5	---	---	0.000081	0.000567 J	0.0000582 J			
Total Chlordanes ³	---	0.000081	---	0.000081	0.0268	0.009			
Unfiltered Metals, µg/L									
Arsenic	7440-38-2	0.018	---	0.014	5.76 J	9.16 J			
Barium	7440-39-3	---	---	4	27.9	34.4			
Cadmium	7440-43-9	---	---	0.09	< 0.1 U	0.102 J			
Calcium	7440-70-2	---	---	116000	36900	37100			
Chromium	7440-47-3	100	---	74	< 1 U	< 1 U			
Hexavalent Chromium	18540-29-9	---	---	0.043	0.051	0.043			
Copper	7440-50-8	2.74	---	2.7	1.15 J	3.08			
Iron	7439-89-6	---	---	1000	973 J	2290 J			
Lead	7439-92-1	---	---	0.54	0.435 J	1.73 J			
Magnesium	7439-95-4	---	---	82000	11600	11500			
Manganese	7439-96-5	---	---	10	65.5 J	108 J			
Mercury	7439-97-6	---	---	0.012	0.00117	0.00133			
Nickel	7440-02-0	---	---	16	1.43 J	1.73 J			
Selenium	7782-49-2	---	---	5	< 0.5 U	< 0.5 U			
Silver	7440-22-4	---	---	0.12	< 0.1 U	< 0.1 U			
Zinc	7440-66-6	36.5	---	33	4.01 J	12.5 J			

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Parameter	CAS	Portland Harbor Cleanup Level	Toxicity Equivalency Factor (TEF)	Site Specific SLV	Sample ID	Outfall 22B	Outfall 22B	Outfall 22B	Outfall 22B
					Sample Name	22B-U-S-20250609	22B-U-D-20250609	22B-F-S-20250609	22B-F-D-20250609
					Sample Date	6/9/2025	6/9/2025	6/9/2025	6/9/2025
					N=Normal, FD=Field Duplicate	N	FD	N	FD
					Result	Result	Result	Result	
Filtered Metals, µg/L									
Arsenic	7440-38-2	0.018	---	0.014			3.27	3.28	
Barium	7440-39-3	---	---	4			23.3	23.8	
Cadmium	7440-43-9	---	---	0.09			<i>< 0.1 U</i>	<i>< 0.1 U</i>	
Calcium	7440-70-2	---	---	116000			36000	36900	
Chromium	7440-47-3	100	---	74			<i>< 1 U</i>	<i>< 1 U</i>	
Hexavalent Chromium	18540-29-9	---	---	0.043			<i>< 0.052 U</i>	<i>< 0.051 U</i>	
Copper	7440-50-8	2.74	---	2.7			1.12 J	<i>< 1 U</i>	
Iron	7439-89-6	---	---	1000			47.4 J	76.1	
Lead	7439-92-1	---	---	0.54			<i>< 0.1 U</i>	<i>< 0.1 U</i>	
Magnesium	7439-95-4	---	---	82000			11600	11800	
Manganese	7439-96-5	---	---	10			41.9	41.5	
Mercury	7439-97-6	---	---	0.012			0.000564	0.000519	
Nickel	7440-02-0	---	---	16			1.24 J	1.4 J	
Selenium	7782-49-2	---	---	5			<i>< 0.5 U</i>	<i>< 0.5 U</i>	
Silver	7440-22-4	---	---	0.12			<i>< 0.1 U</i>	<i>< 0.1 U</i>	
Zinc	7440-66-6	36.5	---	33			<i>< 2 U</i>	<i>< 2 U</i>	
Herbicides, µg/L									
2,4,5-T	93-76-5	---	---	4	0.011	0.15			
2,4,5-TP (Silvex)	93-72-1	---	---	5	<i>< 0.080 U</i>	<i>< 0.080 U</i>			
2,4-D	94-75-7	---	---	4	<i>< 0.080 U</i>	<i>< 0.080 U</i>			
2,4-DB	94-82-6	---	---	4	<i>< 0.080 U</i>	<i>< 0.080 U</i>			
Acifluorfen	50594-66-6	---	---	---	<i>< 0.080 U</i>	<i>< 0.080 U</i>			
Bentazon	25057-89-0	---	---	---	<i>< 0.080 U</i>	<i>< 0.080 U</i>			
Clopyralid	1702-17-6	---	---	---	<i>< 0.080 U</i>	<i>< 0.080 U</i>			
Dicamba	1918-00-9	---	---	10	<i>< 0.080 U</i>	<i>< 0.080 U</i>			
Dichlorprop	120-36-5	---	---	4	<i>< 0.080 U</i>	<i>< 0.080 U</i>			
Dinoseb	88-85-7	---	---	0.05	<i>< 0.080 U</i>	<i>< 0.080 U</i>			
MCPA	94-74-6	---	---	2.6	<i>< 0.080 U</i>	<i>< 0.080 U</i>			
MCPP	93-65-2	16	---	2.6	<i>< 0.080 U</i>	<i>< 0.080 U</i>			
Picloram	1918-02-1	---	---	---	<i>< 0.080 U</i>	<i>< 0.080 U</i>			
Quinclorac	84087-01-4	---	---	---	<i>< 0.080 U</i>	<i>< 0.080 U</i>			
Triclopyr	55335-06-3	---	---	---	<i>< 0.080 U</i>	<i>< 0.080 U</i>			
VOCs, µg/L									
1,1,1,2-Tetrachloroethane	630-20-6	---	---	---	<i>< 0.2 U</i>	<i>< 0.2 U</i>			
1,1,1-Trichloroethane	71-55-6	---	---	11	<i>< 0.2 U</i>	<i>< 0.2 U</i>			
1,1,2,2-Tetrachloroethane	79-34-5	---	---	0.067	<i>< 0.25 U</i>	<i>< 0.25 U</i>			
1,1,2-Trichloroethane	79-00-5	---	---	0.24	<i>< 0.25 U</i>	<i>< 0.25 U</i>			
1,1-Dichloroethane	75-34-3	---	---	2.4	<i>< 0.2 U</i>	<i>< 0.2 U</i>			
1,1-Dichloroethene	75-35-4	---	---	7	<i>< 0.2 U</i>	<i>< 0.2 U</i>			
1,1-Dichloropropene	563-58-6	---	---	0.055	<i>< 0.5 U</i>	<i>< 0.5 U</i>			
1,2,3-Trichlorobenzene	87-61-6	---	---	29	<i>< 1 U</i>	<i>< 1 U</i>			
1,2,3-Trichloropropane	96-18-4	---	---	0.00072	<i>< 0.5 U</i>	<i>< 0.5 U</i>			



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Parameter	CAS	Portland Harbor Cleanup Level	Toxicity Equivalency Factor (TEF)	Site Specific SLV	Sample ID	Outfall 22B	Outfall 22B	Outfall 22B	Outfall 22B
					Sample Name	22B-U-S-20250609	22B-U-D-20250609	22B-F-S-20250609	22B-F-D-20250609
					Sample Date	6/9/2025	6/9/2025	6/9/2025	6/9/2025
					N=Normal, FD=Field Duplicate	N	FD	N	FD
					Result	Result	Result	Result	
1,2,4-Trichlorobenzene	120-82-1	---	---	2.3	< 1 U	< 1 U			
1,2,4-Trimethylbenzene	95-63-6	---	---	7.3	< 0.5 U	< 0.5 U			
1,2-Dibromo-3-Chloropropane	96-12-8	---	---	0.00032	< 2.5 U	< 2.5 U			
1,2-Dibromoethane	106-93-4	---	---	---	< 0.25 U	< 0.25 U			
1,2-Dichlorobenzene	95-50-1	---	---	14	< 0.25 U	< 0.25 U			
1,2-Dichloroethane	107-06-2	---	---	0.15	< 0.2 U	< 0.2 U			
1,2-Dichloropropane	78-87-5	---	---	0.39	< 0.25 U	< 0.25 U			
1,3,5-Trimethylbenzene	108-67-8	---	---	7.3	< 0.5 U	< 0.5 U			
1,3-Dichlorobenzene	541-73-1	---	---	14	< 0.25 U	< 0.25 U			
1,3-Dichloropropane	142-28-9	---	---	730	< 0.5 U	< 0.5 U			
1,4-Dichlorobenzene	106-46-7	---	---	0.43	< 0.25 U	< 0.25 U			
2,2-Dichloropropane	594-20-7	---	---	---	< 0.5 U	< 0.5 U			
2-Butanone (MEK)	78-93-3	---	---	7100	< 5 U	< 5 U			
2-Chloroethyl Vinyl Ether	110-75-8	---	---	---	< 10 UJ	< 10 UJ			
2-Chlorotoluene	95-49-8	---	---	730	< 0.5 U	< 0.5 U			
2-Hexanone	591-78-6	---	---	47	< 5 U	< 5 U			
4-Chlorotoluene	106-43-4	---	---	730	< 0.5 U	< 0.5 U			
4-Isopropyltoluene	99-87-6	---	---	7.3	< 0.5 U	< 0.5 U			
4-Methyl-2-pentanone (MIBK)	108-10-1	---	---	170	< 5 U	< 5 U			
Acetone	67-64-1	---	---	1500	< 10 U	< 10 U			
Acrolein	107-02-8	---	---	---	< 5 UJ	< 5 UJ			
Acrylonitrile	107-13-1	---	---	---	< 1 U	< 1 U			
Benzene	71-43-2	---	---	0.41	< 0.1 U	< 0.1 U			
Bromobenzene	108-86-1	---	---	88	< 0.25 U	< 0.25 U			
Bromochloromethane	74-97-5	---	---	0.12	< 0.5 U	< 0.5 U			
Bromodichloromethane	75-27-4	---	---	0.12	< 0.5 U	< 0.5 U			
Bromoform	75-25-2	---	---	8.5	< 0.5 U	< 0.5 U			
Bromomethane	74-83-9	---	---	8.7	< 5 U	< 5 U			
Carbon Disulfide	75-15-0	---	---	---	< 5 U	< 5 U			
Carbon Tetrachloride	56-23-5	---	---	0.16	< 0.5 U	< 0.5 U			
Chlorobenzene	108-90-7	---	---	50	< 0.25 U	< 0.25 U			
Chloroethane	75-00-3	---	---	47	< 5 U	< 5 U			
Chloroform	67-66-3	---	---	0.19	< 0.5 U	< 0.5 U			
Chloromethane	74-87-3	---	---	190	< 2.5 U	< 2.5 U			
cis-1,2-Dichloroethene	156-59-2	---	---	70	< 0.2 U	< 0.2 U			
cis-1,3-Dichloropropene	10061-01-5	---	---	0.055	< 0.5 U	< 0.5 U			
Dibromochloromethane	124-48-1	---	---	0.15	< 0.5 U	< 0.5 U			
Dibromomethane	74-95-3	---	---	8.2	< 0.5 U	< 0.5 U			
Dichlorodifluoromethane (Freon 12)	75-71-8	---	---	390	< 0.5 U	< 0.5 U			
Ethylbenzene	100-41-4	7.3	---	1.5	< 0.25 U	< 0.25 U			
Hexachlorobutadiene	87-68-3	---	---	0.86	< 2.5 U	< 2.5 U			
Iodomethane	74-88-4	---	---	---	< 10 U	< 10 U			
Isopropylbenzene	98-82-8	---	---	7.3	< 0.5 U	< 0.5 U			

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Parameter	CAS	Portland Harbor Cleanup Level	Toxicity Equivalency Factor (TEF)	Site Specific SLV	Sample ID	Outfall 22B	Outfall 22B	Outfall 22B	Outfall 22B
					Sample Name	22B-U-S-20250609	22B-U-D-20250609	22B-F-S-20250609	22B-F-D-20250609
					Sample Date	6/9/2025	6/9/2025	6/9/2025	6/9/2025
					N=Normal, FD=Field Duplicate	N	FD	N	FD
					Result	Result	Result	Result	
Methyl tert-Butyl Ether (MTBE)	1634-04-4	---	---	12	< 0.5 U	< 0.5 U			
Methylene Chloride	75-09-2	---	---	4.8	< 5 U	< 5 U			
Naphthalene	91-20-3	12	---	---	< 2.5 U	< 2.5 U			
n-Butylbenzene	104-51-8	---	---	36	< 0.5 U	< 0.5 U			
n-Propylbenzene	103-65-1	---	---	64	< 0.25 U	< 0.25 U			
o-Xylene	95-47-6	---	---	13	< 0.25 U	< 0.25 U			
sec-Butylbenzene	135-98-8	---	---	41	< 0.5 U	< 0.5 U			
Styrene	100-42-5	---	---	100	< 0.5 U	< 0.5 U			
tert-Butylbenzene	98-06-6	---	---	48	< 0.5 U	< 0.5 U			
Tetrachloroethene	127-18-4	---	---	0.11	< 0.2 U	< 0.2 U			
Toluene	108-88-3	---	---	9.8	< 0.5 U	< 0.5 U			
trans-1,2-Dichloroethene	156-60-5	---	---	100	< 0.2 U	< 0.2 U			
trans-1,3-Dichloropropene	10061-02-6	---	---	0.055	< 0.5 U	< 0.5 U			
Trichloroethene	79-01-6	---	---	2	< 0.2 U	< 0.2 U			
Trichlorofluoromethane (Freon 11)	75-69-4	---	---	1300	< 1 U	< 1 U			
Vinyl Chloride	75-01-4	---	---	0.016	< 0.1 U	< 0.1 U			
Xylene (Total)	1330-20-7	---	---	---	< 0.5 U	< 0.5 U			
SVOCs, µg/L									
1,2,4-Trichlorobenzene	120-82-1	---	---	2.3	< 0.0238 U	< 0.024 U			
1,2-Dichlorobenzene	95-50-1	---	---	14	< 0.0238 U	< 0.024 U			
1,2-Dinitrobenzene	528-29-0	---	---	---	< 0.238 U	< 0.24 U			
1,3-Dichlorobenzene	541-73-1	---	---	14	< 0.0238 U	< 0.024 U			
1,3-Dinitrobenzene	99-65-0	---	---	---	< 0.238 U	< 0.24 U			
1,4-Dichlorobenzene	106-46-7	---	---	0.43	< 0.0238 U	< 0.024 U			
1,4-Dinitrobenzene	100-25-4	---	---	---	< 0.238 U	< 0.24 U			
1-Methylnaphthalene	90-12-0	---	---	0.2	< 0.019 U	< 0.0192 U			
2,3,4,6-Tetrachlorophenol	58-90-2	---	---	1	< 0.0476 U	0.0548 J			
2,3,5,6-Tetrachlorophenol	935-95-5	---	---	---	< 0.0476 U	0.0484 J			
2,4,5-Trichlorophenol	95-95-4	---	---	3.2	0.175 J	0.293 J			
2,4,6-Trichlorophenol	88-06-2	---	---	0.24	0.143	0.174			
2,4-Dichlorophenol	120-83-2	---	---	29	0.53	0.514			
2,4-Dimethylphenol	105-67-9	---	---	42	< 0.238 U	< 0.24 U			
2,4-Dinitrophenol	51-28-5	---	---	73	< 0.238 U	< 0.24 U			
2,4-Dinitrotoluene	121-14-2	---	---	---	< 0.0952 U	< 0.0962 U			
2,6-Dinitrotoluene	606-20-2	---	---	---	< 0.0952 U	< 0.192 U			
2-Chloronaphthalene	91-58-7	---	---	---	< 0.00952 U	< 0.00962 U			
2-Chlorophenol	95-57-8	---	---	15	< 0.0476 U	< 0.0481 U			
2-Methylnaphthalene	91-57-6	---	---	0.2	< 0.019 U	< 0.0192 U			
2-Methylphenol	95-48-7	---	---	13	0.0431 J	0.0556			
2-Nitroaniline	88-74-4	---	---	---	< 0.19 U	< 0.192 U			
2-Nitrophenol	88-75-5	---	---	150	< 0.0952 U	< 0.0962 U			
3,3'-Dichlorobenzidine	91-94-1	---	---	0.0028	< 0.476 UR	< 0.962 UR			
3-Nitroaniline	99-09-2	---	---	---	< 0.19 UJ	< 0.192 UJ			



TABLE 4
2025 Annual Laboratory Analytical Results - All Compounds
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Parameter	CAS	Portland Harbor Cleanup Level	Toxicity Equivalency Factor (TEF)	Site Specific SLV	Sample ID	Outfall 22B	Outfall 22B	Outfall 22B	Outfall 22B
					Sample Name	22B-U-S-20250609	22B-U-D-20250609	22B-F-S-20250609	22B-F-D-20250609
					Sample Date	6/9/2025	6/9/2025	6/9/2025	6/9/2025
					N=Normal, FD=Field Duplicate	N	FD	N	FD
						Result	Result	Result	Result
4,6-Dichloro-o-cresol	1570-65-6	---	---	---		< 0.238 U	< 0.24 U		
4-Bromophenyl phenyl ether	101-55-3	---	---	---		< 0.0238 U	< 0.024 U		
4-Chloro-3-Methylphenol	59-50-7	---	---	0.32		< 0.0952 U	< 0.192 U		
4-Chloroaniline	106-47-8	---	---	---		< 0.0952 U	< 0.0962 U		
4-Chlorophenyl phenyl ether	7005-72-3	---	---	---		< 0.0238 U	< 0.024 U		
4-Nitroaniline	100-01-6	---	---	---		< 0.19 U	< 0.192 U		
4-Nitrophenol	100-02-7	---	---	150		< 0.0952 U	< 0.0962 U		
Acenaphthene	83-32-9	---	---	0.2		0.0114 J	0.01 J		
Acenaphthylene	208-96-8	---	---	0.2		< 0.00952 U	< 0.00962 U		
Aniline	62-53-3	---	---	---		< 0.0476 U	< 0.0481 U		
Anthracene	120-12-7	---	---	0.2		< 0.00952 U	< 0.00962 U		
Azobenzene	103-33-3	---	---	---		< 0.0238 U	< 0.024 U		
Benzo(a)anthracene	56-55-3	0.0012	0.1	0.0018		< 0.00952 U	< 0.00962 U		
Benzo(a)pyrene	50-32-8	0.00012	1	0.0018		< 0.0143 U	< 0.0144 U		
Benzo(b)fluoranthene	205-99-2	0.0012	0.1	0.0018		< 0.0143 U	< 0.0144 U		
Benzo(g,h,i)Perylene	191-24-2	---	0.01	0.2		< 0.00952 U	< 0.00962 U		
Benzo(k)Fluoranthene	207-08-9	0.0013	0.01	0.0018		< 0.0143 U	< 0.0144 U		
Benzoic Acid	65-85-0	---	---	42		< 2.38 UR	< 2.4 UR		
Benzyl Alcohol	100-51-6	---	---	8.6		< 0.19 U	< 0.192 U		
bis(2-Chloroethoxy)methane	111-91-1	---	---	---		< 0.0238 U	< 0.024 U		
bis(2-Chloroethyl)ether	111-44-4	---	---	0.012		< 0.0238 U	< 0.024 U		
Bis(2-chloroisopropyl) Ether	108-60-1	---	---	0.32		< 0.0238 U	< 0.024 U		
Bis(2-Ethylhexyl)adipate (Diocetyl Adipate)	103-23-1	---	---	0		< 0.238 U	< 0.24 U		
bis(2-Ethylhexyl)phthalate	117-81-7	0.2	---	0.22		< 0.19 U	< 0.192 U		
Butylbenzylphthalate	85-68-7	---	---	3		< 0.19 U	< 0.192 U		
Carbazole	86-74-8	---	---	3.4		< 0.0143 U	< 0.0144 U		
Chrysene	218-01-9	0.0013	0.001	0.0018		< 0.00952 U	< 0.00962 U		
Cresol, Methylphenols, Total	1319-77-3	---	---	---		< 0.0238 U	< 0.0481 U		
Dibenzo(a,h)anthracene	53-70-3	0.00012	1	0.0018		< 0.00952 U	< 0.00962 U		
Dibenzofuran	132-64-9	---	---	3.7		< 0.00952 U	< 0.00962 U		
Diethylphthalate	84-66-2	---	---	3		< 0.19 U	< 0.192 U		
Dimethylphthalate	131-11-3	---	---	3		< 0.19 U	< 0.192 U		
Di-n-butylphthalate	84-74-2	---	---	3		< 0.19 U	< 0.192 U		
di-n-Octyl Phthalate	117-84-0	---	---	3		< 0.19 U	< 0.192 U		
Fluoranthene	206-44-0	---	---	0.2		< 0.00952 U	< 0.00962 U		
Fluorene	86-73-7	---	---	0.2		< 0.00952 U	< 0.00962 U		
Hexachlorobenzene	118-74-1	0.000029	---	0.000029		< 0.000129 J	< 0.0000466 J		
Hexachlorobutadiene	87-68-3	---	---	0.86		< 0.0238 U	< 0.024 U		
Hexachlorocyclopentadiene	77-47-4	---	---	---		< 0.0476 U	< 0.0481 U		
Hexachloroethane	67-72-1	---	---	---		< 0.0238 U	< 0.024 U		
Indeno(1,2,3-cd)pyrene	193-39-5	0.0012	0.1	0.0018		< 0.00952 U	< 0.00962 U		
Isophorone	78-59-1	---	---	71		< 0.0238 U	< 0.024 U		
Naphthalene	91-20-3	12	---	---		< 0.019 U	< 0.0192 U		



TABLE 4
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Parameter	CAS	Portland Harbor Cleanup Level	Toxicity Equivalency Factor (TEF)	Site Specific SLV	Sample ID	Outfall 22B	Outfall 22B	Outfall 22B	Outfall 22B
					Sample Name	22B-U-S-20250609	22B-U-D-20250609	22B-F-S-20250609	22B-F-D-20250609
					Sample Date	6/9/2025	6/9/2025	6/9/2025	6/9/2025
					N=Normal, FD=Field Duplicate	N	FD	N	FD
					Result	Result	Result	Result	
Nitrobenzene	98-95-3	---	---	---	< 0.0952 U	< 0.0962 U			
N-Nitrosodimethylamine	62-75-9	---	---	0.00042	< 0.0476 U	< 0.0481 U			
N-Nitrosodi-n-propylamine	621-64-7	---	---	0	< 0.0238 U	< 0.024 U			
N-Nitrosodiphenylamine	86-30-6	---	---	0.6	< 0.0238 U	< 0.024 U			
Pentachlorophenol	87-86-5	0.03	---	0.3	0.129 J	0.132 J			
Phenanthrene	85-01-8	---	---	0.2	0.0104 J	0.0118 J			
Phenol	108-95-2	---	---	110	< 0.19 U	< 0.192 U			
Pyrene	129-00-0	---	---	0.2	< 0.00952 U	< 0.00962 U			
Pyridine	110-86-1	---	---	---	< 0.0952 U	< 0.0962 U			
cPAHs ⁴	---	0.00012	---	---	NA	NA			
Petroleum Hydrocarbons, µg/L									
Diesel-Range Organics (DRO)	68334-30-5	---	---	---	< 96.2 U	< 95.2 U			
Residual-Range Organics (RRO)	WEY-130-500	---	---	---	< 192 U	< 190 U			
Gasoline Range Hydrocarbons	86290-81-5	---	---	---	< 50 U	< 50 U			
Diesel-Range Organics (DRO)	68334-30-5	---	---	---	< 240 U	< 238 U			
Gasoline Range Organics	GRO	---	---	---	< 96.2 U	< 95.2 U			
Residual-Range Organics (RRO)	WEY-130-500	---	---	---	< 240 U	< 238 U			

**TABLE 4
2025 Annual Laboratory Analytical Results - All Compounds
Outfall 22B IRAM Performance Monitoring
Annual 2025 Report**

Parameter	CAS	Portland Harbor Cleanup Level	Toxicity Equivalency Factor (TEF)	Site Specific SLV	Sample ID	Outfall 22B	Outfall 22B	Outfall 22B	Outfall 22B
					Sample Name	22B-U-S-20250609	22B-U-D-20250609	22B-F-S-20250609	22B-F-D-20250609
					Sample Date	6/9/2025	6/9/2025	6/9/2025	6/9/2025
					N=Normal, FD=Field Duplicate	N	FD	N	FD
					Result	Result	Result	Result	Result
General Chemistry, mg/L									
Total Suspended Solids	TSS	---	---	---	< 5.0 U	< 5.0 U			

Created by: MJS 8/20/2025
Checked by: CR 8/20/2025

Notes:

Results formatted in **Bold** indicate concentration above the Portland Harbor Cleanup Level.

Results formatted in *italics* indicate concentration above the Site-Specific Screening Level Value, if there is no Portland Harbor Cleanup Level.

U: The constituent was analyzed for, but was not detected above the reported sample quantitation limit. Reported at the MDL.

UJ: The constituent was not detected; the associated quantitation limit is an estimated value because quality control criteria were not met. Reported at the MDL.

J: The constituent was positively identified and detected; however, the concentration reported is an estimated value.

J-: The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased low.

J+: The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high.

R: The constituent was analyzed for, but rejected during data validation.

UR: The constituent was analyzed for and not detected, but rejected during data validation.

EMPC, U: Estimated Maximum Potential Concentration, The EMPC qualifier is applied to a sample result when the signal to noise ratio is at least 2.5:1 for both quantitation ions, but the ion abundance ratio criteria are not met. The laboratory reported the constituent as not detected. Reported at the MDL.

T: Data summation methods detailed in the Program Data Mangement Plan (EPA 2021) were used to calculate totals for PCBs, cPAHs, dioxins/furans, DDX, and chlordanes. Equations for summing the detected constituents of PCDD/PCDFs, PCBs, and PAHs:

$$1 - TEQ_{PCDDs,PCDFs} = \sum_{i=1}^7 (PCDD_i \cdot TEF_i) + \sum_{i=1}^{10} (PCDF_i \cdot TEF_i)$$

2 - total PCBs calculated and reported by analytical lab as the sum of detected PCBs

3 - total Chlordanes calculated as sum of: alpha-chlordane, gamma-chlordane, oxychlordane, cis-nonachlor, and trans-nonachlor

$$4 - TEQ_{PAH} = \sum_{i=1}^8 (PAH_i \cdot TEF_i)$$

5 - Total DDX = sum of the six DDX isomers (2,4'-DDD, 4,4'-DDD, 2,4'-DDE, 4,4'-DDE, 2,4'-DDT, 4,4'-DDT)

Errata #2 for Portland Harbor Superfund Site Record of Decision ROD Table 17, accessed in July 2025 from: <https://semsub.epa.gov/work/10/100200076.pdf>
Site-Specific SLV from Table J-1 of the RI/SCE report (Golder 2014)

TEFs are used for PCDD/PCDFs to calculate a screening level based on the toxicity of 2,3,7,8 TCDD Van den Berg et al. 2006. The 2005 World Health Organization reevaluation of human and mammalian toxic equivalency factors for dioxins and dioxin-like compounds. Toxicological Sciences. 2(93):223-241.

Benzo(a)pyrene equivalents from Toxic Equivalency Factors for Carcinogenic PAHs (DEQ 2010, Human Health Risk Assessment Guidance)



TABLE 5
2015 to 2025 Laboratory Analytical Results - Detected Compounds
Outfall 22B IRAM Performance Monitoring
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Table with 16 columns: Constituent, Portland Harbor Cleanup Level, Site Specific SLV, and 12 Outfall Samples (Outfall 22B, Outfall 22B (FD), Outfall 22B (S), Outfall 22B (FD), Outfall 22B (S), Outfall 22B (FD), Outfall 22B (S), Outfall 22B (FD), Outfall 22B (S), Outfall 22B (FD), Outfall 22B (S), Outfall 22B (FD), Outfall 22B (S)). Rows include PCDD/PCDFs, PCBs, Insecticides, and various pesticides like Aldrin, Dieldrin, and Endosulfan.



TABLE 5
2015 to 2025 Laboratory Analytical Results - Detected Compounds
Outfall 22B IRAM Performance Monitoring
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Constituent	Portland Harbor Cleanup Level	Site Specific SLV	Outfall Samples												
			Outfall 22B 22B-U-S-022315 2/23/15	Outfall 22B (FD) 22B-U-D-022315 2/23/15	Outfall 22B 22B-U-S-060815 6/8/15	Outfall 22B (FD) 22B-U-D-060815 6/8/15	Outfall 22B 22B-U-S-092115 9/21/15	Outfall 22B (FD) 22B-U-D-092115 9/21/15	Outfall 22B 22B-U-S-100516 5/10/16	Outfall 22B (FD) 22B-U-D-100516 5/10/16	Outfall 22B 22B-U-S-120916 9/12/16	Outfall 22B (FD) 22B-U-D-120916 9/12/16	Outfall 22B 22B-U-S-230817 8/23/2017	Outfall 22B (FD) 22B-U-D-230817 8/23/2017	Outfall 22B 22B-U-S-250418 4/25/2018
Unfiltered Metals (µg/L)															
Arsenic	0.018	0.014	4.37	4.41	6.4	6.31	4.8	4.94	4.16	3.92	5.67	5.56	6.99	6.84	9.87
Barium	---	4	20.5	20.2	9.67	9.48	8.73	8.76	23	23	9.29	9.18	9.47 J+	9.27 J+	25.4
Cadmium	---	0.09	0.0667 J	0.04 U	0.04 U	0.04 U	0.0556 J	0.0778 J	0.0444 J	0.0444 J	0.133 J	0.0400 U	0.0556 J	0.0400 U	0.0556 J
Calcium	---	116000	37700	37600	27000	29000	24000	23800	33800	34000	26300	26100	25200	25300	48600
Copper	2.74	2.7	2.64	2.9	1.06	0.867 J	1.03	1.06	1.21	1.17	1.22	0.844 J	1.69 J+	1.56 J+	1.67
Iron	---	1000	840	829	448	433	347	344	596	599	491	449	444 J+	431 J+	887
Lead	---	0.54	0.922	0.989	0.767	0.767	1.2	1.3	0.633	0.611	1.12	1.04	1.30 J+	1.29 J+	1.02
Magnesium	---	82000	9810	9710	3080	3120	746	755	8460	8720	1300	1310	2120	2130	11500
Manganese	---	10	201	199	62.9	63	40	40	96.6	95.9	59.6	59.1	89.3	90.1	328
Mercury	---	0.012	0.011	0.011	0.0039	0.0043	0.0059	0.0056	0.0012	0.003	0.0082	0.0079	0.0054 J+	0.0050 J+	0.011
Nickel	---	16	2.79	2.79	1.92	1.87	1.89	1.91	10.2	10.2	2.64	1.97	2.29	2.30	2.46
Zinc	36.5	33	20.4	21.5	5.66	4.47	5.73	5.71	5.94	5.8	10.1	6.91	6.56	5.70	7.51
Hexavalent Chromium	---	0.043	0.2 J+	0.2 J+	0.081	0.061	0.033	0.056	0.052 J+	0.078 J+	0.020 J+	0.022 J+	0.020 U	0.020 U	0.042
Filtered Metals (µg/L) **															
Arsenic	0.018	0.014	4.29	4.25	5.64	6.06	4.92	4.8	4.32	4.21	5.47	5.40	6.91	6.68	8.40
Barium	---	4	18.2	17.3	8.01	8.04	7.71	7.73	20.7	21.4	7.59	7.57	7.97	7.97	21.1
Cadmium	---	0.09	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Calcium	---	116000	37300	37200	31400	29800	24700	24800	33600	33600	26700	26600	25200	25100	42000
Copper	2.74	2.7	1.13	1.01	0.622 J	0.5 J	0.656 J	0.7 J	0.5	0.567 J	0.544 J	0.678 J	0.867 J	0.922 J	0.500 U
Iron	---	1000	402	343	218	212	226	221	276	273	186	185	270	265	268
Lead	---	0.54	0.167 J	0.111 J	0.289	0.289	0.667	0.667	0.156 J	0.133 J	0.411	0.444	0.633	0.633	0.100 U
Magnesium	---	82000	9160	9030	3570	3490	767	754	8200	7920	1320	1320	2120	2100	9930
Manganese	---	10	185	173	44.5	44.2	27.3	27.5	80.8	80.9	32.0	33.4	61.3	62.7	301
Mercury	---	0.012	0.005	0.0045	0.0031	0.0028	0.0052 J	0.0041 J	0.003	0.0035	0.0059 J-	0.0056 J-	0.0036 J+	0.0040 J+	0.0031
Nickel	---	16	2.77	2.58	1.61	1.52	1.98	1.8	9.84	9.81	1.73	1.77	2.07	2.27	2.11
Zinc	36.5	33	8.3	4.59	2.21 J	2.17 J	4.54	3.64 J	2	2	3.40 J	3.53 J	2.56 J	2.60 J	2.00 U
Hexavalent Chromium	---	0.043	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.058 J+
Herbicides (µg/L)															
2,4-D	---	4	0.73 J	0.66 J	2 U	2 U	2.7	2.8	2 U	2 U	2.0 U	2.0 U	2.0 U	2 U	0.2 J
VOCs (µg/L)															
Ethylbenzene	7.3	1.5	1.17	1.23	0.34 J	0.31 J	0.46 J	0.42 J	0.399 J	0.434 J	0.910	0.950	0.250 U	0.250 U	0.372 J
Styrene	---	100	0.82 J	0.87 J	0.5 U	0.5 U	0.5 U	0.5 U	1.25	0.5 U	0.500 U	0.500 U	0.500 U	0.500 U	0.631 J

TABLE 5
2015 to 2025 Laboratory Analytical Results - Detected Compounds
Outfall 22B IRAM Performance Monitoring
Annual 2025 Report

Constituent	Portland Harbor Cleanup Level	Site Specific SLV	Outfall Samples												
			Outfall 22B 22B-U-S-022315 2/23/15	Outfall 22B (FD) 22B-U-D-022315 2/23/15	Outfall 22B 22B-U-S-060815 6/8/15	Outfall 22B (FD) 22B-U-D-060815 6/8/15	Outfall 22B 22B-U-S-092115 9/21/15	Outfall 22B (FD) 22B-U-D-092115 9/21/15	Outfall 22B 22B-U-S-100516 5/10/16	Outfall 22B (FD) 22B-U-D-100516 5/10/16	Outfall 22B 22B-U-S-120916 9/12/16	Outfall 22B (FD) 22B-U-D-120916 9/12/16	Outfall 22B 22B-U-S-230817 8/23/2017	Outfall 22B (FD) 22B-U-D-230817 8/23/2017	Outfall 22B 22B-U-S-250418 4/25/2018
SVOCs (µg/L)															
2,3,4,6-Tetrachlorophenol	---	1	0.51 U	0.49 U	1.92 U	1.94 U	0.618 J	0.473 J	0.481 U	0.481 U	0.862 J	0.873 J	0.952 U	0.943 U	0.490 U
2,4,5-Trichlorophenol	---	3.2	2	1.89	5.54	4.59	7.32	6.52	1.94	2.13	7.89	7.96	6.13	5.47	1.05
2,4,6-Trichlorophenol	---	0.24	0.934 J	0.937 J	3 J	2.74 J	3.09	2.67	1	1.16	3.34	3.41	2.86	2.53	0.490 U
2,4-Dichlorophenol	---	29	6.93	7.38	22.9 J	16.5 J	26.1	29.7	8.39	8.68	34.1 J	31.8 J	12.7	11.5	4.85
2-Methylphenol	---	13	1.57	1.65	0.962 U	0.971 U	0.236 U	0.236 U	1.17	1.08	1.47 J	1.24 J	0.476 U	0.472 U	1.50
Pentachlorophenol	0.03	0.3	1.09 J	1.03 J	3.85 U	3.88 U	1.82 J	1.59 J	1.01 J	1.03 J	2.58	2.37	1.90 U	1.89 U	0.980 U

Notes:
 Results formatted in **Bold** indicate concentration above the Portland Harbor Cleanup Level.
 Results formatted in *italics* indicate concentration above the Site-specific Screening Level Value, if there is no Portland Harbor Cleanup Level.
 *Only PCB congeners reported in previous quarterly reports listed. See laboratory results (Table 4) for complete list.
 ** Filtered metals corresponding to the detected total metals listed.
 --- No comparison level available (see Table 4)
 FD: Field Duplicate Sample
 B: This compound was also detected in the method blank.
 D: Dilution
 U: The constituent was analyzed for, but was not detected above the sample quantitation limit.
 UJ: The constituent was not detected; the associated quantitation limit is an estimated value because quality control criteria were not met.
 J -: The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met.
 J+: The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high.
 NA: Not analyzed
 ND: Individual constituents were non-detect, therefore the total calculation was non-detect.
 EMPC, U: Estimated Maximum Potential Concentration, The EMPC qualifier is applied to a sample result when the S/N ratio is at least 2.5:1 for both quantitation ions, but the ion abundance ratio criteria are not met.

TABLE 5
2015 to 2025 Laboratory Analytical Results - Detected Compounds
Outfall 22B IRAM Performance Monitoring
Annual 2025 Report

Constituent	Portland Harbor Cleanup Level	Site Specific SLV	Outfall Samples										
			Outfall 22B 22B-U-S-200319 3/20/2019	Outfall 22B 22B-U-S-100420 4/10/2020	Outfall 22B 22B-U-S-140521 5/14/2021	Outfall 22B 22B-U-D-140521 5/14/2021	Outfall 22B 22B-U-S-071322 7/13/2022 & 7/19/2024	Outfall 22B 22B-U-D-071322 7/13/2022 & 7/19/2024	Outfall 22B 22B-U-S-20230628 6/28/2023	Outfall 22B 22B-U/F-S-20240626 6/26/2024	Outfall 22B 22B-U/F-S-20250609 6/9/2025	Outfall 22B (FD) 22B-U/F-D-20250609 6/09/2025	
PCDD/PCDFs (µg/L)													
1,2,3,4,6,7,8-HpCDD	---	0.00000051	0.0000299 U					0.0000213 J	0.0000301 J	0.0000113 J	0.0000446 U	< 0.0000531 U	0.0000277 J
Octachlorodibenzodioxin (OCDD)	---	0.000017	0.0000343 J	0.000018 J	0.00000991 U	0.0000168 EMPC, U		0.0000156 J	0.0000188 J	0.00000679 EMPC, U	0.0000087 J	< 0.0000129 U	< 0.00000931 U
2,3,7,8-TCDD Equivalents	0.0000000050	---	0.0000001029	0.0000000540	ND	ND		0.000000026	0.000000036	0.000000011	0.00000206 JT	ND	0.000000031
PCBs (µg/L)*													
PCB 105	---	0.000017	0.0000208	0.000012	0.00000170 EMPC, U	0.00000169 EMPC, U		0.0000145	0.0000135	0.0000147	0.0000130	0.000539 J	0.000381 J
PCB 114	---	0.000017	0.00000119 J	0.00000296 U	0.00000123 U	0.00000146 U		0.00000112 EMPC, U	0.00000503 U	0.00000395 U	0.00000111 J	0.0000153	0.0000118
PCB 156	---	0.000017	0.00000609	0.00000335 J	0.00000138 EMPC, U	0.00000137 EMPC, U		0.00000404 J	0.00000126 EMPC, U	0.00000272 EMPC, U	0.00000344 J	0.000054 J	0.0000336 J
PCB 157	---	0.000017	0.0000019 J	0.00000112 J	0.00000104 U	0.000000801 U		0.00000139 EMPC, U	0.00000139 EMPC, U	0.00000055 EMPC, U	0.0000009 J	0.0000141 J	0.00000898 J
PCB 189	---	0.000017	0.000000675 EMPC, U	0.000000181 U	0.000000537 U	0.000000503 U		0.00000029 U	0.00000031 U	0.000000547 J	0.000000306 EMPC, U	0.00000151 J	0.000000978 J
PCB 77	---	0.0000052	0.00000316 J	0.000002 J	0.00000148 EMPC, U	0.00000275 J		0.00000135 EMPC, U	0.00000304 J	0.00000317 J	0.00000343 J	0.0000487	0.0000373
PCB106 & 118	---	0.000017	0.0000501	0.000027	0.0000282 J	0.0000393 J		0.0000338	0.0000312	0.0000311	0.000029	0.000483 J	0.000352 J
Total PCBs	0.0000064	0.0000064	0.00172	0.00101	0.00058	0.000645		0.001049	0.0010	0.00121	0.000724 J	0.00394 J	0.0028 J
Insecticides (µg/L)													
2,4'-DDD	0.000031	0.000031	0.000207	0.000208	0.000143	0.000135		0.000197 J	0.000204 J	0.000134	0.0000891	0.0016 J	0.000215 J
2,4'-DDE	0.000018	0.000022	0.0000135 J	0.0000095 J	0.0000102 EMPC, U	0.00000761 J		0.00000862 J	0.00000851 J	0.00000817 J	0.00000331 U	0.0000763 J	0.0000125 J
2,4'-DDT	0.000022	0.000022	0.000144	0.000054	0.0000318 J	0.000033 J		0.0000157 J	0.0000169 J	0.0000159 J	0.000012 U	0.000127 J	< 0.0000101 UJ
4,4'-DDD	0.000031	0.000031	0.000388	0.000392	0.000294	0.000274		0.000446 J	0.000428 J	0.000237	0.000195 J	0.00348 J	0.000519 J
4,4'-DDE	0.000018	0.000022	0.000283	0.000161	0.000118	0.000113		0.000132 J	0.000132 J	0.0000832	0.0000719 J+	0.000894 J	0.0000867 J
4,4'-DDT	0.000022	0.000022	0.00041	0.000117	0.000129	0.000125		0.0000816 J	0.0000866 J	0.0000708 J	0.0000374 EMPC, U	0.00198 J	0.0000477 J
DDx	0.01	0.001	0.0014455	0.0009415	0.0007158	0.00068761		8.81E-04	0.00088	0.00055	0.000524 JT	0.00816	0.0008809
Aldrin	0.00000077	0.000005	0.0000128 J	0.00000777 EMPC, U	0.0000088 J	0.00000813 U		0.000013 J	0.0000113 J	0.0000032 U	0.00000763 EMPC, U	0.0000998 J	0.0000114 J
alpha-BHC	---	0.00049	0.00782	0.00296	0.00411	0.00391		0.00525 J	0.00493 J	0.00133	0.000707	0.000595	0.000596
alpha-Chlordane	---	0.000081	0.000273	0.000632	0.000237	0.000239		0.000165 J	0.000172 J	0.000109	0.000091	0.000768 J	0.00012 J
beta-BHC	---	0.0017	0.00692 J	0.00426	0.00854	0.00834		0.00911 J	0.0089 J	0.00249	0.00217	0.00169	0.00156
cis-Nonachlor	---	0.000081	0.0000243 U	0.0000917	0.0000178 U	0.0000217 U		0.0000287 J	0.0000291 J	0.0000204 J	0.0000136 U	0.000194 J	< 0.0000071 UJ
delta-BHC	---	0.037	0.00461	0.00226	0.00406	0.00383		0.00395 J	0.00387 J	0.000997	0.000878	0.000695	0.000643
Dieldrin	---	0.0000054	0.0119 J	0.0103	0.00822	0.00792		0.0126 J	0.0124 J	0.006	0.00277 J	0.0111 J	0.00408 J
Endosulfan I	---	0.051	0.00005 J	0.0000259 U	0.0000462 EMPC, U	0.000124 J		0.000025 UR	0.0000274 UR	0.0000407 EMPC, U	0.0000109 U	0.0000877 J	< 0.0000918 EMPC, U
Endosulfan II	---	0.051	0.000104 J	0.0000562 J	0.00019 J	0.000199 J		0.0000433 UR	0.0000223 UR	0.0000649 J	0.0000425 U	0.000148 J	0.0000936 J
Endosulfan Sulfate	---	0.051	0.000027 U	0.0000265 EMPC, U	0.00045 J	0.00121 J		0.0000868 J	0.0000811 J	0.0000938 J	0.0000193 U	0.000192	0.000129 J
Endrin	---	0.0023	0.00121	0.000955	0.000585	0.000729		0.000935 J	0.000929 J	0.000445	0.000217	0.000532 J	0.000267 J
Endrin Aldehyde	---	0.0023	0.0000277 U	0.0000572 EMPC, U	0.0000196 U	0.0000333 U		0.0000532 UR	0.000069 J	0.0000833 J	0.0000266 U	< 0.0000099 U	< 0.0000049 U
Endrin Ketone	---	0.0023	0.00628	0.00337	0.0026	0.00247		0.00269 J	0.0028 J	0.000723	0.000282	0.000376	0.000311
gamma-BHC (Lindane)	---	0.08	0.00809 J	0.00175 J	0.00169	0.00167		0.00229 J	0.00193 J	0.000395	0.000128	0.000149	0.000155
gamma-Chlordane	---	0.000081	0.000114	0.000532	0.000216 U	0.00018		0.000168 J	0.000159 J	0.0000934 EMPC, U	0.0000548	0.0000969 J	0.0000997 J
Heptachlor	---	0.0000079	0.00000457 U	0.0000982	0.00000148 U	0.00000395 U		0.00000237 UR	0.00000209 UR	0.00000465 U	0.00000261 U	< 0.000023 EMPC, U	< 0.0000009 U
Heptachlor Epoxide	---	0.0000039	0.000113	0.000193	0.0000764	0.0000811		0.0000889 J	0.0000931 J	0.0000593	0.0000366 J	0.0000895 J	0.0000499 J
Hexachlorobenzene	0.000029	---	0.0000957	0.000089	0.0000180 UJ	0.0000178 UJ		0.0000638 J	0.0000641 J	0.0000578	0.0000377 U	0.000129 J	0.0000466 J
Methoxychlor	---	0.019	0.000158	0.000574	0.00000841 U	0.0000648 J		0.000097 J	0.0000967 J	0.0000628 J+	0.0000195 J	0.000112 J	0.0000302 J
trans-Heptachlor Epoxide	---	0.0000039	0.00306 J	0.0647	0.143	0.139		0.509 J	0.513 J	0.0502	0.000122 J	0.000187 J	0.000349 J
trans-Nonachlor	---	0.000081	0.0000675	0.000337	0.0000222 U	0.000115		0.0000885 J	0.0000165 UR	0.0000556	0.0000342 EMPC, U	0.000567 J	0.0000582 J
Total Chlordanes	0.000081	0.000081	0.0004545	0.0015927	0.000237	0.000534		5.48E-01	0.55	0.000185	0.000246 JT	0.0268498	0.0094805

TABLE 5
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Constituent	Portland Harbor Cleanup Level	Site Specific SLV	Outfall Samples									
			Outfall 22B 22B-U-S-200319 3/20/2019	Outfall 22B 22B-U-S-100420 4/10/2020	Outfall 22B 22B-U-S-140521 5/14/2021	Outfall 22B 22B-U-D-140521 5/14/2021	Outfall 22B 22B-U-S-071322 7/13/2022 & 7/19/2024	Outfall 22B 22B-U-D-071322 7/13/2022 & 7/19/2024	Outfall 22B 22B-U-S-20230628 6/28/2023	Outfall 22B 22B-U/F-S-20240626 6/26/2024	Outfall 22B 22B-U/F-S-20250609 6/9/2025	Outfall 22B (FD) 22B-U/F-D-20250609 6/09/2025
Unfiltered Metals (µg/L)												
Arsenic	0.018	0.014	9.71	9.03	8.07	8.15	8.9	8.79	8.74	7.89	5.76 J	9.16 J
Barium	---	4	41.7	28.4	17.5	17.1	25.2	24.8	22.4	23.4	27.9	34.4
Cadmium	---	0.09	0.0519 J	0.79 J	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	< 0.1 U	0.102 J
Calcium	---	116000	40900	40000	37600	37200	40500	40400	38900	34400	36900	37100
Copper	2.74	2.7	1.24	1.44 J	1.62 J	1.59 J	1.21 J	1.22 J	1.75 J	1 U	1.15 J	3.08
Iron	---	1000	537	387	291	295	406	409	413 J	647	973 J	2290 J
Lead	---	0.54	0.559	0.372	0.173 J	0.168 J	0.353	0.356	0.174 J	0.147 J	0.435 J	1.73 J
Magnesium	---	82000	9980	9850	10200	10300	11400	11500	10800	10600	11600	11500
Manganese	---	10	361	266	124	122	171	168	275	113	65.5 J	108 J
Mercury	---	0.012	0.0095	0.0028	0.00217	0.00233	0.00295	0.00289		0.00145	0.00117	0.00133
Nickel	---	16	2.22	1.74 J	1.68 J	1.75 J	1.96 J	1.74 J	2.94	2 U	1.43 J	1.73 J
Zinc	36.5	33	4.7	2.96 J	2.99 J	2.53 J	3.59 J	4.63	3.08 J	0.1 U	4.01 J	12.5 J
Hexavalent Chromium	---	0.043	0.037 J	0.02	0.20 J	0.20 J	0.14 J+	0.15 J+		0.1	0.051	0.043
Filtered Metals (µg/L) **												
Arsenic	0.018	0.014	9.06	7.86	7.19	7.04	7.1	7.26	7.29	5.36	3.27	3.28
Barium	---	4	38.6	27	16.0	15.7	20.2	20.6	18.9	19.6	23.3	23.8
Cadmium	---	0.09	0.1 U	0.185 J	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	< 0.1 U	< 0.1 U
Calcium	---	116000	41100	36000	38300	37200	37500	37700	38500	34300	36000	36900
Copper	2.74	2.7	0.5 U	2 U	1.58 J	1 U	1 U	1 U	1 U	1 U	1.12 J	< 1 U
Iron	---	1000	32.9 J	26.8 J	25 U	25 U	25 U	25 U	25 U	37.4 J	47.4 J	76.1
Lead	---	0.54	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	< 0.1 U	< 0.1 U
Magnesium	---	82000	10000	9010	10400	10200	10400	10500	11000	10700	11600	11800
Manganese	---	10	350	217	114	114	150	150	222	102	41.9	41.5
Mercury	---	0.012	0.0028 J+	0.00078	0.000878 J	0.000795 J	0.00096 J	0.00104	0.000792 J	0.00069	0.000564	0.000519
Nickel	---	16	2.16	2 J	1.29 J	1.37 J	1.33 J	1.34 J	1.45 J	2 U	1.24 J	1.4 J
Zinc	36.5	33	2.0 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	< 2 U	< 2 U
Hexavalent Chromium	---	0.043	0.037	0.023 J+	0.20 J+	0.18 J+	0.13 J	0.02 UJ	0.027 J+	0.12 J+	0.052 U	0.051 U
Herbicides (µg/L)												
2,4-D	---	4	0.52	0.08 U	0.08 U	0.08	0.1	0.12	0.08 U	0.08 U	< 0.080 U	< 0.080 U
VOCs (µg/L)												
Ethylbenzene	7.3	1.5	0.63	0.705	0.678	0.424 J	0.5 U	0.93	0.68	0.53	< 0.25 U	< 0.25 U
Styrene	---	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.61 J	0.5 U	1 U	< 0.5 U	< 0.5 U

TABLE 5
2015 to 2025 Laboratory Analytical Results - Detected Compounds
Outfall 22B IRAM Performance Monitoring
Annual 2025 Report

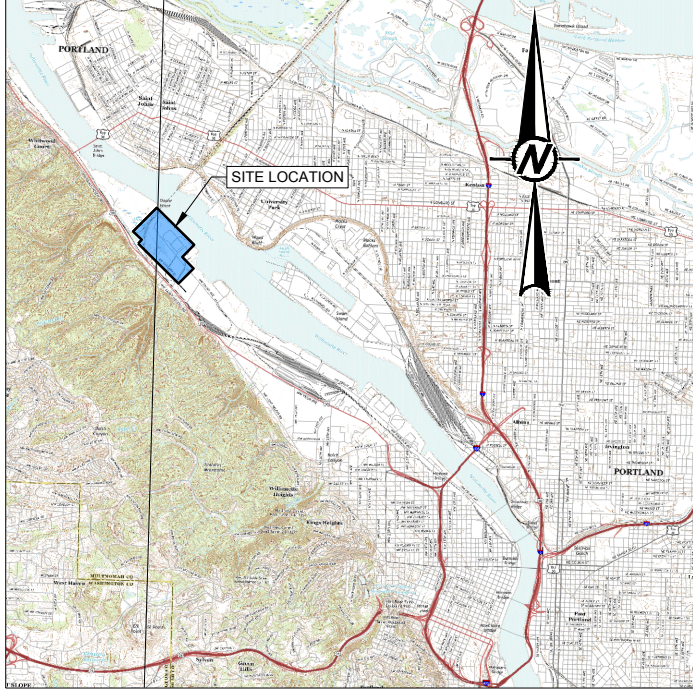
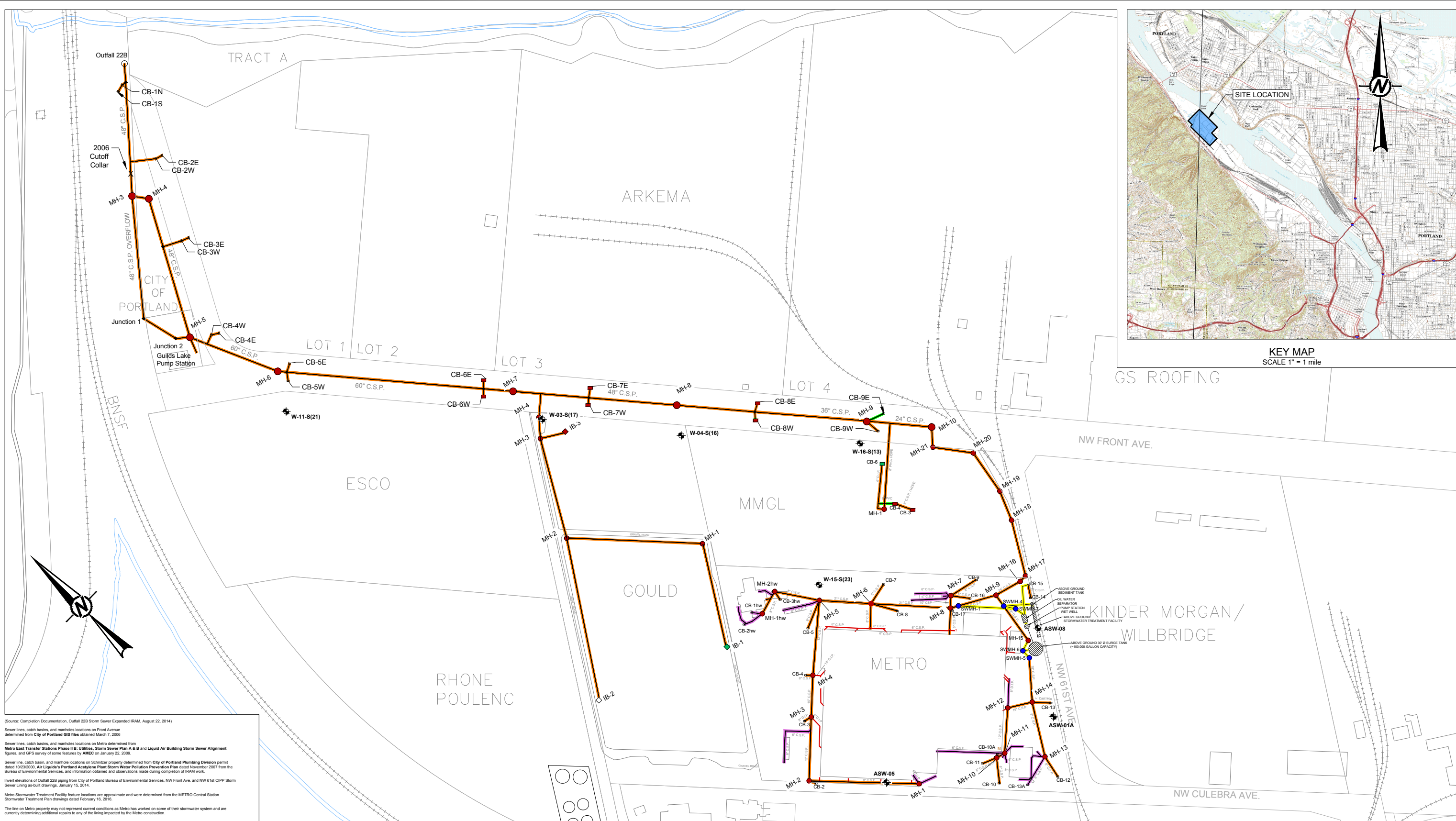
Constituent	Portland Harbor Cleanup Level	Site Specific SLV	Outfall Samples									
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SVOCs (µg/L)												
2,3,4,6-Tetrachlorophenol	---	1	0.0481 U	0.0498 J	0.0589 J	0.0557 J	0.19 U	0.19 U	0.0481 U	0.266 J	< 0.0476 U	0.0548 J
2,4,5-Trichlorophenol	---	3.2	0.0805 J	0.1	0.143	0.158	0.19 U	0.19 U	0.161	0.139 J	0.175 J	0.293 J
2,4,6-Trichlorophenol	---	0.24	0.104	0.0851 J	0.108	0.121	0.19 U	0.19 U	0.124	0.105 J	0.143	0.174
2,4-Dichlorophenol	---	29	0.404 J	0.378	0.446	0.514	0.443	0.617	0.519	0.352 J-	0.53	0.514
2-Methylphenol	---	13	0.0752 J	0.068	0.0315 J	0.0341 J	0.0952 U	0.0952 U	0.0908	0.0477 J	0.0431 J	0.0556
Pentachlorophenol	0.03	0.3	0.22	0.173 J	0.176 J	0.17 J	0.381 U	0.381 U	0.119 J	0.215 J	0.129 J	0.132 J

Notes:

Results formatted in **Bold** indicate concentration above the Portland Harbor Cleanup Level.
 Results formatted in *italics* indicate concentration above the Site-specific Screening Level Value, if there is no Portland Harbor Cleanup Level.
 *Only PCB congeners reported in previous quarterly reports listed. See laboratory results (Table 4) for complete list.
 ** Filtered metals corresponding to the detected total metals listed.
 --- No comparison level available (see Table 4)
 FD: Field Duplicate Sample
 B: This compound was also detected in the method blank.
 D: Dilution
 U: The constituent was analyzed for, but was not detected above the sample quantitation limit.
 JJ: The constituent was not detected; the associated quantitation limit is an estimated value because quality control criteria were not met.
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Created by: MJS 8/20/2025
 Checked by: JC 9/10/25

Figure



KEY MAP
SCALE 1" = 1 mile

(Source: Completion Documentation, Outfall 22B Storm Sewer Expanded IRAM, August 22, 2014)
 Sewer lines, catch basins, and manholes locations on Front Avenue determined from City of Portland GIS files obtained March 7, 2006
 Sewer lines, catch basins, and manholes locations on Metro determined from Metro East Transfer Station Phase II B: Utilities, Storm Sewer Plan A & B and Liquid Air Building Storm Sewer Alignment figures, and GPS survey of some features by AMEC on January 22, 2009.
 Sewer line, catch basin, and manhole locations on Schwitzer property determined from City of Portland Plumbing Division permit dated 10/23/2010, Air Liquide's Portland Acetylene Plant Storm Water Pollution Prevention Plan dated November 2007 from the Bureau of Environmental Services, and information obtained and observations made during completion of IRAM work.
 Invert elevations of Outfall 22B piping from City of Portland Bureau of Environmental Services, NW Front Ave and NW 61st CIPP Storm Sewer Lining as-built drawings, January 15, 2014.
 Metro Stormwater Treatment Facility feature locations are approximate and were determined from the METRO Central Station Stormwater Treatment Plan drawings dated February 16, 2016.
 The line on Metro property may not represent current conditions as Metro has worked on some of their stormwater system and are currently determining additional repairs to any of the lining impacted by the Metro construction.

LEGEND

	IRAM	Interim Remedial Action Measure
	± COPI	Feet City of Portland Datum
	14.79	Lined Outfall 22B System Piping and Invert Elevations (feet, COPI)
		Replaced Not Lined - Limited or No Access New PVC Pipe Installed For Metro Stormwater Treatment Facility Completed September 2016 Not Lined - Roof Drain
		Lined and/or Sealed Manhole Lined and/or Sealed Catch Basin Replaced Vault or Catch Basin
		Manhole installed for Metro stormwater treatment facility completed September 2016



CLIENT
CONFIDENTIAL

CONSULTANT



YYYY-MM-DD	2025-09-24
DESIGNED	JC
PREPARED	REDMOND
REVIEWED	JC
APPROVED	TN

PROJECT
PERFORMANCE MONITORING 2024 ANNUAL REPORT

TITLE
OUTFALL 22B MONITORING LOCATIONS

PROJECT NO.
US0025871.2251

REV.
A

FIGURE
1

1" IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM A3S-D

APPENDIX A

Field Notes and Photographs



WSP USA Inc.
 158662 SW 72nd Avenue, Suite 150
 Portland, Oregon 87224

Tel (503) 639-3400
 Fax (503) 620-7892

Daily Field Report

PROJECT NAME Outfall 22B-Performance Monitoring		PROJECT NO. US0025871.2251.510	20250609-1
ADDRESS 7200 NW Front Ave		DATE 6/9/2025	PAGE 1 of 1
CITY OR COUNTY Portland	PERMIT NO. n/a	ARRIVAL TIME 08:25 AM	DEPARTURE TIME 12:15 PM
CLIENT Starlink	WSP USA PROJECT MANAGER/PHONE NO. Ted Norton / 206-755-4079		
GENERAL CONTRACTOR n/a	WSP USA FIELD REPRESENTATIVE/ MOBILE NO. Carter Thomas / 952-454-7069		
SUBCONTRACTOR n/a	WEATHER Hot, Sunny 80s		
TYPE OF WORK PERFORMED Outfall sampling			
EQUIPMENT USED Peristaltic pump, YSI 556MPS water quality meter, Hanna turbidity meter			

COMMENTS

0720: at office to collect equipment/sample containers. DD calibrated instruments
 0825: Arrive at site, parking at BNSF area
 0830: Tailgate safety meeting
 0835-0900: Carry equipment to outfall area and stage sampling setup
 0900: purge water, take outfall parameters
 0904: Outfall parameters, see outfall worksheet
 0910: sample time 22B-U-S-20250609
 0955: Ethan (BSI) checked in on sampling team
 1030: sample time 22B-U-D-20250609
 1120: sample time 22B-F-S-20250609
 1125: sample time 22B-F-D-20250609
 1145: flow estimation at outfall. 3.3 lpm/0.87 gpm
 1200: break down sampling location and load equipment
 1210: depart site for office, pick up additional bottles at Apex
 1300: sample time for 22B-F-RB-20250609 (collected at office with clean tubing/filter)
 1430: drop off samples at Apex

- The contents of this field report were discussed with the contractor's on-site representative.
- A preliminary copy of this field report was left on site. All recommendations contained herein are subject to change pending review by the WSP USA project manager.

Ted Norton

WSP USA Project Manager

Carter Thomas

WSP USA Field Representative



WSP USA Inc.
158662 SW 72nd Avenue, Suite 150
Portland, Oregon 87224

Tel (503) 639-+3400
Fax (503) 620-7892

Daily Field Report

PROJECT NAME Outfall 22B-Performance Monitoring		PROJECT NO. US0025871.2251.510	20250609-1
ADDRESS 7200 NW Front Ave		DATE 6/10/2025	PAGE 1 of 1
CITY OR COUNTY Portland	PERMIT NO. n/a	ARRIVAL TIME 08:00 AM	DEPARTURE TIME 12:30 PM
CLIENT Starlink	WSP USA PROJECT MANAGER/PHONE NO. Ted Norton / 206-755-4079		
GENERAL CONTRACTOR n/a	WSP USA FIELD REPRESENTATIVE/ MOBILE NO. Carter Thomas / 952-454-7069		
SUBCONTRACTOR n/a	WEATHER Sunny 70s		
TYPE OF WORK PERFORMED Outfall sampling			
EQUIPMENT USED Water level meter			

COMMENTS

0800: arrive at site, tailgate meeting (Carter Thomas and Ella Abbruzzese)
 0835: manhole inspection MH3 and MH4
 0850: meet City of Portland rep at pump station for access to MH5
 0910-0950: access MMGL property for manhole inspections and water levels, Ethan with BSI joined
 1000: access Gould property for WL and manhole inspection
 1045: access well on ESCO property through Starlink site, Ethan escorted
 1050: met Metro representative for access to property
 1050-1120: manhole inspections and water level measurements on Metro property
 1146-1227: manhole and catch basin inspections on Front Ave, assistance from Ethan for traffic control
 1230: off-site

- The contents of this field report were discussed with the contractor's on-site representative.
- A preliminary copy of this field report was left on site. All recommendations contained herein are subject to change pending review by the WSP USA project manager.

Ted Norton

WSP USA Project Manager

Carter Thomas

WSP USA Field Representative

Catch Basin Inspection Form

WSP

Project Name: OF22B performance Monitoring Date: 6/10/24

Project Number: US0025871.2251 Personnel: CT/FA

Catch Basin ID	East Side	West Side	Time	Recorded By	Notes
	Wet/Dry	Wet/Dry			
CB-1	Dry	Dry	1227	CT	
CB-2	Dry	Dry	1225	CT	
CB-3	Dry	Dry	1222	CT	
CB-4	Dry	Dry	1219	CT	
CB-5	Dry	Dry	1215	CT	
CB-6	Wet	Dry	1211	CT	
CB-7	Wet	Wet	1204	CT	flow on E side CB sock on W side, wet below
CB-8	Wet	Dry	1158	CT	
CB-9	Dry	Dry	1152	CT	veg E side

Water Level Form

WSP

Project Name: OF22B Performance Monitoring Date: 6/10/24

Project Number: US0025871.2251 Personnel: CT/IA

Well ID	Property Owner	Depth to Water (ft BTOC)	Measurement Time	Recorded By	Notes
ASW-01	Metro	6.59	1135	IA	
ASW-05	Metro	8.60	1130	IA	
ASW-08	Metro	6.58	1107	IA	
W-03-S(17)	Gould	5.00	1004	IA	combo [redacted] Red lock, Red coribiter
W-04-S(16)	Gould	5.53	1015	IA	Combo [redacted]
W-11-S(21)	ESCO	10.90	1044	IA	
W-15-S(23)	Metro	11.15	1123	IA	TD: 22.75 w/ transducer
W-16-S(13)	MMGL	6.20	0945	IA	Western most of 3

Sample ID: 22B-0

Lab: Apex
8270E

15862 St
Portland, OR 97225
PH: (503) 941-3400

Name: Outfall 22B - 20

30

6-9 OF 22B

0605 - BEGIN YSI CAL:

PH 7 - 7.01 - 7.00

PH 4 - 3.98 - 4.00

PH 10 - 10.03 - 10.00

SP. COND. - 1415 - 1409 μ S/cm

0630 - FINISH CAL

J
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WSP
15862 SW 72nd Ave Suite 150
Portland, OR 97224
(503) 639-3400

SHIP TO:
Apex Laboratories
6700 SW Sandburg St
Tigard, OR 97223
Attn: Philip Nerenberg
Lab Phone# (503) 718-2323

CHAIN OF CUSTODY

DATE: 6/9/2025
COC #: OF22B1
PAGE: 1 OF 1

Project Name: Outfall 22B IRAM Performance Monitoring	Project Contact: Carter Thomas	Bill To:	Disposal Instructions: LAB
Project Number: US0025871.2251	Phone Number: 952-454-7069	PO Number:	Shipment Method: WSP
Project Manager: Ted Norton	Project Phase: 510 (622B Perf. Mon.)	Reports to: ted.norton@wsp.com, Carter Thomas	Waybill Number: N/A

Sample Information							Methods for Analysis										RUSH									
No.	Sample ID	Date & Time Sampled	Sampler's Initials	Matrix	Sample Type	MS/MSD	Dioxins by EPA 1613B	Mercuricides by EPA 8151A	OC Pesticides by EPA 1699	PCBs by EPA 1668	SVOCs by EPA 8270D/PAHs by EPA 8270E	TSS	VOCs by EPA 8260/NWTPH-6x	Total Cr6 by EPA 7195/7196A	Dissolved Cr6 by EPA 7195/7196A	Total Metals by EPA 200.7/200.8	Dissolved Metals by EPA 200.7/200.8	NWTPH-Dx/NWTPH-HCID	Total Hg by EPA 1631E	Dissolved Hg by EPA 1631E	24 Hour	48 Hour	72 Hour	5 Days	TOTAL BOTTLES	HOLD All Analyses
1	22B-U-S-20250609	6/9/25 0910	CT/DD	W	G	Y	X	X	X	X	X	X	X	X	X	X	X	X	X	X					4	
2	22B-F-S-20250609	6/9/25 1120	CT/DD	W	G	Y	X	X	X	X	X	X	X	X	X	X	X	X	X	X					3	
3	22B-U-D-20250609	6/9/25 0920-130	CT/DD	W	G	N	X	X	X	X	X	X	X	X	X	X	X	X	X	X					2	
4	22B-F-D-20250609	6/9/25 1125	CT/DD	W	G	N									X	X	X	X	X	X					3	
5	22B-F-RB-20250609	6/9/25 1300	CT/DD	W	G	N								X	X	X	X	X	X	X					3	
6	22B-TB-20250609	6/9/25 -	CT/ID	W	G	N						X													2	
7																										
8																										
9																										
10																										
11																										
12																										

Sampler's Signature: <i>[Signature]</i>	Date: 6/9/25	Time: 1330	For Lab Use	
Relinquished By/Affiliation: <i>[Signature]</i> WSP	Date: 6/9/25	Time:	Does COC match samples:	Y or N
Received By:	Date:	Time:	Broken Container:	Y or N
Relinquished By/Affiliation:	Date:	Time:	COC seal intact:	Y or N
Received By:	Date:	Time:	Other problems:	Y or N
Relinquished By/Affiliation:	Date:	Time:	WSDOT contacted:	Y or N
Received By (LAB):	Date:	Time:	Date contacted:	
			Cooler Temperature at receipt:	____ °C
			Number of Coolers Sent:	4
			Comments:	MS/MSD = 22B-U-S-20250609 22B-F-S-20250609

PHOTOGRAPH 1

SWMH-5 at Metro. Inlet at right, outlet to SWMH-6 at left.



PHOTOGRAPH 2

MH-15 at Metro. Inlet from SWMH-6 on right, outlet to MH-9 on bottom.



PHOTOGRAPH 3

MH-9 at Metro. Inlets on left and top. Outlet to MH-16 at bottom (gate).



PHOTOGRAPH 4

MH-8 on Metro. Inlet on right, outlet to MH-9 on left.



PHOTOGRAPH 5

MH-17 at MMGL. Inlet at bottom, outlet at top.



PHOTOGRAPH 6

MH -18 at MMGL. Inlet at lower right, outlet to MH-19 at upper left.



PHOTOGRAPH 7

MH-19 at MMGL. Inlet at right, outlet to MH-20 at left.



PHOTOGRAPH 8

MH-20 at MMGL. Inlet on bottom, outlet to MH-21 at top.



PHOTOGRAPH 9

MH-21 (downstream) at MMGL, outlet at bottom left.



PHOTOGRAPH 10

MH-10 near Front Ave. Inlets at right, outlet to MH-9 at bottom.



PHOTOGRAPH 11

MH-9 near Front Ave.
Inlets at right, outlet to
MH-8 at left.



PHOTOGRAPH 12

MH-8 on Front Ave. Inlet at
bottom, outlet to MH 7 at
top.



PHOTOGRAPH 13

MH-7 on Front Ave. Inlet on right, outlet to MH-6 at left.



PHOTOGRAPH 14

MH-4 at Gould. Inlet at right, outlet at left.



PHOTOGRAPH 15

MH-6 on Front Ave. Inlet at right, outlet to MH-5 at left.



PHOTOGRAPH 16

MH-5 at Guild Lake Pump Station. Inlet at bottom.



PHOTOGRAPH 17

MH-4 near Front Ave. Inlet at top, outlet to MH-3 at bottom.



PHOTOGRAPH 18

MH-3 near Front Ave. Inlets at bottom and right, outlet to Outfall 22B at top.



PHOTOGRAPH 19

Outfall 22B. Willamette River to the right.



APPENDIX B

Outfall Sampling Worksheet

OUTFALL 22B PERFORMANCE MONITORING
SURFACE WATER AND OUTFALL SAMPLING WORKSHEET

SAMPLE LOCATION: Outfall 22B DATE: 6/9/25 START TIME: 0830
 PERSONNEL: CT/DD WEATHER: Hot, sunny 70° @ 0825

MEASUREMENT TYPE	VALUE/UNITS	INSTRUMENT	COMMENTS
AIR TEMP (°C)	73° F	YSI 556 MPS	0904
WATER TEMPERATURE (°C)	14.9° C	S/N 14C100356	
SAMPLE DEPTH (TWC)	stream		
pH	7.75	Hanna turb meter	
ORP mV	-55.1	S/N 08276238	
CONDUCTIVITY <u>µs/cm</u>	457		
TURBIDITY <u>NTU</u>	5.01		
FERROUS IRON	N/A		
DISSOLVED OXYGEN <u>mg/L</u>	7.17		
OBSERVATIONS			

ADDITIONAL COMMENTS/OBSERVATION
Outfall flow normal and mostly clear of debris. Flow slightly less than 2022

SAMPLE COLLECTION

SAMPLE NUMBER	QA/QC SAMPLE NO.	SAMPLE TIME:
<u>22B-V-S-20250609</u>	<u>22B-V-D-20250609</u>	<u>0910</u>
<u>22B-F-S-20250609</u>	<u>22B-F-D-20250609</u>	<u>1030</u>
LABORATORY (1)	COC #	<u>1120</u>
LABORATORY (2)	COC #	<u>1125</u>
LABORATORY (3)	COC #	<u>13000</u>
LABORATORY (4)	COC #	

PARAMETERS	PRESERVATION/SIZE	NUMBER/VOLUME	LABORATORY #	ICED (Y/N)	COMMENTS
Total/Dissolved Metals EPA 200.7 or EPA 200.8	1 500ml HDPE HNO3 pH<2, cool 4°C	2 prim/2 dup	<u>APEX</u>	<u>Y</u>	
Total/Dissolved Mercury EPA 1631E	1 250ml HDPE HNO3 pH<2, cool 4°C	2 prim/2 dup			
Hexavalent Chromium EPA 7195 or EPA 7196A	1 250ml HDPE cool 4°C	2 prim/2 dup			
Volatile Organic Compounds (VOCs) EPA 8260C	3 40 ml Glass Vials, HCL pH<2, cool 4°C	6 prim/2 dup			
Semivolatile Organic Compounds (SVOCs) EPA 8270D	2 1L Amber Glass, cool 4°C	4 prim/2 dup			<u>Combined</u>
Polycyclic Aromatic Hydrocarbons (PAHs) EPA 8270 SIM	2 1L Amber Glass, cool 4°C	5 prim/2 dup			
Organochlorine Pesticides EPA 1699	2 1L Amber Glass, cool 4°C	5 prim/2 dup			
Chlorinated Herbicides EPA 8151A	2 1L Amber Glass, cool 4°C	5 prim/2 dup			
PCDDs/PCDFs EPA 1613B	2 1L Amber Glass, cool 4°C	5 prim/2 dup			
Petroleum Hydrocarbon Identification NWTPH-HCID	1 500ml Glass, HCL pH<2, cool 4°C	2 prim/2 dup			<u>Combo</u>
Diesel Quantitation NWTPH-Dx	1 600ml Glass, HCL pH<2, cool 4°C	2 prim/2 dup			
Gasoline Quantitation NWTPH-Gx	3 40ml Glass Vials, HCL pH<2, cool 4°C	6 prim/3 dup			
<u>TSS</u>	<u>Diapros 250 HDPE</u>	<u>1 prim/1 dup</u>			

SOP-3: DECONTAMINATION PROCEDURES FOLLOWED? YES/NO: N/A SAMPLE METHOD USED: Low flow grab
 QA/QC SAMPLE COLL/DESCRIBE: DUP, RB, SAMPLE TYPE (GRAB, SPLIT, ETC.): Grab
 CHAIN OF CUSTODY COMPLETED? YES/NO: OF22B1 INSTRUMENT CALIBRATION (DATE/TIME): 0730 6/9/25
 WASTE DISPOSAL METHOD: N/A, trash for PPE CALIBRATION STANDARD: see comments

ADDITIONAL COMMENTS:
RB collected w/ clean filter/tubing for dissolved metals, Cr(VI), Hg
Standards
turb 5 NTU: 24012031 pH 7: 45010045 (10/16/26) cond 1409:
pH 4: 44108439 (11/7/26) pH 10: 4410116 (11/7/26) 841082 (12/1)

**OUTFALL 22B PERFORMANCE MONITORING
SURFACE WATER AND OUTFALL SAMPLING WORKSHEET**

pg 20

SAMPLE LOCATION: Outfall 22B	DATE: 6/9/25	START TIME: 11:30
PERSONNEL: CT/PD	WEATHER: Hot + Sunny, 80° @ 1130	

MEASUREMENT TYPE	VALUE/UNITS	INSTRUMENT	COMMENTS
AIR TEMP (°C)	80 °F	See pg 1 	1130
WATER TEMPERATURE (°C)	15.0 °C		
SAMPLE DEPTH (TWC)	stream		
pH	7.62		
ORP	-79.5		
CONDUCTIVITY	447		
TURBIDITY	5.86		
FERROUS IRON	N/A		
DISSOLVED OXYGEN	7.37		
OBSERVATIONS			

ADDITIONAL COMMENTS/OBSERVATION

Post sampling parameter readings

SAMPLE COLLECTION

SAMPLE NUMBER	QA/QC SAMPLE NO.	SAMPLE TIME:
SAMPLE COMMENTS:		
LABORATORY (1)	<i>See pg 1</i>	COC #
LABORATORY (2)		COC #
LABORATORY (3)		COC #
LABORATORY (4)		COC #

PARAMETERS	PRESERVATION/SIZE	NUMBER/VOLUME	LABORATORY #	ICED (Y/N)	COMMENTS
Total/Dissolved Metals EPA 200.7 or EPA 200.8	1 500ml HDPE HNO3 pH<2, cool 4°C				
Total/Dissolved Mercury EPA 1631E	1 250ml HDPE HNO3 pH<2, cool 4°C				
Hexavalent Chromium EPA 7195 or EPA 7196A	1 250ml HDPE cool 4°C				
Volatile Organic Compounds (VOCs) EPA 8260C	3 40 ml Glass Vials, HCL pH<2, cool 4°C				
Semivolatile Organic Compounds (SVOCs) EPA 8270D	2 1L Amber Glass, cool 4°C		<i>See pg 1</i>		
Polycyclic Aromatic Hydrocarbons (PAHs) EPA 8270 SIM	2 1L Amber Glass, cool 4°C				
Organochlorine Pesticides EPA 1699	2 1L Amber Glass, cool 4°C				
Chlorinated Herbicides EPA 8151A	2 1L Amber Glass, cool 4°C				
PCDDs/PCDFs EPA 1613B	2 1L Amber Glass, cool 4°C				
Petroleum Hydrocarbon Identification NWTPH-HCID	1 500ml Glass, HCL pH<2, cool 4°C				
Diesel Quantitation NWTPH-Dx	1 500ml Glass, HCL pH<2, cool 4°C				
Gasoline Quantitation NWTPH-Gx	3 40ml Glass Vials, HCL pH<2, cool 4°C				

SOP-3: DECONTAMINATION PROCEDURES FOLLOWED? YES/NO:	SAMPLE METHOD USED:
QA/QC SAMPLE COLL/DESCRIBE:	SAMPLE TYPE (GRAB, SPLIT, ETC.):
CHAIN OF CUSTODY COMPLETED? YES/NO:	INSTRUMENT CALIBRATION (DATE/TIME):
WASTE DISPOSAL METHOD:	CALIBRATION STANDARD:

ADDITIONAL COMMENTS:

APPENDIX C

Laboratory Data Reports



July 09, 2025

**Enthalpy Analytical - El Dorado Hills
Work Order No. 2506190**

Mr. Philip Nerenberg
Apex Laboratories
6700 S.W. Sandburg Street
Tigard, OR 97223

Dear Mr. Nerenberg,

Enclosed are the results for the sample set received at Enthalpy Analytical - EDH on June 11, 2025 under your Project Name 'A5F1150 / RP Portland Harbor'.

Enthalpy Analytical - EDH is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at kathy.zipp@enthalpy.com.

Thank you for choosing Enthalpy Analytical - EDH as part of your analytical support team.

Sincerely,

A handwritten signature in blue ink that reads 'Kathy Zipp'.

Kathy Zipp
Project Manager

Enthalpy Analytical -EDH certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Enthalpy Analytical -EDH.

Enthalpy Analytical - EDH Work Order No. 2506190

Case Narrative

Sample Condition on Receipt:

Two water samples were received and stored securely in accordance with Enthalpy Analytical - EDH standard operating procedures and EPA methodology. The samples were received in good condition and within the method temperature requirements.

Analytical Notes:

EPA Method 1613B

The samples were extracted and analyzed for tetra-through-octa chlorinated dioxins and furans by EPA Method 1613B using a ZB-DIOXIN GC column.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limit in the Method Blank. The OPR recoveries were within the method acceptance criteria.

As requested, an MS/MSD was performed on sample "22B-U-S-20250609". The MS/MSD recoveries and RPDs were within acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

EPA Method 1668C

The samples were extracted and analyzed for 209 PCB congeners by EPA Method 1668C using a ZB-1 GC column.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limits in the Method Blank. The OPR recoveries were within the method acceptance criteria.

As requested, an MS/MSD was performed on sample "22B-U-S-20250609". The MS/MSD recoveries and RPDs were within acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

EPA Method 1699

The samples were extracted and analyzed for chlorinated pesticides by EPA Method 1699 using a ZB-50 GC column.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limits in the Method Blank. The OPR recoveries were within the method acceptance criteria.

As requested, an MS/MSD was performed on sample "22B-U-S-20250609". The MS/MSD recoveries and RPDs reported outside the acceptance criteria are flagged with an "H" qualifier.

The labeled standard recoveries outside the acceptance criteria are flagged with an "H" qualifier.

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ANALYTICAL RESULTS

Sample ID: Method Blank
EPA Method 1613B

Client Data		Laboratory Data				
Name:	Apex Laboratories	Lab Sample:	B25F216-BLK1		Date Extracted:	16-Jun-25
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25F216		Column:	ZB-DIOXIN
Matrix:	Aqueous	Sample Size:	1.00 L			

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND	0.683	3.92			20-Jun-25 16:50	1
1,2,3,7,8-PeCDD	ND	1.31	8.32			20-Jun-25 16:50	1
1,2,3,4,7,8-HxCDD	ND	1.22	6.58			20-Jun-25 16:50	1
1,2,3,6,7,8-HxCDD	ND	1.26	5.81			20-Jun-25 16:50	1
1,2,3,7,8,9-HxCDD	ND	1.40	5.99			20-Jun-25 16:50	1
1,2,3,4,6,7,8-HpCDD	ND		5.53	1.29		20-Jun-25 16:50	1
OCDD	5.36		16.3		J	20-Jun-25 16:50	1
2,3,7,8-TCDF	ND	0.663	1.74			20-Jun-25 16:50	1
1,2,3,7,8-PeCDF	ND	0.791	6.71			20-Jun-25 16:50	1
2,3,4,7,8-PeCDF	ND	0.654	7.55			20-Jun-25 16:50	1
1,2,3,4,7,8-HxCDF	ND	0.797	6.81			20-Jun-25 16:50	1
1,2,3,6,7,8-HxCDF	ND	0.819	6.11			20-Jun-25 16:50	1
2,3,4,6,7,8-HxCDF	ND	0.949	5.93			20-Jun-25 16:50	1
1,2,3,7,8,9-HxCDF	ND	1.17	6.34			20-Jun-25 16:50	1
1,2,3,4,6,7,8-HpCDF	ND	0.885	6.28			20-Jun-25 16:50	1
1,2,3,4,7,8,9-HpCDF	ND	1.08	7.33			20-Jun-25 16:50	1
OCDF	ND	1.13	13.6			20-Jun-25 16:50	1

Toxic Equivalent	
TEQMinWHO2005Dioxin	0.00161

Totals	
Total TCDD	ND 0.683
Total PeCDD	ND 1.31
Total HxCDD	3.57 J
Total HpCDD	ND 1.29
Total TCDF	ND 0.663
Total PeCDF	ND 0.791
Total HxCDF	ND 1.17
Total HpCDF	ND 1.08

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	90.8	25 - 164		20-Jun-25 16:50	1
13C-1,2,3,7,8-PeCDD	IS	86.8	25 - 181		20-Jun-25 16:50	1
13C-1,2,3,4,7,8-HxCDD	IS	85.6	32 - 141		20-Jun-25 16:50	1
13C-1,2,3,6,7,8-HxCDD	IS	85.8	28 - 130		20-Jun-25 16:50	1
13C-1,2,3,7,8,9-HxCDD	IS	84.0	32 - 141		20-Jun-25 16:50	1
13C-1,2,3,4,6,7,8-HpCDD	IS	79.6	23 - 140		20-Jun-25 16:50	1
13C-OCDD	IS	70.9	17 - 157		20-Jun-25 16:50	1
13C-2,3,7,8-TCDF	IS	84.7	24 - 169		20-Jun-25 16:50	1
13C-1,2,3,7,8-PeCDF	IS	82.3	24 - 185		20-Jun-25 16:50	1
13C-2,3,4,7,8-PeCDF	IS	80.0	21 - 178		20-Jun-25 16:50	1
13C-1,2,3,4,7,8-HxCDF	IS	86.4	26 - 152		20-Jun-25 16:50	1
13C-1,2,3,6,7,8-HxCDF	IS	85.7	26 - 123		20-Jun-25 16:50	1
13C-2,3,4,6,7,8-HxCDF	IS	87.5	28 - 136		20-Jun-25 16:50	1
13C-1,2,3,7,8,9-HxCDF	IS	86.0	29 - 147		20-Jun-25 16:50	1
13C-1,2,3,4,6,7,8-HpCDF	IS	80.9	28 - 143		20-Jun-25 16:50	1
13C-1,2,3,4,7,8,9-HpCDF	IS	84.5	26 - 138		20-Jun-25 16:50	1
13C-OCDF	IS	76.1	17 - 157		20-Jun-25 16:50	1
37Cl-2,3,7,8-TCDD	CRS	96.7	35 - 197		20-Jun-25 16:50	1

EDL - Sample specific estimated detection limit
EMPC - Estimated maximum possible concentration
MDL - Method Detection Limit

Sample ID: OPR
EPA Method 1613B

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	B25F216-BS1	Date Extracted:	16-Jun-25 16:41
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25F216	Column:	ZB-DIOXIN
Matrix:	Aqueous	Sample Size:	1.00 L		

Analyte	Amt Found (pg/L)	Spike Amt	% Recovery	Limits	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	216	200	108	67-158		20-Jun-25 15:17	1
1,2,3,7,8-PeCDD	1170	1000	117	70-142		20-Jun-25 15:17	1
1,2,3,4,7,8-HxCDD	1110	1000	111	70-164		20-Jun-25 15:17	1
1,2,3,6,7,8-HxCDD	1050	1000	105	76-134		20-Jun-25 15:17	1
1,2,3,7,8,9-HxCDD	1160	1000	116	64-162		20-Jun-25 15:17	1
1,2,3,4,6,7,8-HpCDD	1210	1000	121	70-140		20-Jun-25 15:17	1
OCDD	2320	2000	116	78-144	B	20-Jun-25 15:17	1
2,3,7,8-TCDF	227	200	113	75-158		20-Jun-25 15:17	1
1,2,3,7,8-PeCDF	1170	1000	117	80-134		20-Jun-25 15:17	1
2,3,4,7,8-PeCDF	1170	1000	117	68-160		20-Jun-25 15:17	1
1,2,3,4,7,8-HxCDF	1090	1000	109	72-134		20-Jun-25 15:17	1
1,2,3,6,7,8-HxCDF	1100	1000	110	84-130		20-Jun-25 15:17	1
2,3,4,6,7,8-HxCDF	1150	1000	115	70-156		20-Jun-25 15:17	1
1,2,3,7,8,9-HxCDF	1100	1000	110	78-130		20-Jun-25 15:17	1
1,2,3,4,6,7,8-HpCDF	1180	1000	118	82-122		20-Jun-25 15:17	1
1,2,3,4,7,8,9-HpCDF	1130	1000	113	78-138		20-Jun-25 15:17	1
OCDF	2360	2000	118	63-170		20-Jun-25 15:17	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	90.2	20-175		20-Jun-25 15:17	1
13C-1,2,3,7,8-PeCDD	IS	88.1	21-227		20-Jun-25 15:17	1
13C-1,2,3,4,7,8-HxCDD	IS	86.1	21-193		20-Jun-25 15:17	1
13C-1,2,3,6,7,8-HxCDD	IS	87.0	25-163		20-Jun-25 15:17	1
13C-1,2,3,7,8,9-HxCDD	IS	83.4	21-193		20-Jun-25 15:17	1
13C-1,2,3,4,6,7,8-HpCDD	IS	82.1	26-166		20-Jun-25 15:17	1
13C-OCDD	IS	75.0	13-199		20-Jun-25 15:17	1
13C-2,3,7,8-TCDF	IS	89.5	22-152		20-Jun-25 15:17	1
13C-1,2,3,7,8-PeCDF	IS	86.0	21-192		20-Jun-25 15:17	1
13C-2,3,4,7,8-PeCDF	IS	82.2	13-328		20-Jun-25 15:17	1
13C-1,2,3,4,7,8-HxCDF	IS	88.3	19-202		20-Jun-25 15:17	1
13C-1,2,3,6,7,8-HxCDF	IS	85.0	21-159		20-Jun-25 15:17	1
13C-2,3,4,6,7,8-HxCDF	IS	84.1	22-176		20-Jun-25 15:17	1
13C-1,2,3,7,8,9-HxCDF	IS	87.1	17-205		20-Jun-25 15:17	1
13C-1,2,3,4,6,7,8-HpCDF	IS	80.6	21-158		20-Jun-25 15:17	1
13C-1,2,3,4,7,8,9-HpCDF	IS	82.5	20-186		20-Jun-25 15:17	1
13C-OCDF	IS	77.6	13-199		20-Jun-25 15:17	1
37Cl-2,3,7,8-TCDD	CRS	98.4	31-191		20-Jun-25 15:17	1

Sample ID: 22B-U-S-20250609

EPA Method 1613B

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	2506190-01	Date Received:	11-Jun-25 09:34
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25F216	Date Extracted:	16-Jun-25
Matrix:	Water	Sample Size:	1.04 L	Column:	ZB-DIOXIN
Date Collected:	09-Jun-25 09:10				

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND	1.24	3.76			21-Jun-25 06:54	1
1,2,3,7,8-PeCDD	ND	1.27	7.99			21-Jun-25 06:54	1
1,2,3,4,7,8-HxCDD	ND	1.93	6.32			21-Jun-25 06:54	1
1,2,3,6,7,8-HxCDD	ND	2.19	5.58			21-Jun-25 06:54	1
1,2,3,7,8,9-HxCDD	ND	2.42	5.75			21-Jun-25 06:54	1
1,2,3,4,6,7,8-HpCDD	ND		5.31	2.32		21-Jun-25 06:54	1
OCDD	ND	12.9	15.7			21-Jun-25 06:54	1
2,3,7,8-TCDF	ND	1.00	1.67			21-Jun-25 06:54	1
1,2,3,7,8-PeCDF	ND	1.12	6.44			21-Jun-25 06:54	1
2,3,4,7,8-PeCDF	ND	0.944	7.25			21-Jun-25 06:54	1
1,2,3,4,7,8-HxCDF	ND	1.07	6.54			21-Jun-25 06:54	1
1,2,3,6,7,8-HxCDF	ND	1.17	5.87			21-Jun-25 06:54	1
2,3,4,6,7,8-HxCDF	ND	1.33	5.70			21-Jun-25 06:54	1
1,2,3,7,8,9-HxCDF	ND	1.72	6.09			21-Jun-25 06:54	1
1,2,3,4,6,7,8-HpCDF	ND	1.93	6.03			21-Jun-25 06:54	1
1,2,3,4,7,8,9-HpCDF	ND	2.37	7.04			21-Jun-25 06:54	1
OCDF	ND		13.1	1.65		21-Jun-25 06:54	1

Toxic Equivalent	
TEQMinWHO2005Dioxin	0.00

Totals	
Total TCDD	5.43 7.32
Total PeCDD	6.88 9.10 J
Total HxCDD	15.0 J, B
Total HpCDD	ND 2.32
Total TCDF	ND 1.00
Total PeCDF	ND 1.12
Total HxCDF	ND 1.72
Total HpCDF	ND 2.37

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	61.1	25 - 164		21-Jun-25 06:54	1
13C-1,2,3,7,8-PeCDD	IS	57.9	25 - 181		21-Jun-25 06:54	1
13C-1,2,3,4,7,8-HxCDD	IS	51.9	32 - 141		21-Jun-25 06:54	1
13C-1,2,3,6,7,8-HxCDD	IS	51.9	28 - 130		21-Jun-25 06:54	1
13C-1,2,3,7,8,9-HxCDD	IS	48.6	32 - 141		21-Jun-25 06:54	1
13C-1,2,3,4,6,7,8-HpCDD	IS	42.3	23 - 140		21-Jun-25 06:54	1
13C-OCDD	IS	39.3	17 - 157		21-Jun-25 06:54	1
13C-2,3,7,8-TCDF	IS	63.5	24 - 169		21-Jun-25 06:54	1
13C-1,2,3,7,8-PeCDF	IS	61.2	24 - 185		21-Jun-25 06:54	1
13C-2,3,4,7,8-PeCDF	IS	60.5	21 - 178		21-Jun-25 06:54	1
13C-1,2,3,4,7,8-HxCDF	IS	52.9	26 - 152		21-Jun-25 06:54	1
13C-1,2,3,6,7,8-HxCDF	IS	51.7	26 - 123		21-Jun-25 06:54	1
13C-2,3,4,6,7,8-HxCDF	IS	50.5	28 - 136		21-Jun-25 06:54	1
13C-1,2,3,7,8,9-HxCDF	IS	50.1	29 - 147		21-Jun-25 06:54	1
13C-1,2,3,4,6,7,8-HpCDF	IS	43.6	28 - 143		21-Jun-25 06:54	1
13C-1,2,3,4,7,8,9-HpCDF	IS	43.6	26 - 138		21-Jun-25 06:54	1
13C-OCDF	IS	41.8	17 - 157		21-Jun-25 06:54	1
37Cl-2,3,7,8-TCDD	CRS	67.4	35 - 197		21-Jun-25 06:54	1

EDL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 MDL - Method Detection Limit

Sample ID: 22B-U-S-20250609
EPA Method 1613B

Name:	Apex Laboratories	Lab Sample:	B25F216-MSD1	Source Lab Sample:	2506190-01
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25F216	Date Extracted:	16-Jun-25
Matrix:	Aqueous	Samp Size:	1.03/1.03 L	Column:	ZB-DIOXIN
Date Analyzed:	22-Jun-25 00:54				
	22-Jun-25 01:40				

Analyte	Sample (pg/L)	MS (pg/L)	MS Spike Amt	MS % Rec	MS Quals	MSD (pg/L)	MSD Spike Amt	MSD % Rec	RPD	MSD Quals	%Rec Limits	RPD Limits
2,3,7,8-TCDD	ND	212	194	109		211	194	109	0.155		50-150	25
1,2,3,7,8-PeCDD	ND	1180	971	121		1160	968	120	1.62		50-150	25
1,2,3,4,7,8-HxCDD	ND	1070	971	110		1010	968	105	4.73		50-150	25
1,2,3,6,7,8-HxCDD	ND	1060	971	110		1010	968	104	4.76		50-150	25
1,2,3,7,8,9-HxCDD	ND	1100	971	113		1040	968	107	5.54		50-150	25
1,2,3,4,6,7,8-HpCDD	ND	1120	971	115		1090	968	112	2.96		50-150	25
OCDD	ND	2210	1940	114	B	2070	1940	107	6.52	B	50-150	25
2,3,7,8-TCDF	ND	212	194	109		212	194	109	0.535		50-150	25
1,2,3,7,8-PeCDF	ND	1130	971	116		1100	968	113	2.68		50-150	25
2,3,4,7,8-PeCDF	ND	1120	971	116		1120	968	115	0.412		50-150	25
1,2,3,4,7,8-HxCDF	ND	1100	971	113		1090	968	112	0.724		50-150	25
1,2,3,6,7,8-HxCDF	ND	1110	971	114		1090	968	113	0.899		50-150	25
2,3,4,6,7,8-HxCDF	ND	1130	971	117		1090	968	113	3.19		50-150	25
1,2,3,7,8,9-HxCDF	ND	1090	971	112		1060	968	110	1.99		50-150	25
1,2,3,4,6,7,8-HpCDF	ND	1190	971	123		1090	968	112	8.92		50-150	25
1,2,3,4,7,8,9-HpCDF	ND	1110	971	115		1050	968	108	6.13		50-150	25
OCDF	ND	2260	1940	117		2110	1940	109	6.90		50-150	25

Labeled Standards	Type	MS % Rec	MS Quals	MSD % Rec	MSD Quals	Limits
13C-2,3,7,8-TCDD	IS	77.6		76.0		25 - 164
13C-1,2,3,7,8-PeCDD	IS	69.5		67.4		25 - 181
13C-1,2,3,4,7,8-HxCDD	IS	68.6		67.1		32 - 141
13C-1,2,3,6,7,8-HxCDD	IS	66.9		65.7		28 - 130
13C-1,2,3,7,8,9-HxCDD	IS	65.8		64.9		32 - 141
13C-1,2,3,4,6,7,8-HpCDD	IS	55.9		53.4		23 - 140
13C-OCDD	IS	48.4		44.2		17 - 157
13C-2,3,7,8-TCDF	IS	79.4		78.1		24 - 169
13C-1,2,3,7,8-PeCDF	IS	71.2		70.5		24 - 185
13C-2,3,4,7,8-PeCDF	IS	68.2		66.9		21 - 178
13C-1,2,3,4,7,8-HxCDF	IS	62.7		61.5		26 - 152
13C-1,2,3,6,7,8-HxCDF	IS	61.6		59.3		26 - 123
13C-2,3,4,6,7,8-HxCDF	IS	64.4		64.4		28 - 136
13C-1,2,3,7,8,9-HxCDF	IS	67.0		63.4		29 - 147
13C-1,2,3,4,6,7,8-HpCDF	IS	55.7		56.2		28 - 143
13C-1,2,3,4,7,8,9-HpCDF	IS	57.5		52.8		26 - 138
13C-OCDF	IS	47.4		43.0		17 - 157
37Cl-2,3,7,8-TCDD	CRS	93.5		90.3		35 - 197

Sample ID: 22B-U-D-20250609

EPA Method 1613B

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	2506190-02	Date Received:	11-Jun-25 09:34
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25F216	Date Extracted:	16-Jun-25
Matrix:	Water	Sample Size:	1.05 L	Column:	ZB-DIOXIN
Date Collected:	09-Jun-25 10:30				

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND	0.990	3.74			21-Jun-25 07:40	1
1,2,3,7,8-PeCDD	ND	1.59	7.94			21-Jun-25 07:40	1
1,2,3,4,7,8-HxCDD	ND	1.17	6.28			21-Jun-25 07:40	1
1,2,3,6,7,8-HxCDD	ND	1.26	5.54			21-Jun-25 07:40	1
1,2,3,7,8,9-HxCDD	ND	1.34	5.72			21-Jun-25 07:40	1
1,2,3,4,6,7,8-HpCDD	2.77		5.28		J	21-Jun-25 07:40	1
OCDD	9.31		15.6		J, B	21-Jun-25 07:40	1
2,3,7,8-TCDF	ND	0.899	1.66			21-Jun-25 07:40	1
1,2,3,7,8-PeCDF	ND	0.900	6.40			21-Jun-25 07:40	1
2,3,4,7,8-PeCDF	ND	0.753	7.20			21-Jun-25 07:40	1
1,2,3,4,7,8-HxCDF	ND	0.741	6.50			21-Jun-25 07:40	1
1,2,3,6,7,8-HxCDF	ND	0.763	5.83			21-Jun-25 07:40	1
2,3,4,6,7,8-HxCDF	ND	0.932	5.66			21-Jun-25 07:40	1
1,2,3,7,8,9-HxCDF	ND	1.24	6.05			21-Jun-25 07:40	1
1,2,3,4,6,7,8-HpCDF	ND	1.37	5.99			21-Jun-25 07:40	1
1,2,3,4,7,8,9-HpCDF	ND	1.61	6.99			21-Jun-25 07:40	1
OCDF	ND	1.64	13.0			21-Jun-25 07:40	1

Toxic Equivalent

TEQMinWHO2005Dioxin	0.0305
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Totals

Total TCDD	ND		5.73		
Total PeCDD	3.59		9.02	J	
Total HxCDD	11.7			J, B	
Total HpCDD	2.77		4.74	J	
Total TCDF	1.25		2.02	J	
Total PeCDF	ND		0.522		
Total HxCDF	ND	1.24			
Total HpCDF	ND	1.61			

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	76.6	25 - 164		21-Jun-25 07:40	1
13C-1,2,3,7,8-PeCDD	IS	72.3	25 - 181		21-Jun-25 07:40	1
13C-1,2,3,4,7,8-HxCDD	IS	73.9	32 - 141		21-Jun-25 07:40	1
13C-1,2,3,6,7,8-HxCDD	IS	76.9	28 - 130		21-Jun-25 07:40	1
13C-1,2,3,7,8,9-HxCDD	IS	72.5	32 - 141		21-Jun-25 07:40	1
13C-1,2,3,4,6,7,8-HpCDD	IS	65.6	23 - 140		21-Jun-25 07:40	1
13C-OCDD	IS	60.4	17 - 157		21-Jun-25 07:40	1
13C-2,3,7,8-TCDF	IS	80.1	24 - 169		21-Jun-25 07:40	1
13C-1,2,3,7,8-PeCDF	IS	85.2	24 - 185		21-Jun-25 07:40	1
13C-2,3,4,7,8-PeCDF	IS	82.6	21 - 178		21-Jun-25 07:40	1
13C-1,2,3,4,7,8-HxCDF	IS	78.0	26 - 152		21-Jun-25 07:40	1
13C-1,2,3,6,7,8-HxCDF	IS	75.8	26 - 123		21-Jun-25 07:40	1
13C-2,3,4,6,7,8-HxCDF	IS	73.7	28 - 136		21-Jun-25 07:40	1
13C-1,2,3,7,8,9-HxCDF	IS	69.2	29 - 147		21-Jun-25 07:40	1
13C-1,2,3,4,6,7,8-HpCDF	IS	65.4	28 - 143		21-Jun-25 07:40	1
13C-1,2,3,4,7,8,9-HpCDF	IS	65.6	26 - 138		21-Jun-25 07:40	1
13C-OCDF	IS	58.4	17 - 157		21-Jun-25 07:40	1
37Cl-2,3,7,8-TCDD	CRS	82.8	35 - 197		21-Jun-25 07:40	1

EDL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 MDL - Method Detection Limit

Sample ID: Method Blank
EPA Method 1668C

Client Data		Laboratory Data				
Name:	Apex Laboratories	Lab Sample:	B25G002-BLK1		Date Extracted:	01-Jul-25
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25G002		Column:	ZB-1
Matrix:	Aqueous	Sample Size:	1.00 L			

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
PCB-1	ND	0.155	1.89			02-Jul-25 21:54	1
PCB-2	ND	0.152	2.37			02-Jul-25 21:54	1
PCB-3	ND		3.08	0.308		02-Jul-25 21:54	1
PCB-4/10	ND	0.483	2.46			02-Jul-25 21:54	1
PCB-5/8	ND	0.378	3.62			02-Jul-25 21:54	1
PCB-6	ND	0.382	1.89			02-Jul-25 21:54	1
PCB-7/9	ND	0.380	2.22			02-Jul-25 21:54	1
PCB-11	4.48		5.18		J	02-Jul-25 21:54	1
PCB-12/13	ND	0.382	3.29			02-Jul-25 21:54	1
PCB-14	ND	0.373	1.42			02-Jul-25 21:54	1
PCB-15	ND	0.353	1.98			02-Jul-25 21:54	1
PCB-16/32	1.13		1.65		J	02-Jul-25 21:54	1
PCB-17	0.608		1.44		J	02-Jul-25 21:54	1
PCB-18	1.03		1.94		J	02-Jul-25 21:54	1
PCB-19	ND	0.183	0.851			02-Jul-25 21:54	1
PCB-20/21/33	ND		4.47	0.537		02-Jul-25 21:54	1
PCB-22	ND	0.132	2.06			02-Jul-25 21:54	1
PCB-23	ND	0.133	2.07			02-Jul-25 21:54	1
PCB-24/27	ND	0.112	1.67			02-Jul-25 21:54	1
PCB-25	ND	0.135	1.63			02-Jul-25 21:54	1
PCB-26	ND	0.134	1.85			02-Jul-25 21:54	1
PCB-28	0.782		6.43		J	02-Jul-25 21:54	1
PCB-29	ND	0.143	1.62			02-Jul-25 21:54	1
PCB-30	ND	0.121	1.12			02-Jul-25 21:54	1
PCB-31	1.08		5.75		J	02-Jul-25 21:54	1
PCB-34	ND	0.137	1.48			02-Jul-25 21:54	1
PCB-35	ND	0.147	1.67			02-Jul-25 21:54	1
PCB-36	ND	0.142	1.44			02-Jul-25 21:54	1
PCB-37	ND	0.145	1.22			02-Jul-25 21:54	1
PCB-38	ND	0.153	1.73			02-Jul-25 21:54	1
PCB-39	ND	0.145	1.60			02-Jul-25 21:54	1
PCB-40	ND		2.26	0.922		02-Jul-25 21:54	1
PCB-41/64/71/72	ND		4.25	0.923		02-Jul-25 21:54	1
PCB-42/59	0.734		2.02		J	02-Jul-25 21:54	1
PCB-43/49	1.56		3.88		J	02-Jul-25 21:54	1
PCB-44	ND		13.2	0.631		02-Jul-25 21:54	1
PCB-45	ND	0.240	1.61			02-Jul-25 21:54	1
PCB-46	ND	0.260	1.58			02-Jul-25 21:54	1
PCB-47	ND		3.22	0.889		02-Jul-25 21:54	1
PCB-48/75	0.346		2.81		J	02-Jul-25 21:54	1
PCB-50	ND	0.237	1.90			02-Jul-25 21:54	1
PCB-51	ND	0.204	1.15			02-Jul-25 21:54	1
PCB-52/69	1.73		15.5		J	02-Jul-25 21:54	1
PCB-53	ND		1.58	0.415		02-Jul-25 21:54	1
PCB-54	ND	0.175	1.31			02-Jul-25 21:54	1
PCB-55	ND	0.153	1.24			02-Jul-25 21:54	1
PCB-56/60	1.18		4.70		J	02-Jul-25 21:54	1
PCB-57	ND	0.169	1.09			02-Jul-25 21:54	1
PCB-58	ND	0.160	1.33			02-Jul-25 21:54	1
PCB-61/70	1.03		3.10		J	02-Jul-25 21:54	1
PCB-62	ND	0.171	1.32			02-Jul-25 21:54	1
PCB-63	ND	0.184	1.11			02-Jul-25 21:54	1

Sample ID: Method Blank
EPA Method 1668C

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	B25G002-BLK1		
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25G002	Date Extracted:	01-Jul-25
Matrix:	Aqueous	Sample Size:	1.00 L	Column:	ZB-1

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
PCB-65	ND	0.178	1.40			02-Jul-25 21:54	1
PCB-66/76	ND		2.66	0.692		02-Jul-25 21:54	1
PCB-67	ND	0.172	1.20			02-Jul-25 21:54	1
PCB-68	ND	0.160	1.94			02-Jul-25 21:54	1
PCB-73	ND	0.159	1.44			02-Jul-25 21:54	1
PCB-74	ND		1.39	0.568		02-Jul-25 21:54	1
PCB-77	ND	0.194	1.91			02-Jul-25 21:54	1
PCB-78	ND	0.176	1.22			02-Jul-25 21:54	1
PCB-79	ND	0.157	1.30			02-Jul-25 21:54	1
PCB-80	ND	0.141	0.807			02-Jul-25 21:54	1
PCB-81	ND	0.193	1.14			02-Jul-25 21:54	1
PCB-82	ND	0.480	1.85			02-Jul-25 21:54	1
PCB-83	ND	0.306	1.23			02-Jul-25 21:54	1
PCB-84/92	ND	0.449	1.75			02-Jul-25 21:54	1
PCB-85/116	ND	0.378	2.13			02-Jul-25 21:54	1
PCB-86	ND	0.490	2.05			02-Jul-25 21:54	1
PCB-87/117/125	ND	0.323	2.99			02-Jul-25 21:54	1
PCB-88/91	ND	0.454	2.32			02-Jul-25 21:54	1
PCB-89	ND	0.438	1.10			02-Jul-25 21:54	1
PCB-90/101	ND	0.425	2.23			02-Jul-25 21:54	1
PCB-93	ND	0.526	2.80			02-Jul-25 21:54	1
PCB-94	ND	0.493	1.79			02-Jul-25 21:54	1
PCB-95/98/102	ND		2.16	1.43		02-Jul-25 21:54	1
PCB-96	ND	0.336	1.40			02-Jul-25 21:54	1
PCB-97	ND	0.446	1.01			02-Jul-25 21:54	1
PCB-99	ND	0.355	1.97			02-Jul-25 21:54	1
PCB-100	ND	0.424	1.49			02-Jul-25 21:54	1
PCB-103	ND	0.409	1.27			02-Jul-25 21:54	1
PCB-104	ND	0.356	1.09			02-Jul-25 21:54	1
PCB-105	ND	0.367	1.64			02-Jul-25 21:54	1
PCB-106/118	ND	0.282	3.03			02-Jul-25 21:54	1
PCB-107/109	ND	0.286	1.89			02-Jul-25 21:54	1
PCB-108/112	ND	0.379	2.94			02-Jul-25 21:54	1
PCB-110	ND	0.298	2.79			02-Jul-25 21:54	1
PCB-111/115	ND	0.304	2.31			02-Jul-25 21:54	1
PCB-113	ND	0.332	1.00			02-Jul-25 21:54	1
PCB-114	ND	0.372	0.980			02-Jul-25 21:54	1
PCB-119	ND	0.301	0.983			02-Jul-25 21:54	1
PCB-120	ND	0.275	1.46			02-Jul-25 21:54	1
PCB-121	ND	0.276	1.73			02-Jul-25 21:54	1
PCB-122	ND	0.392	1.77			02-Jul-25 21:54	1
PCB-123	ND	0.325	1.45			02-Jul-25 21:54	1
PCB-124	ND	0.286	1.22			02-Jul-25 21:54	1
PCB-126	ND	0.414	1.68			02-Jul-25 21:54	1
PCB-127	ND	0.385	1.53			02-Jul-25 21:54	1
PCB-128/162	ND	0.233	1.74			02-Jul-25 21:54	1
PCB-129	ND	0.334	1.88			02-Jul-25 21:54	1
PCB-130	ND	0.306	2.25			02-Jul-25 21:54	1
PCB-131/133	ND	0.285	2.63			02-Jul-25 21:54	1
PCB-132/161	ND	0.237	2.43			02-Jul-25 21:54	1
PCB-134/143	ND	0.296	1.76			02-Jul-25 21:54	1
PCB-135	ND	0.174	2.40			02-Jul-25 21:54	1

Sample ID: Method Blank
EPA Method 1668C

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	B25G002-BLK1		
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25G002	Date Extracted:	01-Jul-25
Matrix:	Aqueous	Sample Size:	1.00 L	Column:	ZB-1

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
PCB-136	ND	0.133	1.62			02-Jul-25 21:54	1
PCB-137	ND	0.297	1.47			02-Jul-25 21:54	1
PCB-138/163/164	0.831		2.54		J	02-Jul-25 21:54	1
PCB-139/149	ND		3.61	0.718		02-Jul-25 21:54	1
PCB-140	ND	0.171	1.71			02-Jul-25 21:54	1
PCB-141	ND	0.279	1.16			02-Jul-25 21:54	1
PCB-142	ND	0.297	1.64			02-Jul-25 21:54	1
PCB-144	ND	0.169	1.75			02-Jul-25 21:54	1
PCB-145	ND	0.126	1.86			02-Jul-25 21:54	1
PCB-146/165	ND	0.226	2.67			02-Jul-25 21:54	1
PCB-147	ND	0.165	1.61			02-Jul-25 21:54	1
PCB-148	ND	0.166	1.80			02-Jul-25 21:54	1
PCB-150	ND	0.128	1.44			02-Jul-25 21:54	1
PCB-151	ND	0.179	2.18			02-Jul-25 21:54	1
PCB-152	ND	0.119	1.07			02-Jul-25 21:54	1
PCB-153	ND		2.20	0.713		02-Jul-25 21:54	1
PCB-154	ND	0.160	1.38			02-Jul-25 21:54	1
PCB-155	ND	0.135	1.27			02-Jul-25 21:54	1
PCB-156	ND	0.209	1.64			02-Jul-25 21:54	1
PCB-157	ND	0.211	1.22			02-Jul-25 21:54	1
PCB-158/160	ND	0.206	2.40			02-Jul-25 21:54	1
PCB-159	ND	0.191	1.32			02-Jul-25 21:54	1
PCB-166	ND	0.196	1.18			02-Jul-25 21:54	1
PCB-167	ND	0.225	0.889			02-Jul-25 21:54	1
PCB-168	ND	0.205	0.893			02-Jul-25 21:54	1
PCB-169	ND	0.237	1.45			02-Jul-25 21:54	1
PCB-170	ND	0.240	1.52			02-Jul-25 21:54	1
PCB-171	ND	0.231	1.26			02-Jul-25 21:54	1
PCB-172	ND	0.258	1.68			02-Jul-25 21:54	1
PCB-173	ND	0.265	1.42			02-Jul-25 21:54	1
PCB-174	ND	0.228	1.54			02-Jul-25 21:54	1
PCB-175	ND	0.233	1.13			02-Jul-25 21:54	1
PCB-176	ND	0.177	0.816			02-Jul-25 21:54	1
PCB-177	ND	0.243	1.58			02-Jul-25 21:54	1
PCB-178	ND	0.236	1.61			02-Jul-25 21:54	1
PCB-179	ND	0.167	1.06			02-Jul-25 21:54	1
PCB-180	ND	0.217	1.78			02-Jul-25 21:54	1
PCB-181	ND	0.223	1.15			02-Jul-25 21:54	1
PCB-182/187	ND		2.33	0.463		02-Jul-25 21:54	1
PCB-183	ND	0.212	1.49			02-Jul-25 21:54	1
PCB-184	ND	0.170	0.951			02-Jul-25 21:54	1
PCB-185	ND	0.246	1.28			02-Jul-25 21:54	1
PCB-186	ND	0.161	0.985			02-Jul-25 21:54	1
PCB-188	ND	0.160	1.06			02-Jul-25 21:54	1
PCB-189	ND	0.174	1.26			02-Jul-25 21:54	1
PCB-190	ND	0.186	1.44			02-Jul-25 21:54	1
PCB-191	ND	0.187	1.85			02-Jul-25 21:54	1
PCB-192	ND	0.183	1.70			02-Jul-25 21:54	1
PCB-193	ND	0.179	1.81			02-Jul-25 21:54	1
PCB-194	0.450		2.10		J	02-Jul-25 21:54	1
PCB-195	ND	0.206	1.54			02-Jul-25 21:54	1
PCB-196/203	ND	0.142	2.34			02-Jul-25 21:54	1

Sample ID: Method Blank
EPA Method 1668C

Client Data		Laboratory Data				
Name:	Apex Laboratories	Lab Sample:	B25G002-BLK1		Date Extracted:	01-Jul-25
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25G002		Column:	ZB-1
Matrix:	Aqueous	Sample Size:	1.00 L			

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
PCB-197	ND	0.111	1.45			02-Jul-25 21:54	1
PCB-198	ND	0.154	2.07			02-Jul-25 21:54	1
PCB-199	ND	0.151	1.48			02-Jul-25 21:54	1
PCB-200	ND	0.123	0.890			02-Jul-25 21:54	1
PCB-201	ND	0.127	1.33			02-Jul-25 21:54	1
PCB-202	ND	0.114	1.24			02-Jul-25 21:54	1
PCB-204	ND	0.117	1.06			02-Jul-25 21:54	1
PCB-205	ND		1.56	0.248		02-Jul-25 21:54	1
PCB-206	ND	0.0942	1.62			02-Jul-25 21:54	1
PCB-207	ND	0.0768	1.56			02-Jul-25 21:54	1
PCB-208	ND	0.0747	1.53			02-Jul-25 21:54	1
PCB-209	ND	0.0741	1.93			02-Jul-25 21:54	1

Totals							
Total monoCB	ND			0.308			
Total diCB	4.48						
Total triCB	4.64			5.17			
Total tetraCB	6.57			11.6			
Total pentaCB	ND			1.43			
Total hexaCB	0.831			2.26			
Total heptaCB	ND			0.463			
Total octaCB	0.450			0.698			
Total nonaCB	ND	0.0942					
DecaCB	ND	0.0741					
Total PCB	17.0						

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-PCB-1	IS	19.8	5 - 145		02-Jul-25 21:54	1
13C-PCB-3	IS	22.9	5 - 145		02-Jul-25 21:54	1
13C-PCB-4	IS	19.6	5 - 145		02-Jul-25 21:54	1
13C-PCB-9	IS	21.4	5 - 145		02-Jul-25 21:54	1
13C-PCB-11	IS	24.7	5 - 145		02-Jul-25 21:54	1
13C-PCB-19	IS	22.9	5 - 145		02-Jul-25 21:54	1
13C-PCB-28	IS	23.9	5 - 145		02-Jul-25 21:54	1
13C-PCB-32	IS	27.1	5 - 145		02-Jul-25 21:54	1
13C-PCB-37	IS	26.7	5 - 145		02-Jul-25 21:54	1
13C-PCB-47	IS	25.1	5 - 145		02-Jul-25 21:54	1
13C-PCB-52	IS	24.4	5 - 145		02-Jul-25 21:54	1
13C-PCB-54	IS	22.2	5 - 145		02-Jul-25 21:54	1
13C-PCB-70	IS	25.7	5 - 145		02-Jul-25 21:54	1
13C-PCB-77	IS	26.8	10 - 145		02-Jul-25 21:54	1
13C-PCB-80	IS	26.1	10 - 145		02-Jul-25 21:54	1
13C-PCB-81	IS	26.4	10 - 145		02-Jul-25 21:54	1
13C-PCB-95	IS	26.6	10 - 145		02-Jul-25 21:54	1
13C-PCB-97	IS	26.6	10 - 145		02-Jul-25 21:54	1
13C-PCB-101	IS	26.2	10 - 145		02-Jul-25 21:54	1
13C-PCB-104	IS	25.1	10 - 145		02-Jul-25 21:54	1
13C-PCB-105	IS	21.4	10 - 145		02-Jul-25 21:54	1
13C-PCB-114	IS	22.1	10 - 145		02-Jul-25 21:54	1
13C-PCB-118	IS	29.0	10 - 145		02-Jul-25 21:54	1
13C-PCB-123	IS	28.6	10 - 145		02-Jul-25 21:54	1

Sample ID: Method Blank
EPA Method 1668C

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	B25G002-BLK1		
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25G002	Date Extracted:	01-Jul-25
Matrix:	Aqueous	Sample Size:	1.00 L	Column:	ZB-1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-PCB-126	IS	22.7	10 - 145		02-Jul-25 21:54	1
13C-PCB-127	IS	21.5	10 - 145		02-Jul-25 21:54	1
13C-PCB-138	IS	25.9	10 - 145		02-Jul-25 21:54	1
13C-PCB-141	IS	25.8	10 - 145		02-Jul-25 21:54	1
13C-PCB-153	IS	25.8	10 - 145		02-Jul-25 21:54	1
13C-PCB-155	IS	28.4	10 - 145		02-Jul-25 21:54	1
13C-PCB-156	IS	26.5	10 - 145		02-Jul-25 21:54	1
13C-PCB-157	IS	26.4	10 - 145		02-Jul-25 21:54	1
13C-PCB-159	IS	27.5	10 - 145		02-Jul-25 21:54	1
13C-PCB-167	IS	26.5	10 - 145		02-Jul-25 21:54	1
13C-PCB-169	IS	26.4	10 - 145		02-Jul-25 21:54	1
13C-PCB-170	IS	23.7	10 - 145		02-Jul-25 21:54	1
13C-PCB-180	IS	25.2	10 - 145		02-Jul-25 21:54	1
13C-PCB-188	IS	24.3	10 - 145		02-Jul-25 21:54	1
13C-PCB-189	IS	25.2	10 - 145		02-Jul-25 21:54	1
13C-PCB-194	IS	28.2	10 - 145		02-Jul-25 21:54	1
13C-PCB-202	IS	26.9	10 - 145		02-Jul-25 21:54	1
13C-PCB-206	IS	31.2	10 - 145		02-Jul-25 21:54	1
13C-PCB-208	IS	31.0	10 - 145		02-Jul-25 21:54	1
13C-PCB-209	IS	31.4	10 - 145		02-Jul-25 21:54	1
13C-PCB-79	CRS	30.0	10 - 145		02-Jul-25 21:54	1
13C-PCB-178	CRS	33.2	10 - 145		02-Jul-25 21:54	1

EDL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 MDL - Method Detection Limit

Sample ID: OPR
EPA Method 1668C

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	B25G002-BS1	Date Extracted:	01-Jul-25 09:38
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25G002	Column:	ZB-1
Matrix:	Aqueous	Sample Size:	1.00 L		

Analyte	Amt Found (pg/L)	Spike Amt	% Recovery	Limits	Qualifiers	Analyzed	Dilution
PCB-1	1000	996	101	60-135		02-Jul-25 18:54	1
PCB-3	899	1000	89.9	60-135		02-Jul-25 18:54	1
PCB-4/10	2260	2020	112	60-135		02-Jul-25 18:54	1
PCB-15	1090	1000	109	60-135		02-Jul-25 18:54	1
PCB-19	1070	1010	106	60-135		02-Jul-25 18:54	1
PCB-37	980	1010	97.1	60-135		02-Jul-25 18:54	1
PCB-54	1000	1010	99.0	60-135		02-Jul-25 18:54	1
PCB-77	1020	1000	102	60-135		02-Jul-25 18:54	1
PCB-81	1010	1000	101	60-135		02-Jul-25 18:54	1
PCB-104	1020	996	103	60-135		02-Jul-25 18:54	1
PCB-105	1070	1010	106	60-135		02-Jul-25 18:54	1
PCB-106/118	1880	1990	94.5	60-135		02-Jul-25 18:54	1
PCB-114	1060	1000	106	60-135		02-Jul-25 18:54	1
PCB-123	963	1000	96.3	60-135		02-Jul-25 18:54	1
PCB-126	1040	1010	103	60-135		02-Jul-25 18:54	1
PCB-155	1020	992	103	60-135		02-Jul-25 18:54	1
PCB-156	997	1010	98.7	60-135		02-Jul-25 18:54	1
PCB-157	1020	1000	102	60-135		02-Jul-25 18:54	1
PCB-167	993	1000	99.3	60-135		02-Jul-25 18:54	1
PCB-169	1030	1000	103	60-135		02-Jul-25 18:54	1
PCB-188	1080	990	109	60-135		02-Jul-25 18:54	1
PCB-189	1030	1000	103	60-135		02-Jul-25 18:54	1
PCB-202	997	992	101	60-135		02-Jul-25 18:54	1
PCB-205	1040	1000	104	60-135		02-Jul-25 18:54	1
PCB-206	1050	1010	104	60-135		02-Jul-25 18:54	1
PCB-208	1010	1000	101	60-135		02-Jul-25 18:54	1
PCB-209	1070	992	108	60-135		02-Jul-25 18:54	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-PCB-1	IS	50.3	15-145		02-Jul-25 18:54	1
13C-PCB-3	IS	56.2	15-145		02-Jul-25 18:54	1
13C-PCB-4	IS	49.3	15-145		02-Jul-25 18:54	1
13C-PCB-9	IS	52.0	15-145		02-Jul-25 18:54	1
13C-PCB-11	IS	58.3	15-145		02-Jul-25 18:54	1
13C-PCB-19	IS	54.6	15-145		02-Jul-25 18:54	1
13C-PCB-28	IS	59.7	15-145		02-Jul-25 18:54	1
13C-PCB-32	IS	61.4	15-145		02-Jul-25 18:54	1
13C-PCB-37	IS	65.0	15-145		02-Jul-25 18:54	1
13C-PCB-47	IS	54.8	15-145		02-Jul-25 18:54	1
13C-PCB-52	IS	53.9	15-145		02-Jul-25 18:54	1
13C-PCB-54	IS	51.0	15-145		02-Jul-25 18:54	1
13C-PCB-70	IS	59.2	15-145		02-Jul-25 18:54	1
13C-PCB-77	IS	62.5	40-145		02-Jul-25 18:54	1
13C-PCB-80	IS	60.3	40-145		02-Jul-25 18:54	1
13C-PCB-81	IS	60.5	40-145		02-Jul-25 18:54	1

Sample ID: OPR
EPA Method 1668C

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	B25G002-BS1	Date Extracted:	01-Jul-25 09:38
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25G002	Column:	ZB-1
Matrix:	Aqueous	Sample Size:	1.00 L		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-PCB-95	IS	62.6	40 -145		02-Jul-25 18:54	1
13C-PCB-97	IS	63.4	40 -145		02-Jul-25 18:54	1
13C-PCB-101	IS	62.4	40 -145		02-Jul-25 18:54	1
13C-PCB-104	IS	55.4	40 -145		02-Jul-25 18:54	1
13C-PCB-105	IS	51.6	40 -145		02-Jul-25 18:54	1
13C-PCB-114	IS	53.0	40 -145		02-Jul-25 18:54	1
13C-PCB-118	IS	67.4	40 -145		02-Jul-25 18:54	1
13C-PCB-123	IS	66.5	40 -145		02-Jul-25 18:54	1
13C-PCB-126	IS	57.7	40 -145		02-Jul-25 18:54	1
13C-PCB-127	IS	52.9	40 -145		02-Jul-25 18:54	1
13C-PCB-138	IS	62.2	40 -145		02-Jul-25 18:54	1
13C-PCB-141	IS	61.1	40 -145		02-Jul-25 18:54	1
13C-PCB-153	IS	59.7	40 -145		02-Jul-25 18:54	1
13C-PCB-155	IS	65.1	40 -145		02-Jul-25 18:54	1
13C-PCB-156	IS	60.0	40 -145		02-Jul-25 18:54	1
13C-PCB-157	IS	60.4	40 -145		02-Jul-25 18:54	1
13C-PCB-159	IS	62.9	40 -145		02-Jul-25 18:54	1
13C-PCB-167	IS	62.5	40 -145		02-Jul-25 18:54	1
13C-PCB-169	IS	60.3	40 -145		02-Jul-25 18:54	1
13C-PCB-170	IS	55.4	40 -145		02-Jul-25 18:54	1
13C-PCB-180	IS	58.2	40 -145		02-Jul-25 18:54	1
13C-PCB-188	IS	56.5	40 -145		02-Jul-25 18:54	1
13C-PCB-189	IS	59.0	40 -145		02-Jul-25 18:54	1
13C-PCB-194	IS	65.5	40 -145		02-Jul-25 18:54	1
13C-PCB-202	IS	59.6	40 -145		02-Jul-25 18:54	1
13C-PCB-206	IS	70.7	40 -145		02-Jul-25 18:54	1
13C-PCB-208	IS	70.9	40 -145		02-Jul-25 18:54	1
13C-PCB-209	IS	70.4	40 -145		02-Jul-25 18:54	1
13C-PCB-79	CRS	71.4	40 -145		02-Jul-25 18:54	1
13C-PCB-178	CRS	78.0	40 -145		02-Jul-25 18:54	1

Sample ID: 22B-U-S-20250609

EPA Method 1668C

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	2506190-01	Date Received:	11-Jun-25 09:34
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25G002	Date Extracted:	01-Jul-25
Matrix:	Water	Sample Size:	1.03 L	Column:	ZB-1
Date Collected:	09-Jun-25 09:10				

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
PCB-1	ND		1.84	0.606		03-Jul-25 10:49	1
PCB-2	0.305		2.31		J	03-Jul-25 10:49	1
PCB-3	ND		3.00	0.283		03-Jul-25 10:49	1
PCB-4/10	10.1		2.40			03-Jul-25 10:49	1
PCB-5/8	2.87		3.53		J	03-Jul-25 10:49	1
PCB-6	ND		1.84	0.778		03-Jul-25 10:49	1
PCB-7/9	ND		2.16	0.557		03-Jul-25 10:49	1
PCB-11	12.3		5.05		B	03-Jul-25 10:49	1
PCB-12/13	ND	0.211	3.21			03-Jul-25 10:49	1
PCB-14	ND	0.206	1.38			03-Jul-25 10:49	1
PCB-15	4.31		1.93		J	03-Jul-25 10:49	1
PCB-16/32	15.6		1.61		B	03-Jul-25 10:49	1
PCB-17	7.77		1.40		B	03-Jul-25 10:49	1
PCB-18	22.7		1.89		B	03-Jul-25 10:49	1
PCB-19	4.55		0.830		J	03-Jul-25 10:49	1
PCB-20/21/33	5.79		4.36		J	03-Jul-25 10:49	1
PCB-22	6.34		2.01			03-Jul-25 10:49	1
PCB-23	ND	0.172	2.02			03-Jul-25 10:49	1
PCB-24/27	2.35		1.63		J	03-Jul-25 10:49	1
PCB-25	1.22		1.59		J	03-Jul-25 10:49	1
PCB-26	2.43		1.80		J	03-Jul-25 10:49	1
PCB-28	18.3		6.27		B	03-Jul-25 10:49	1
PCB-29	ND	0.185	1.58			03-Jul-25 10:49	1
PCB-30	ND	0.0600	1.09			03-Jul-25 10:49	1
PCB-31	19.6		5.61		B	03-Jul-25 10:49	1
PCB-34	ND	0.176	1.44			03-Jul-25 10:49	1
PCB-35	0.442		1.63		J	03-Jul-25 10:49	1
PCB-36	ND	0.177	1.40			03-Jul-25 10:49	1
PCB-37	8.19		1.19			03-Jul-25 10:49	1
PCB-38	ND	0.191	1.69			03-Jul-25 10:49	1
PCB-39	ND	0.181	1.56			03-Jul-25 10:49	1
PCB-40	13.6		2.20			03-Jul-25 10:49	1
PCB-41/64/71/72	48.6		4.14			03-Jul-25 10:49	1
PCB-42/59	12.4		1.97		B	03-Jul-25 10:49	1
PCB-43/49	24.1		3.78		B	03-Jul-25 10:49	1
PCB-44	46.9		12.9			03-Jul-25 10:49	1
PCB-45	ND		1.57	4.19		03-Jul-25 10:49	1
PCB-46	ND		1.54	1.90		03-Jul-25 10:49	1
PCB-47	7.23		3.14			03-Jul-25 10:49	1
PCB-48/75	5.67		2.74		J, B	03-Jul-25 10:49	1
PCB-50	ND	0.176	1.85			03-Jul-25 10:49	1
PCB-51	1.62		1.12		J	03-Jul-25 10:49	1
PCB-52/69	43.0		15.1		B	03-Jul-25 10:49	1
PCB-53	4.36		1.54		J	03-Jul-25 10:49	1
PCB-54	ND		1.28	0.0900		03-Jul-25 10:49	1
PCB-55	1.29		1.21		J	03-Jul-25 10:49	1
PCB-56/60	161		4.58		B	03-Jul-25 10:49	1
PCB-57	0.329		1.06		J	03-Jul-25 10:49	1
PCB-58	ND		1.30	0.147		03-Jul-25 10:49	1
PCB-61/70	175		3.02		B	03-Jul-25 10:49	1
PCB-62	ND	0.131	1.29			03-Jul-25 10:49	1
PCB-63	3.43		1.08		J	03-Jul-25 10:49	1

Sample ID: 22B-U-S-20250609

EPA Method 1668C

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	2506190-01	Date Received:	11-Jun-25 09:34
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25G002	Date Extracted:	01-Jul-25
Matrix:	Water	Sample Size:	1.03 L	Column:	ZB-1
Date Collected:	09-Jun-25 09:10				

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
PCB-65	ND	0.136	1.36			03-Jul-25 10:49	1
PCB-66/76	126		2.59			03-Jul-25 10:49	1
PCB-67	1.72		1.17		J	03-Jul-25 10:49	1
PCB-68	0.540		1.89		J	03-Jul-25 10:49	1
PCB-73	ND	0.126	1.40			03-Jul-25 10:49	1
PCB-74	54.7		1.36			03-Jul-25 10:49	1
PCB-77	48.7		1.86			03-Jul-25 10:49	1
PCB-78	ND	0.134	1.19			03-Jul-25 10:49	1
PCB-79	1.16		1.27		J	03-Jul-25 10:49	1
PCB-80	ND	0.110	0.787			03-Jul-25 10:49	1
PCB-81	ND		1.11	1.37		03-Jul-25 10:49	1
PCB-82	65.7		1.80			03-Jul-25 10:49	1
PCB-83	ND	0.147	1.20			03-Jul-25 10:49	1
PCB-84/92	50.8		1.71			03-Jul-25 10:49	1
PCB-85/116	59.8		2.08			03-Jul-25 10:49	1
PCB-86	2.02		2.00		J	03-Jul-25 10:49	1
PCB-87/117/125	89.2		2.91			03-Jul-25 10:49	1
PCB-88/91	15.0		2.26			03-Jul-25 10:49	1
PCB-89	2.17		1.07		J	03-Jul-25 10:49	1
PCB-90/101	138		2.17			03-Jul-25 10:49	1
PCB-93	2.97		2.73		J	03-Jul-25 10:49	1
PCB-94	ND	0.245	1.75			03-Jul-25 10:49	1
PCB-95/98/102	61.7		2.11			03-Jul-25 10:49	1
PCB-96	ND		1.36	0.731		03-Jul-25 10:49	1
PCB-97	72.5		0.985			03-Jul-25 10:49	1
PCB-99	65.7		1.92			03-Jul-25 10:49	1
PCB-100	ND	0.206	1.45			03-Jul-25 10:49	1
PCB-103	ND	0.199	1.24			03-Jul-25 10:49	1
PCB-104	ND	0.173	1.06			03-Jul-25 10:49	1
PCB-105	539		1.60			03-Jul-25 10:49	1
PCB-106/118	483		2.95			03-Jul-25 10:49	1
PCB-107/109	25.9		1.84			03-Jul-25 10:49	1
PCB-108/112	8.23		2.87		J	03-Jul-25 10:49	1
PCB-110	303		2.72			03-Jul-25 10:49	1
PCB-111/115	5.93		2.25		J	03-Jul-25 10:49	1
PCB-113	ND	0.162	0.975			03-Jul-25 10:49	1
PCB-114	15.3		0.955			03-Jul-25 10:49	1
PCB-119	2.75		0.958		J	03-Jul-25 10:49	1
PCB-120	ND	0.132	1.42			03-Jul-25 10:49	1
PCB-121	ND	0.137	1.69			03-Jul-25 10:49	1
PCB-122	8.25		1.73			03-Jul-25 10:49	1
PCB-123	10.2		1.41			03-Jul-25 10:49	1
PCB-124	11.1		1.19			03-Jul-25 10:49	1
PCB-126	4.40		1.64		J	03-Jul-25 10:49	1
PCB-127	ND	0.241	1.49			03-Jul-25 10:49	1
PCB-128/162	56.1		1.70			03-Jul-25 10:49	1
PCB-129	15.0		1.83			03-Jul-25 10:49	1
PCB-130	13.9		2.19			03-Jul-25 10:49	1
PCB-131/133	2.82		2.56		J	03-Jul-25 10:49	1
PCB-132/161	37.1		2.37			03-Jul-25 10:49	1
PCB-134/143	ND		1.72	4.72		03-Jul-25 10:49	1
PCB-135	9.66		2.34			03-Jul-25 10:49	1

Sample ID: 22B-U-S-20250609

EPA Method 1668C

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	2506190-01	Date Received:	11-Jun-25 09:34
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25G002	Date Extracted:	01-Jul-25
Matrix:	Water	Sample Size:	1.03 L	Column:	ZB-1
Date Collected:	09-Jun-25 09:10				

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
PCB-136	7.96		1.58			03-Jul-25 10:49	1
PCB-137	11.9		1.43			03-Jul-25 10:49	1
PCB-138/163/164	219		2.48		B	03-Jul-25 10:49	1
PCB-139/149	74.4		3.52			03-Jul-25 10:49	1
PCB-140	ND		1.67	0.669		03-Jul-25 10:49	1
PCB-141	23.6		1.13			03-Jul-25 10:49	1
PCB-142	ND	0.215	1.60			03-Jul-25 10:49	1
PCB-144	ND		1.71	2.78		03-Jul-25 10:49	1
PCB-145	ND	0.0548	1.81			03-Jul-25 10:49	1
PCB-146/165	13.4		2.60			03-Jul-25 10:49	1
PCB-147	2.04		1.57		J	03-Jul-25 10:49	1
PCB-148	ND	0.0724	1.75			03-Jul-25 10:49	1
PCB-150	ND	0.0558	1.40			03-Jul-25 10:49	1
PCB-151	16.4		2.13			03-Jul-25 10:49	1
PCB-152	0.173		1.04		J	03-Jul-25 10:49	1
PCB-153	111		2.14			03-Jul-25 10:49	1
PCB-154	0.839		1.35		J	03-Jul-25 10:49	1
PCB-155	ND	0.0589	1.24			03-Jul-25 10:49	1
PCB-156	54.0		1.60			03-Jul-25 10:49	1
PCB-157	14.1		1.19			03-Jul-25 10:49	1
PCB-158/160	23.2		2.34			03-Jul-25 10:49	1
PCB-159	ND	0.147	1.29			03-Jul-25 10:49	1
PCB-166	ND		1.15	1.30		03-Jul-25 10:49	1
PCB-167	12.8		0.867			03-Jul-25 10:49	1
PCB-168	ND	0.149	0.871			03-Jul-25 10:49	1
PCB-169	ND	0.189	1.41			03-Jul-25 10:49	1
PCB-170	27.2		1.48			03-Jul-25 10:49	1
PCB-171	6.00		1.23			03-Jul-25 10:49	1
PCB-172	ND		1.64	4.22		03-Jul-25 10:49	1
PCB-173	ND		1.38	0.481		03-Jul-25 10:49	1
PCB-174	23.6		1.50			03-Jul-25 10:49	1
PCB-175	ND		1.10	0.773		03-Jul-25 10:49	1
PCB-176	2.75		0.796		J	03-Jul-25 10:49	1
PCB-177	12.7		1.54			03-Jul-25 10:49	1
PCB-178	4.91		1.57			03-Jul-25 10:49	1
PCB-179	8.58		1.03			03-Jul-25 10:49	1
PCB-180	58.0		1.74			03-Jul-25 10:49	1
PCB-181	ND		1.12	0.324		03-Jul-25 10:49	1
PCB-182/187	34.8		2.27			03-Jul-25 10:49	1
PCB-183	13.5		1.45			03-Jul-25 10:49	1
PCB-184	ND	0.105	0.927			03-Jul-25 10:49	1
PCB-185	3.14		1.25		J	03-Jul-25 10:49	1
PCB-186	ND	0.0992	0.960			03-Jul-25 10:49	1
PCB-188	ND	0.0986	1.03			03-Jul-25 10:49	1
PCB-189	1.51		1.23		J	03-Jul-25 10:49	1
PCB-190	5.26		1.40			03-Jul-25 10:49	1
PCB-191	1.02		1.80		J	03-Jul-25 10:49	1
PCB-192	ND	0.109	1.66			03-Jul-25 10:49	1
PCB-193	2.26		1.76		J	03-Jul-25 10:49	1
PCB-194	7.91		2.05		B	03-Jul-25 10:49	1
PCB-195	3.49		1.50		J	03-Jul-25 10:49	1
PCB-196/203	13.5		2.28			03-Jul-25 10:49	1

Sample ID: 22B-U-S-20250609
EPA Method 1668C

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	2506190-01	Date Received:	11-Jun-25 09:34
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25G002	Date Extracted:	01-Jul-25
Matrix:	Water	Sample Size:	1.03 L	Column:	ZB-1
Date Collected:	09-Jun-25 09:10				

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
PCB-197	0.493		1.41		J	03-Jul-25 10:49	1
PCB-198	ND		2.02	0.455		03-Jul-25 10:49	1
PCB-199	13.3		1.44			03-Jul-25 10:49	1
PCB-200	1.61		0.868		J	03-Jul-25 10:49	1
PCB-201	1.71		1.30		J	03-Jul-25 10:49	1
PCB-202	ND		1.21	2.27		03-Jul-25 10:49	1
PCB-204	ND	0.0942	1.03			03-Jul-25 10:49	1
PCB-205	0.606		1.52		J	03-Jul-25 10:49	1
PCB-206	5.29		1.58			03-Jul-25 10:49	1
PCB-207	ND		1.52	0.543		03-Jul-25 10:49	1
PCB-208	1.22		1.49		J	03-Jul-25 10:49	1
PCB-209	1.59		1.88		J	03-Jul-25 10:49	1

Totals							
Total monoCB	0.305			1.19			
Total diCB	29.6			30.9			
Total triCB	115						
Total tetraCB	781			789			
Total pentaCB	2040						
Total hexaCB	720			729			
Total heptaCB	205			211			
Total octaCB	42.7			45.4			
Total nonaCB	6.50			7.05			
DecaCB	1.59						
Total PCB	3940						

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-PCB-1	IS	40.2	5 - 145		03-Jul-25 10:49	1
13C-PCB-3	IS	43.6	5 - 145		03-Jul-25 10:49	1
13C-PCB-4	IS	37.7	5 - 145		03-Jul-25 10:49	1
13C-PCB-9	IS	39.5	5 - 145		03-Jul-25 10:49	1
13C-PCB-11	IS	44.1	5 - 145		03-Jul-25 10:49	1
13C-PCB-19	IS	42.3	5 - 145		03-Jul-25 10:49	1
13C-PCB-28	IS	39.6	5 - 145		03-Jul-25 10:49	1
13C-PCB-32	IS	46.3	5 - 145		03-Jul-25 10:49	1
13C-PCB-37	IS	45.2	5 - 145		03-Jul-25 10:49	1
13C-PCB-47	IS	40.7	5 - 145		03-Jul-25 10:49	1
13C-PCB-52	IS	39.0	5 - 145		03-Jul-25 10:49	1
13C-PCB-54	IS	37.6	5 - 145		03-Jul-25 10:49	1
13C-PCB-70	IS	42.6	5 - 145		03-Jul-25 10:49	1
13C-PCB-77	IS	44.6	10 - 145		03-Jul-25 10:49	1
13C-PCB-80	IS	42.4	10 - 145		03-Jul-25 10:49	1
13C-PCB-81	IS	43.2	10 - 145		03-Jul-25 10:49	1
13C-PCB-95	IS	44.2	10 - 145		03-Jul-25 10:49	1
13C-PCB-97	IS	45.2	10 - 145		03-Jul-25 10:49	1
13C-PCB-101	IS	44.2	10 - 145		03-Jul-25 10:49	1
13C-PCB-104	IS	41.7	10 - 145		03-Jul-25 10:49	1
13C-PCB-105	IS	36.9	10 - 145		03-Jul-25 10:49	1
13C-PCB-114	IS	37.9	10 - 145		03-Jul-25 10:49	1
13C-PCB-118	IS	48.8	10 - 145		03-Jul-25 10:49	1
13C-PCB-123	IS	47.2	10 - 145		03-Jul-25 10:49	1

Sample ID: 22B-U-S-20250609
EPA Method 1668C
Client Data

 Name: Apex Laboratories
 Project: A5F1150 / RP Portland Harbor
 Matrix: Water
 Date Collected: 09-Jun-25 09:10

Laboratory Data

 Lab Sample: 2506190-01 Date Received: 11-Jun-25 09:34
 QC Batch: B25G002 Date Extracted: 01-Jul-25
 Sample Size: 1.03 L Column: ZB-1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-PCB-126	IS	38.7	10 - 145		03-Jul-25 10:49	1
13C-PCB-127	IS	37.4	10 - 145		03-Jul-25 10:49	1
13C-PCB-138	IS	42.7	10 - 145		03-Jul-25 10:49	1
13C-PCB-141	IS	43.6	10 - 145		03-Jul-25 10:49	1
13C-PCB-153	IS	42.8	10 - 145		03-Jul-25 10:49	1
13C-PCB-155	IS	47.3	10 - 145		03-Jul-25 10:49	1
13C-PCB-156	IS	42.4	10 - 145		03-Jul-25 10:49	1
13C-PCB-157	IS	42.8	10 - 145		03-Jul-25 10:49	1
13C-PCB-159	IS	44.2	10 - 145		03-Jul-25 10:49	1
13C-PCB-167	IS	43.7	10 - 145		03-Jul-25 10:49	1
13C-PCB-169	IS	41.2	10 - 145		03-Jul-25 10:49	1
13C-PCB-170	IS	40.4	10 - 145		03-Jul-25 10:49	1
13C-PCB-180	IS	42.0	10 - 145		03-Jul-25 10:49	1
13C-PCB-188	IS	40.6	10 - 145		03-Jul-25 10:49	1
13C-PCB-189	IS	41.5	10 - 145		03-Jul-25 10:49	1
13C-PCB-194	IS	45.8	10 - 145		03-Jul-25 10:49	1
13C-PCB-202	IS	42.7	10 - 145		03-Jul-25 10:49	1
13C-PCB-206	IS	47.7	10 - 145		03-Jul-25 10:49	1
13C-PCB-208	IS	49.7	10 - 145		03-Jul-25 10:49	1
13C-PCB-209	IS	47.6	10 - 145		03-Jul-25 10:49	1
13C-PCB-79	CRS	52.3	10 - 145		03-Jul-25 10:49	1
13C-PCB-178	CRS	52.6	10 - 145		03-Jul-25 10:49	1

 EDL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 MDL - Method Detection Limit

Sample ID: 22B-U-S-20250609
EPA Method 1668C

Name:	Apex Laboratories	Lab Sample:	B25G002-MSD1	Source Lab Sample:	2506190-01
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25G002	Date Extracted:	01-Jul-25
Matrix:	Aqueous	Samp Size:	1.03/1.03 L	Column:	ZB-1
Date Analyzed:	03-Jul-25 22:24 03-Jul-25 12:49				

Analyte	Sample (pg/L)	MS (pg/L)	MS Spike Amt	MS % Rec	MS Quals	MSD (pg/L)	MSD Spike Amt	MSD % Rec	MSD RPD	MSD Quals	%Rec Limits	RPD Limits
PCB-1	ND	921	966	95.3		926	968	95.6	0.295		50-150	50
PCB-3	ND	835	970	86.1		847	972	87.2	1.18		50-150	50
PCB-4/10	10.1	2120	1960	108		2100	1960	107	1.20		50-150	50
PCB-15	4.31	1010	970	104		1010	972	104	0.285		50-150	50
PCB-19	4.55	977	979	99.3		979	981	99.3	0.0106		50-150	50
PCB-37	8.19	982	979	99.4		940	981	95.0	4.56		50-150	50
PCB-54	ND	933	979	95.3		923	981	94.1	1.35		50-150	50
PCB-77	48.7	1000	970	98.5		997	972	97.5	1.04		50-150	50
PCB-81	ND	939	970	96.8		944	972	97.1	0.314		50-150	50
PCB-104	ND	939	966	97.2		931	968	96.2	1.06		50-150	50
PCB-105	539	1470	979	95.2		1370	981	84.2	12.2		50-150	50
PCB-106/118	483	2150	1930	86.3		2020	1930	79.4	8.60		50-150	50
PCB-114	15.3	1040	970	105		1000	972	101	3.67		50-150	50
PCB-123	10.2	935	970	95.4		911	972	92.7	2.85		50-150	50
PCB-126	4.40	992	979	101		984	981	99.8	1.04		50-150	50
PCB-155	ND	926	962	96.2		920	964	95.4	0.880		50-150	50
PCB-156	54.0	975	979	94.0		959	981	92.2	1.94		50-150	50
PCB-157	14.1	962	970	97.7		946	972	95.8	1.91		50-150	50
PCB-167	12.8	942	970	95.8		927	972	94.0	1.83		50-150	50
PCB-169	ND	957	970	98.7		957	972	98.4	0.251		50-150	50
PCB-188	ND	990	960	103		981	962	102	1.08		50-150	50
PCB-189	1.51	948	970	97.6		941	972	96.7	0.972		50-150	50
PCB-202	ND	927	962	96.3		915	964	94.9	1.47		50-150	50
PCB-205	0.606	922	970	95.0		925	972	95.1	0.128		50-150	50
PCB-206	5.29	1000	979	102		985	981	99.9	2.01		50-150	50
PCB-208	1.22	964	970	99.3		963	972	98.9	0.347		50-150	50
PCB-209	1.59	977	962	101		968	964	100	1.18		50-150	50

Labeled Standards	Type	MS % Rec	MS Quals	MSD % Rec	MSD Quals	Limits
13C-PCB-1	IS	52.1		41.4		5 - 145
13C-PCB-3	IS	57.6		45.9		5 - 145
13C-PCB-4	IS	49.0		39.9		5 - 145
13C-PCB-9	IS	51.7		41.2		5 - 145
13C-PCB-11	IS	58.8		47.2		5 - 145
13C-PCB-19	IS	56.1		43.4		5 - 145
13C-PCB-28	IS	63.9		43.0		5 - 145
13C-PCB-32	IS	62.6		48.9		5 - 145
13C-PCB-37	IS	67.7		50.9		5 - 145
13C-PCB-47	IS	57.4		45.3		5 - 145
13C-PCB-52	IS	55.4		44.0		5 - 145
13C-PCB-54	IS	49.7		41.6		5 - 145
13C-PCB-70	IS	58.2		47.1		5 - 145
13C-PCB-77	IS	62.6		51.9		10 - 145
13C-PCB-80	IS	58.5		47.2		10 - 145
13C-PCB-81	IS	62.1		50.8		10 - 145
13C-PCB-95	IS	56.9		46.2		10 - 145
13C-PCB-97	IS	61.1		50.5		10 - 145
13C-PCB-101	IS	58.1		47.8		10 - 145
13C-PCB-104	IS	56.7		43.9		10 - 145

Sample ID: 22B-U-S-20250609
EPA Method 1668C

Name:	Apex Laboratories	Lab Sample:	B25G002-MSD1	Source Lab Sample:	2506190-01
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25G002	Date Extracted:	01-Jul-25
Matrix:	Aqueous	Samp Size:	1.03/1.03 L	Column:	ZB-1
Date Analyzed:	03-Jul-25 22:24				
	03-Jul-25 12:49				

Labeled Standards	Type	MS % Rec	MS Quals	MSD % Rec	MSD Quals	Limits
13C-PCB-105	IS	52.1		42.9		10 - 145
13C-PCB-114	IS	52.9		44.0		10 - 145
13C-PCB-118	IS	66.4		58.0		10 - 145
13C-PCB-123	IS	63.6		55.7		10 - 145
13C-PCB-126	IS	55.5		45.4		10 - 145
13C-PCB-127	IS	53.9		43.1		10 - 145
13C-PCB-138	IS	59.8		48.6		10 - 145
13C-PCB-141	IS	60.1		49.2		10 - 145
13C-PCB-153	IS	59.1		48.5		10 - 145
13C-PCB-155	IS	62.5		50.6		10 - 145
13C-PCB-156	IS	59.3		49.2		10 - 145
13C-PCB-157	IS	59.3		49.5		10 - 145
13C-PCB-159	IS	60.8		49.6		10 - 145
13C-PCB-167	IS	60.8		50.9		10 - 145
13C-PCB-169	IS	57.4		48.0		10 - 145
13C-PCB-170	IS	55.7		47.9		10 - 145
13C-PCB-180	IS	57.0		48.6		10 - 145
13C-PCB-188	IS	55.6		46.1		10 - 145
13C-PCB-189	IS	55.5		48.1		10 - 145
13C-PCB-194	IS	65.0		53.9		10 - 145
13C-PCB-202	IS	58.3		48.5		10 - 145
13C-PCB-206	IS	64.7		55.1		10 - 145
13C-PCB-208	IS	69.1		55.9		10 - 145
13C-PCB-209	IS	64.1		54.1		10 - 145
13C-PCB-79	CRS	67.1		55.3		10 - 145
13C-PCB-178	CRS	64.8		54.0		10 - 145

Sample ID: 22B-U-D-20250609

EPA Method 1668C

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	2506190-02	Date Received:	11-Jun-25 09:34
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25G002	Date Extracted:	01-Jul-25
Matrix:	Water	Sample Size:	1.01 L	Column:	ZB-1
Date Collected:	09-Jun-25 10:30				

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
PCB-1	ND		1.87	0.385		03-Jul-25 11:49	1
PCB-2	0.254		2.35		J	03-Jul-25 11:49	1
PCB-3	ND		3.05	0.206		03-Jul-25 11:49	1
PCB-4/10	9.66		2.44		J	03-Jul-25 11:49	1
PCB-5/8	1.47		3.59		J	03-Jul-25 11:49	1
PCB-6	ND	0.187	1.87			03-Jul-25 11:49	1
PCB-7/9	ND	0.187	2.20			03-Jul-25 11:49	1
PCB-11	8.28		5.13		B	03-Jul-25 11:49	1
PCB-12/13	ND	0.190	3.26			03-Jul-25 11:49	1
PCB-14	ND	0.186	1.41			03-Jul-25 11:49	1
PCB-15	3.81		1.96		J	03-Jul-25 11:49	1
PCB-16/32	14.5		1.63		B	03-Jul-25 11:49	1
PCB-17	7.05		1.43		B	03-Jul-25 11:49	1
PCB-18	20.8		1.92		B	03-Jul-25 11:49	1
PCB-19	4.40		0.843		J	03-Jul-25 11:49	1
PCB-20/21/33	3.68		4.43		J	03-Jul-25 11:49	1
PCB-22	4.23		2.04		J	03-Jul-25 11:49	1
PCB-23	ND	0.123	2.05			03-Jul-25 11:49	1
PCB-24/27	2.02		1.65		J	03-Jul-25 11:49	1
PCB-25	1.13		1.61		J	03-Jul-25 11:49	1
PCB-26	2.39		1.83		J	03-Jul-25 11:49	1
PCB-28	14.3		6.37		B	03-Jul-25 11:49	1
PCB-29	ND	0.133	1.60			03-Jul-25 11:49	1
PCB-30	ND	0.0925	1.11			03-Jul-25 11:49	1
PCB-31	16.2		5.70		B	03-Jul-25 11:49	1
PCB-34	ND	0.126	1.47			03-Jul-25 11:49	1
PCB-35	0.500		1.65		J	03-Jul-25 11:49	1
PCB-36	ND	0.118	1.43			03-Jul-25 11:49	1
PCB-37	7.29		1.21			03-Jul-25 11:49	1
PCB-38	ND	0.128	1.71			03-Jul-25 11:49	1
PCB-39	ND	0.121	1.58			03-Jul-25 11:49	1
PCB-40	10.1		2.24			03-Jul-25 11:49	1
PCB-41/64/71/72	38.5		4.21			03-Jul-25 11:49	1
PCB-42/59	10.5		2.00		B	03-Jul-25 11:49	1
PCB-43/49	20.7		3.84		B	03-Jul-25 11:49	1
PCB-44	37.7		13.1			03-Jul-25 11:49	1
PCB-45	ND		1.59	3.34		03-Jul-25 11:49	1
PCB-46	1.72		1.56		J	03-Jul-25 11:49	1
PCB-47	6.70		3.19			03-Jul-25 11:49	1
PCB-48/75	4.83		2.78		J, B	03-Jul-25 11:49	1
PCB-50	ND	0.176	1.88			03-Jul-25 11:49	1
PCB-51	ND		1.14	0.836		03-Jul-25 11:49	1
PCB-52/69	35.4		15.4		B	03-Jul-25 11:49	1
PCB-53	3.46		1.56		J	03-Jul-25 11:49	1
PCB-54	ND	0.130	1.30			03-Jul-25 11:49	1
PCB-55	ND		1.23	1.04		03-Jul-25 11:49	1
PCB-56/60	133		4.66		B	03-Jul-25 11:49	1
PCB-57	ND	0.130	1.08			03-Jul-25 11:49	1
PCB-58	ND	0.123	1.32			03-Jul-25 11:49	1
PCB-61/70	144		3.07		B	03-Jul-25 11:49	1
PCB-62	ND	0.128	1.31			03-Jul-25 11:49	1
PCB-63	ND		1.10	2.67		03-Jul-25 11:49	1

Sample ID: 22B-U-D-20250609

EPA Method 1668C

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	2506190-02	Date Received:	11-Jun-25 09:34
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25G002	Date Extracted:	01-Jul-25
Matrix:	Water	Sample Size:	1.01 L	Column:	ZB-1
Date Collected:	09-Jun-25 10:30				

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
PCB-65	ND	0.133	1.39			03-Jul-25 11:49	1
PCB-66/76	108		2.63			03-Jul-25 11:49	1
PCB-67	1.36		1.19		J	03-Jul-25 11:49	1
PCB-68	ND	0.120	1.92			03-Jul-25 11:49	1
PCB-73	ND	0.125	1.43			03-Jul-25 11:49	1
PCB-74	47.9		1.38			03-Jul-25 11:49	1
PCB-77	37.3		1.89			03-Jul-25 11:49	1
PCB-78	ND	0.129	1.21			03-Jul-25 11:49	1
PCB-79	ND		1.29	0.711		03-Jul-25 11:49	1
PCB-80	ND	0.108	0.799			03-Jul-25 11:49	1
PCB-81	1.11		1.13		J	03-Jul-25 11:49	1
PCB-82	51.0		1.83			03-Jul-25 11:49	1
PCB-83	ND	0.136	1.22			03-Jul-25 11:49	1
PCB-84/92	35.8		1.73			03-Jul-25 11:49	1
PCB-85/116	44.8		2.11			03-Jul-25 11:49	1
PCB-86	1.65		2.03		J	03-Jul-25 11:49	1
PCB-87/117/125	65.2		2.96			03-Jul-25 11:49	1
PCB-88/91	11.0		2.30			03-Jul-25 11:49	1
PCB-89	1.79		1.09		J	03-Jul-25 11:49	1
PCB-90/101	99.5		2.21			03-Jul-25 11:49	1
PCB-93	2.22		2.77		J	03-Jul-25 11:49	1
PCB-94	ND	0.234	1.77			03-Jul-25 11:49	1
PCB-95/98/102	44.7		2.14			03-Jul-25 11:49	1
PCB-96	0.516		1.39		J	03-Jul-25 11:49	1
PCB-97	51.1		1.00			03-Jul-25 11:49	1
PCB-99	50.2		1.95			03-Jul-25 11:49	1
PCB-100	ND	0.187	1.48			03-Jul-25 11:49	1
PCB-103	ND	0.180	1.26			03-Jul-25 11:49	1
PCB-104	ND	0.157	1.08			03-Jul-25 11:49	1
PCB-105	381		1.62			03-Jul-25 11:49	1
PCB-106/118	352		3.00			03-Jul-25 11:49	1
PCB-107/109	18.8		1.87			03-Jul-25 11:49	1
PCB-108/112	6.33		2.91		J	03-Jul-25 11:49	1
PCB-110	210		2.76			03-Jul-25 11:49	1
PCB-111/115	4.65		2.29		J	03-Jul-25 11:49	1
PCB-113	ND	0.154	0.990			03-Jul-25 11:49	1
PCB-114	11.8		0.971			03-Jul-25 11:49	1
PCB-119	2.15		0.974		J	03-Jul-25 11:49	1
PCB-120	ND	0.122	1.45			03-Jul-25 11:49	1
PCB-121	ND	0.131	1.71			03-Jul-25 11:49	1
PCB-122	5.97		1.75			03-Jul-25 11:49	1
PCB-123	7.68		1.44			03-Jul-25 11:49	1
PCB-124	7.69		1.21			03-Jul-25 11:49	1
PCB-126	ND		1.66	2.71		03-Jul-25 11:49	1
PCB-127	ND	0.203	1.52			03-Jul-25 11:49	1
PCB-128/162	35.4		1.72			03-Jul-25 11:49	1
PCB-129	10.6		1.86			03-Jul-25 11:49	1
PCB-130	8.23		2.23			03-Jul-25 11:49	1
PCB-131/133	1.69		2.60		J	03-Jul-25 11:49	1
PCB-132/161	20.8		2.41			03-Jul-25 11:49	1
PCB-134/143	3.06		1.74		J	03-Jul-25 11:49	1
PCB-135	4.92		2.38		J	03-Jul-25 11:49	1

Sample ID: 22B-U-D-20250609

EPA Method 1668C

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	2506190-02	Date Received:	11-Jun-25 09:34
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25G002	Date Extracted:	01-Jul-25
Matrix:	Water	Sample Size:	1.01 L	Column:	ZB-1
Date Collected:	09-Jun-25 10:30				

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
PCB-136	4.61		1.60		J	03-Jul-25 11:49	1
PCB-137	7.97		1.46			03-Jul-25 11:49	1
PCB-138/163/164	131		2.52		B	03-Jul-25 11:49	1
PCB-139/149	41.7		3.58			03-Jul-25 11:49	1
PCB-140	ND	0.0798	1.69			03-Jul-25 11:49	1
PCB-141	14.0		1.15			03-Jul-25 11:49	1
PCB-142	ND	0.164	1.62			03-Jul-25 11:49	1
PCB-144	2.43		1.73		J	03-Jul-25 11:49	1
PCB-145	ND	0.0587	1.84			03-Jul-25 11:49	1
PCB-146/165	8.52		2.64		J	03-Jul-25 11:49	1
PCB-147	ND		1.59	1.34		03-Jul-25 11:49	1
PCB-148	ND	0.0775	1.78			03-Jul-25 11:49	1
PCB-150	ND	0.0597	1.43			03-Jul-25 11:49	1
PCB-151	9.47		2.16			03-Jul-25 11:49	1
PCB-152	ND	0.0554	1.06			03-Jul-25 11:49	1
PCB-153	64.7		2.18			03-Jul-25 11:49	1
PCB-154	ND		1.37	0.473		03-Jul-25 11:49	1
PCB-155	ND	0.0630	1.26			03-Jul-25 11:49	1
PCB-156	33.6		1.62			03-Jul-25 11:49	1
PCB-157	8.98		1.21			03-Jul-25 11:49	1
PCB-158/160	14.3		2.38			03-Jul-25 11:49	1
PCB-159	ND	0.111	1.31			03-Jul-25 11:49	1
PCB-166	ND		1.17	0.819		03-Jul-25 11:49	1
PCB-167	8.28		0.881			03-Jul-25 11:49	1
PCB-168	ND	0.113	0.884			03-Jul-25 11:49	1
PCB-169	ND		1.44	0.255		03-Jul-25 11:49	1
PCB-170	15.9		1.51			03-Jul-25 11:49	1
PCB-171	3.04		1.25		J	03-Jul-25 11:49	1
PCB-172	2.67		1.66		J	03-Jul-25 11:49	1
PCB-173	ND		1.41	0.325		03-Jul-25 11:49	1
PCB-174	11.7		1.53			03-Jul-25 11:49	1
PCB-175	ND		1.12	0.368		03-Jul-25 11:49	1
PCB-176	1.14		0.808		J	03-Jul-25 11:49	1
PCB-177	ND		1.56	5.84		03-Jul-25 11:49	1
PCB-178	2.19		1.59		J	03-Jul-25 11:49	1
PCB-179	3.96		1.05		J	03-Jul-25 11:49	1
PCB-180	31.2		1.76			03-Jul-25 11:49	1
PCB-181	ND	0.0890	1.14			03-Jul-25 11:49	1
PCB-182/187	17.0		2.31			03-Jul-25 11:49	1
PCB-183	6.83		1.48			03-Jul-25 11:49	1
PCB-184	ND	0.0673	0.942			03-Jul-25 11:49	1
PCB-185	ND		1.27	1.76		03-Jul-25 11:49	1
PCB-186	ND	0.0637	0.976			03-Jul-25 11:49	1
PCB-188	ND	0.0634	1.05			03-Jul-25 11:49	1
PCB-189	0.978		1.25		J	03-Jul-25 11:49	1
PCB-190	3.40		1.43		J	03-Jul-25 11:49	1
PCB-191	0.498		1.83		J	03-Jul-25 11:49	1
PCB-192	ND	0.0731	1.68			03-Jul-25 11:49	1
PCB-193	1.33		1.79		J	03-Jul-25 11:49	1
PCB-194	5.39		2.08		B	03-Jul-25 11:49	1
PCB-195	ND		1.53	1.83		03-Jul-25 11:49	1
PCB-196/203	7.82		2.32		J	03-Jul-25 11:49	1

Sample ID: 22B-U-D-20250609

EPA Method 1668C

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	2506190-02	Date Received:	11-Jun-25 09:34
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25G002	Date Extracted:	01-Jul-25
Matrix:	Water	Sample Size:	1.01 L	Column:	ZB-1
Date Collected:	09-Jun-25 10:30				

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
PCB-197	0.244		1.44		J	03-Jul-25 11:49	1
PCB-198	0.348		2.05		J	03-Jul-25 11:49	1
PCB-199	7.40		1.47			03-Jul-25 11:49	1
PCB-200	ND		0.882	0.680		03-Jul-25 11:49	1
PCB-201	ND		1.32	0.765		03-Jul-25 11:49	1
PCB-202	1.36		1.23		J	03-Jul-25 11:49	1
PCB-204	ND	0.0780	1.05			03-Jul-25 11:49	1
PCB-205	ND	0.127	1.55			03-Jul-25 11:49	1
PCB-206	3.19		1.60		J	03-Jul-25 11:49	1
PCB-207	ND		1.55	0.285		03-Jul-25 11:49	1
PCB-208	ND		1.52	0.741		03-Jul-25 11:49	1
PCB-209	2.04		1.91		J	03-Jul-25 11:49	1

Totals							
Total monoCB	0.254			0.845			
Total diCB	23.2						
Total triCB	98.5						
Total tetraCB	643			651			
Total pentaCB	1470			1470			
Total hexaCB	434			437			
Total heptaCB	102			110			
Total octaCB	22.6			25.8			
Total nonaCB	3.19			4.22			
DecaCB	2.04						
Total PCB	2800						

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-PCB-1	IS	42.6	5 - 145		03-Jul-25 11:49	1
13C-PCB-3	IS	45.1	5 - 145		03-Jul-25 11:49	1
13C-PCB-4	IS	39.5	5 - 145		03-Jul-25 11:49	1
13C-PCB-9	IS	41.8	5 - 145		03-Jul-25 11:49	1
13C-PCB-11	IS	47.7	5 - 145		03-Jul-25 11:49	1
13C-PCB-19	IS	44.9	5 - 145		03-Jul-25 11:49	1
13C-PCB-28	IS	49.0	5 - 145		03-Jul-25 11:49	1
13C-PCB-32	IS	50.0	5 - 145		03-Jul-25 11:49	1
13C-PCB-37	IS	50.8	5 - 145		03-Jul-25 11:49	1
13C-PCB-47	IS	44.5	5 - 145		03-Jul-25 11:49	1
13C-PCB-52	IS	42.2	5 - 145		03-Jul-25 11:49	1
13C-PCB-54	IS	38.5	5 - 145		03-Jul-25 11:49	1
13C-PCB-70	IS	43.9	5 - 145		03-Jul-25 11:49	1
13C-PCB-77	IS	47.0	10 - 145		03-Jul-25 11:49	1
13C-PCB-80	IS	45.3	10 - 145		03-Jul-25 11:49	1
13C-PCB-81	IS	46.0	10 - 145		03-Jul-25 11:49	1
13C-PCB-95	IS	44.4	10 - 145		03-Jul-25 11:49	1
13C-PCB-97	IS	46.8	10 - 145		03-Jul-25 11:49	1
13C-PCB-101	IS	45.1	10 - 145		03-Jul-25 11:49	1
13C-PCB-104	IS	44.1	10 - 145		03-Jul-25 11:49	1
13C-PCB-105	IS	39.0	10 - 145		03-Jul-25 11:49	1
13C-PCB-114	IS	39.6	10 - 145		03-Jul-25 11:49	1
13C-PCB-118	IS	50.6	10 - 145		03-Jul-25 11:49	1
13C-PCB-123	IS	48.1	10 - 145		03-Jul-25 11:49	1

Sample ID: 22B-U-D-20250609
EPA Method 1668C
Client Data

 Name: Apex Laboratories
 Project: A5F1150 / RP Portland Harbor
 Matrix: Water
 Date Collected: 09-Jun-25 10:30

Laboratory Data

 Lab Sample: 2506190-02 Date Received: 11-Jun-25 09:34
 QC Batch: B25G002 Date Extracted: 01-Jul-25
 Sample Size: 1.01 L Column: ZB-1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-PCB-126	IS	40.7	10 - 145		03-Jul-25 11:49	1
13C-PCB-127	IS	39.3	10 - 145		03-Jul-25 11:49	1
13C-PCB-138	IS	44.5	10 - 145		03-Jul-25 11:49	1
13C-PCB-141	IS	44.9	10 - 145		03-Jul-25 11:49	1
13C-PCB-153	IS	45.0	10 - 145		03-Jul-25 11:49	1
13C-PCB-155	IS	49.1	10 - 145		03-Jul-25 11:49	1
13C-PCB-156	IS	43.8	10 - 145		03-Jul-25 11:49	1
13C-PCB-157	IS	43.5	10 - 145		03-Jul-25 11:49	1
13C-PCB-159	IS	45.8	10 - 145		03-Jul-25 11:49	1
13C-PCB-167	IS	45.7	10 - 145		03-Jul-25 11:49	1
13C-PCB-169	IS	42.7	10 - 145		03-Jul-25 11:49	1
13C-PCB-170	IS	41.7	10 - 145		03-Jul-25 11:49	1
13C-PCB-180	IS	43.8	10 - 145		03-Jul-25 11:49	1
13C-PCB-188	IS	43.0	10 - 145		03-Jul-25 11:49	1
13C-PCB-189	IS	42.1	10 - 145		03-Jul-25 11:49	1
13C-PCB-194	IS	48.7	10 - 145		03-Jul-25 11:49	1
13C-PCB-202	IS	45.1	10 - 145		03-Jul-25 11:49	1
13C-PCB-206	IS	49.1	10 - 145		03-Jul-25 11:49	1
13C-PCB-208	IS	52.4	10 - 145		03-Jul-25 11:49	1
13C-PCB-209	IS	47.7	10 - 145		03-Jul-25 11:49	1
13C-PCB-79	CRS	49.5	10 - 145		03-Jul-25 11:49	1
13C-PCB-178	CRS	49.2	10 - 145		03-Jul-25 11:49	1

 EDL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 MDL - Method Detection Limit

Sample ID: Method Blank
EPA Method 1699

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	B25F186-BLK1	Date Extracted:	16-Jun-25
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25F186	Column:	ZB-50
Matrix:	Aqueous	Sample Size:	1.00 L		

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
Hexachlorobenzene	6.05		17.5		J	25-Jun-25 18:19	1
alpha-BHC	ND	4.13	6.59			25-Jun-25 18:19	1
Lindane (gamma-BHC)	ND	6.35	8.45			25-Jun-25 18:19	1
beta-BHC	ND	6.25	8.68			25-Jun-25 18:19	1
delta-BHC	ND	5.30	8.50			25-Jun-25 18:19	1
Heptachlor	ND	0.774	24.0			25-Jun-25 18:19	1
Aldrin	ND	1.61	9.55			25-Jun-25 18:19	1
Oxychlordane	ND	4.55	10.1			25-Jun-25 18:19	1
cis-Heptachlor Epoxide	ND	3.24	12.7			25-Jun-25 18:19	1
trans-Heptachlor Epoxide	ND	14.6	22.4			25-Jun-25 18:19	1
trans-Chlordane (gamma)	ND	4.42	14.2			25-Jun-25 18:19	1
trans-Nonachlor	ND	3.98	11.8			25-Jun-25 18:19	1
cis-Chlordane (alpha)	ND	3.94	28.0			25-Jun-25 18:19	1
Endosulfan I (alpha)	ND	6.36	94.8			25-Jun-25 18:19	1
2,4'-DDE	ND	4.64	8.57			25-Jun-25 18:19	1
4,4'-DDE	ND	5.70	14.6			25-Jun-25 18:19	1
Dieldrin	ND	3.57	18.8			25-Jun-25 18:19	1
Endrin	ND	4.97	14.9			25-Jun-25 18:19	1
cis-Nonachlor	ND	6.17	11.4			25-Jun-25 18:19	1
Endosulfan II (beta)	ND	22.4	65.1			25-Jun-25 18:19	1
2,4'-DDD	ND	9.92	9.77			25-Jun-25 18:19	1
2,4'-DDT	ND	14.9	11.7			25-Jun-25 18:19	1
4,4'-DDD	ND	10.9	9.23			25-Jun-25 18:19	1
4,4'-DDT	ND	16.9	11.3			25-Jun-25 18:19	1
Endosulfan Sulfate	ND	14.6	36.6			25-Jun-25 18:19	1
4,4'-Methoxychlor	ND	3.23	26.6			25-Jun-25 18:19	1
Mirex	ND	2.37	7.97			25-Jun-25 18:19	1
Endrin Aldehyde	ND	6.43	54.7			25-Jun-25 18:19	1
Endrin Ketone	ND	6.01	50.5			25-Jun-25 18:19	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C6-Hexachlorobenzene	IS	43.8	5 - 120		25-Jun-25 18:19	1
13C6-alpha-BHC	IS	54.6	32 - 130		25-Jun-25 18:19	1
13C6-Lindane (gamma-BHC)	IS	53.8	11 - 120		25-Jun-25 18:19	1
13C6-beta-BHC	IS	51.3	32 - 130		25-Jun-25 18:19	1
13C6-delta-BHC	IS	51.0	36 - 137		25-Jun-25 18:19	1
13C10-Heptachlor	IS	44.5	5 - 120		25-Jun-25 18:19	1
13C12-Aldrin	IS	45.5	5 - 120		25-Jun-25 18:19	1
13C10-Oxychlordane	IS	45.4	23 - 135		25-Jun-25 18:19	1
13C10-cis-Heptachlor Epoxide	IS	48.1	27 - 137		25-Jun-25 18:19	1
13C10-trans-Chlordane (gamma)	IS	46.5	21 - 132		25-Jun-25 18:19	1
13C10-trans-Nonachlor	IS	46.1	14 - 136		25-Jun-25 18:19	1
13C9-Endosulfan I (alpha)	IS	46.6	15 - 148		25-Jun-25 18:19	1
13C12-2,4'-DDE	IS	51.1	47 - 160		25-Jun-25 18:19	1
13C12-4,4'-DDE	IS	51.0	47 - 160		25-Jun-25 18:19	1
13C12-Dieldrin	IS	47.3	40 - 151		25-Jun-25 18:19	1
13C12-Endrin	IS	43.9	35 - 155		25-Jun-25 18:19	1
13C10-cis-Nonachlor	IS	42.3	36 - 139		25-Jun-25 18:19	1
13C9-Endosulfan II (beta)	IS	42.9	5 - 122		25-Jun-25 18:19	1
13C12-2,4'-DDD	IS	51.7	5 - 199		25-Jun-25 18:19	1
13C12-2,4'-DDT	IS	49.6	5 - 199		25-Jun-25 18:19	1
13C12-4,4'-DDD	IS	48.8	5 - 120		25-Jun-25 18:19	1

Sample ID: Method Blank
EPA Method 1699

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	B25F186-BLK1		
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25F186	Date Extracted:	16-Jun-25
Matrix:	Aqueous	Sample Size:	1.00 L	Column:	ZB-50

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C12-4,4'-DDT	IS	45.6	5 - 120		25-Jun-25 18:19	1
13C9-Endosulfan Sulfate	IS	43.8	15 - 148		25-Jun-25 18:19	1
13C12-Methoxychlor	IS	43.9	5 - 120		25-Jun-25 18:19	1
13C10-Mirex	IS	42.7	5 - 120		25-Jun-25 18:19	1
13C12-Endrin Aldehyde	IS	35.0	15 - 148		25-Jun-25 18:19	1
13C12-Endrin Ketone	IS	44.7	15 - 148		25-Jun-25 18:19	1

EDL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 MDL - Method Detection Limit

Sample ID: OPR
EPA Method 1699

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	B25F186-BS1	Date Extracted:	16-Jun-25 07:36
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25F186	Column:	ZB-50
Matrix:	Aqueous	Sample Size:	1.00 L		

Analyte	Amt Found (pg/L)	Spike Amt	% Recovery	Limits	Qualifiers	Analyzed	Dilution
Hexachlorobenzene	1010	1000	101	50-120	B	25-Jun-25 16:43	1
alpha-BHC	994	1000	99.4	50-120		25-Jun-25 16:43	1
Lindane (gamma-BHC)	970	1000	97.0	50-120		25-Jun-25 16:43	1
beta-BHC	1030	1000	103	50-120		25-Jun-25 16:43	1
delta-BHC	1000	1000	100	50-120		25-Jun-25 16:43	1
Heptachlor	1000	1000	100	50-120		25-Jun-25 16:43	1
Aldrin	979	1000	97.9	50-120		25-Jun-25 16:43	1
Oxychlordane	985	1000	98.5	50-120		25-Jun-25 16:43	1
cis-Heptachlor Epoxide	980	1000	98.0	50-120		25-Jun-25 16:43	1
trans-Heptachlor Epoxide	1030	1000	103	50-120		25-Jun-25 16:43	1
trans-Chlordane (gamma)	995	1000	99.5	50-120		25-Jun-25 16:43	1
trans-Nonachlor	945	1000	94.5	50-120		25-Jun-25 16:43	1
cis-Chlordane (alpha)	994	1000	99.4	50-120		25-Jun-25 16:43	1
Endosulfan I (alpha)	984	1000	98.4	50-120		25-Jun-25 16:43	1
2,4'-DDE	951	1000	95.1	24-123		25-Jun-25 16:43	1
4,4'-DDE	972	1000	97.2	50-120		25-Jun-25 16:43	1
Dieldrin	1030	1000	103	50-120		25-Jun-25 16:43	1
Endrin	1030	1000	103	50-120		25-Jun-25 16:43	1
cis-Nonachlor	1010	1000	101	50-120		25-Jun-25 16:43	1
Endosulfan II (beta)	836	1000	83.6	5-200		25-Jun-25 16:43	1
2,4'-DDD	1050	1000	105	50-120		25-Jun-25 16:43	1
2,4'-DDT	1010	1000	101	50-120		25-Jun-25 16:43	1
4,4'-DDD	1010	1000	101	42-120		25-Jun-25 16:43	1
4,4'-DDT	984	1000	98.4	50-120		25-Jun-25 16:43	1
Endosulfan Sulfate	1000	1000	100	50-120		25-Jun-25 16:43	1
4,4'-Methoxychlor	964	1000	96.4	50-120		25-Jun-25 16:43	1
Mirex	1000	1000	100	50-120		25-Jun-25 16:43	1
Endrin Aldehyde	916	1000	91.6	50-134		25-Jun-25 16:43	1
Endrin Ketone	933	990	94.3	50-134		25-Jun-25 16:43	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C6-Hexachlorobenzene	IS	39.0	5-120		25-Jun-25 16:43	1
13C6-alpha-BHC	IS	48.7	17-141		25-Jun-25 16:43	1
13C6-Lindane (gamma-BHC)	IS	48.7	5-124		25-Jun-25 16:43	1
13C6-beta-BHC	IS	47.7	17-141		25-Jun-25 16:43	1
13C6-delta-BHC	IS	47.5	16-150		25-Jun-25 16:43	1
13C10-Heptachlor	IS	39.7	5-128		25-Jun-25 16:43	1
13C12-Aldrin	IS	39.6	5-126		25-Jun-25 16:43	1
13C10-Oxychlordane	IS	41.9	5-144		25-Jun-25 16:43	1
13C10-cis-Heptachlor Epoxide	IS	43.4	8-146		25-Jun-25 16:43	1
13C10-trans-Chlordane (gamma)	IS	43.6	15-144		25-Jun-25 16:43	1
13C10-trans-Nonachlor	IS	42.1	13-149		25-Jun-25 16:43	1
13C9-Endosulfan I (alpha)	IS	42.5	5-144		25-Jun-25 16:43	1
13C12-2,4'-DDE	IS	45.8	26-169		25-Jun-25 16:43	1
13C12-4,4'-DDE	IS	43.9	26-169		25-Jun-25 16:43	1

Sample ID: OPR
EPA Method 1699
Client Data

 Name: Apex Laboratories
 Project: A5F1150 / RP Portland Harbor
 Matrix: Aqueous

Laboratory Data

 Lab Sample: B25F186-BS1
 QC Batch: B25F186
 Sample Size: 1.00 L
 Date Extracted: 16-Jun-25 07:36
 Column: ZB-50

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C12-Dieldrin	IS	39.5	19 -161		25-Jun-25 16:43	1
13C12-Endrin	IS	35.6	20 -157		25-Jun-25 16:43	1
13C10-cis-Nonachlor	IS	37.6	17 -154		25-Jun-25 16:43	1
13C9-Endosulfan II (beta)	IS	40.3	5 -120		25-Jun-25 16:43	1
13C12-2,4'-DDD	IS	44.4	14 -200		25-Jun-25 16:43	1
13C12-2,4'-DDT	IS	43.7	14 -200		25-Jun-25 16:43	1
13C12-4,4'-DDD	IS	42.5	14 -200		25-Jun-25 16:43	1
13C12-4,4'-DDT	IS	39.6	13 -200		25-Jun-25 16:43	1
13C9-Endosulfan Sulfate	IS	37.6	5 -144		25-Jun-25 16:43	1
13C12-Methoxychlor	IS	36.3	8 -200		25-Jun-25 16:43	1
13C10-Mirex	IS	34.4	5 -138		25-Jun-25 16:43	1
13C12-Endrin Aldehyde	IS	29.9	5 -144		25-Jun-25 16:43	1
13C12-Endrin Ketone	IS	38.3	5 -144		25-Jun-25 16:43	1

Sample ID: 22B-U-S-20250609

EPA Method 1699

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	2506190-01	Date Received:	11-Jun-25 09:34
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25F186	Date Extracted:	16-Jun-25
Matrix:	Water	Sample Size:	1.05 L	Column:	ZB-50
Date Collected:	09-Jun-25 09:10				

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
Hexachlorobenzene	129		16.7		B	25-Jun-25 22:21	1
alpha-BHC	595		6.30			25-Jun-25 22:21	1
Lindane (gamma-BHC)	149		8.08			25-Jun-25 22:21	1
beta-BHC	1690		8.30			25-Jun-25 22:21	1
delta-BHC	695		8.13			25-Jun-25 22:21	1
Heptachlor	ND		23.0	16.1		25-Jun-25 22:21	1
Aldrin	99.8		9.13			25-Jun-25 22:21	1
Oxychlordane	ND	11.9	9.66			25-Jun-25 22:21	1
cis-Heptachlor Epoxide	89.5		12.1			25-Jun-25 22:21	1
trans-Heptachlor Epoxide	187		21.4			25-Jun-25 22:21	1
trans-Chlordane (gamma)	969		13.6			25-Jun-25 22:21	1
trans-Nonachlor	567		11.3			25-Jun-25 22:21	1
cis-Chlordane (alpha)	768		26.8			25-Jun-25 22:21	1
Endosulfan I (alpha)	87.7		90.7		J	25-Jun-25 22:21	1
2,4'-DDE	76.3		8.20			25-Jun-25 22:21	1
4,4'-DDE	894		14.0			25-Jun-25 22:21	1
Dieldrin	11100		18.0			25-Jun-25 22:21	1
Endrin	532		14.3			25-Jun-25 22:21	1
cis-Nonachlor	194		10.9			25-Jun-25 22:21	1
Endosulfan II (beta)	148		62.3		J	25-Jun-25 22:21	1
2,4'-DDD	1600		9.34			25-Jun-25 22:21	1
2,4'-DDT	127		11.2			25-Jun-25 22:21	1
4,4'-DDD	3480		8.83			25-Jun-25 22:21	1
4,4'-DDT	1980		10.8			25-Jun-25 22:21	1
Endosulfan Sulfate	192		35.0			25-Jun-25 22:21	1
4,4'-Methoxychlor	112		25.4		J	25-Jun-25 22:21	1
Mirex	12.5		7.62		J	25-Jun-25 22:21	1
Endrin Aldehyde	ND	9.94	52.3			25-Jun-25 22:21	1
Endrin Ketone	376		48.3			25-Jun-25 22:21	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C6-Hexachlorobenzene	IS	37.5	5 - 120		25-Jun-25 22:21	1
13C6-alpha-BHC	IS	47.8	32 - 130		25-Jun-25 22:21	1
13C6-Lindane (gamma-BHC)	IS	45.8	11 - 120		25-Jun-25 22:21	1
13C6-beta-BHC	IS	45.6	32 - 130		25-Jun-25 22:21	1
13C6-delta-BHC	IS	43.9	36 - 137		25-Jun-25 22:21	1
13C10-Heptachlor	IS	40.3	5 - 120		25-Jun-25 22:21	1
13C12-Aldrin	IS	41.0	5 - 120		25-Jun-25 22:21	1
13C10-Oxychlordane	IS	41.2	23 - 135		25-Jun-25 22:21	1
13C10-cis-Heptachlor Epoxide	IS	39.8	27 - 137		25-Jun-25 22:21	1
13C10-trans-Chlordane (gamma)	IS	40.6	21 - 132		25-Jun-25 22:21	1
13C10-trans-Nonachlor	IS	38.6	14 - 136		25-Jun-25 22:21	1
13C9-Endosulfan I (alpha)	IS	38.8	15 - 148		25-Jun-25 22:21	1
13C12-2,4'-DDE	IS	42.8	47 - 160	H	25-Jun-25 22:21	1
13C12-4,4'-DDE	IS	41.5	47 - 160	H	25-Jun-25 22:21	1
13C12-Dieldrin	IS	34.1	40 - 151	H	25-Jun-25 22:21	1
13C12-Endrin	IS	32.2	35 - 155	H	25-Jun-25 22:21	1
13C10-cis-Nonachlor	IS	28.9	36 - 139	H	25-Jun-25 22:21	1
13C9-Endosulfan II (beta)	IS	35.2	5 - 122		25-Jun-25 22:21	1
13C12-2,4'-DDD	IS	39.4	5 - 199		25-Jun-25 22:21	1
13C12-2,4'-DDT	IS	38.9	5 - 199		25-Jun-25 22:21	1
13C12-4,4'-DDD	IS	37.6	5 - 120		25-Jun-25 22:21	1

Sample ID: 22B-U-S-20250609
EPA Method 1699
Client Data

 Name: Apex Laboratories
 Project: A5F1150 / RP Portland Harbor
 Matrix: Water
 Date Collected: 09-Jun-25 09:10

Laboratory Data

 Lab Sample: 2506190-01 Date Received: 11-Jun-25 09:34
 QC Batch: B25F186 Date Extracted: 16-Jun-25
 Sample Size: 1.05 L Column: ZB-50

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C12-4,4'-DDT	IS	38.5	5 - 120		25-Jun-25 22:21	1
13C9-Endosulfan Sulfate	IS	30.6	15 - 148		25-Jun-25 22:21	1
13C12-Methoxychlor	IS	36.3	5 - 120		25-Jun-25 22:21	1
13C10-Mirex	IS	34.4	5 - 120		25-Jun-25 22:21	1
13C12-Endrin Aldehyde	IS	26.5	15 - 148		25-Jun-25 22:21	1
13C12-Endrin Ketone	IS	35.9	15 - 148		25-Jun-25 22:21	1

 EDL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 MDL - Method Detection Limit

Sample ID: 22B-U-S-20250609
EPA Method 1699

Name:	Apex Laboratories	Lab Sample:	B25F186-MSD1	Source Lab Sample:	2506190-01
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25F186	Date Extracted:	16-Jun-25
Matrix:	Aqueous	Samp Size:	1.04/1.04 L	Column:	ZB-50
Date Analyzed:	25-Jun-25 23:09 26-Jun-25 12:48				

Analyte	Sample (pg/L)	MS (pg/L)	MS Spike Amt	MS % Rec	MS Quals	MSD (pg/L)	MSD Spike Amt	MSD % Rec	MSD RPD	MSD Quals	%Rec Limits	RPD Limits
Hexachlorobenzene	129	1060	963	96.9	B	1080	959	98.8	1.89	B	50 150	25
alpha-BHC	595	1620	963	106		1620	959	107	0.751		50 150	25
Lindane (gamma-BHC)	149	1150	963	104		1180	959	107	2.89		50 150	25
beta-BHC	1690	2560	963	90.4		2610	959	95.3	5.22		50 150	25
delta-BHC	695	1670	963	101		1690	959	104	2.38		50 150	25
Heptachlor	ND	1000	963	104		957	959	99.8	4.39		50 150	25
Aldrin	99.8	993	963	92.8		997	959	93.6	0.784		50 150	25
Oxychlordane	ND	969	963	101		1020	959	107	5.80		50 150	25
cis-Heptachlor Epoxide	89.5	1020	963	97.0		1020	959	97.4	0.365		50 150	25
trans-Heptachlor Epoxide	187	1260	963	112		856	959	69.8	46.2	H	50 150	25
trans-Chlordane (gamma)	969	1130	963	17.0	H	978	959	0.952	179	H	50 150	25
trans-Nonachlor	567	1060	963	50.7		1120	959	58.0	13.3		50 150	25
cis-Chlordane (alpha)	768	1100	963	34.5	H	1180	959	43.3	22.5	H	50 150	25
Endosulfan I (alpha)	87.7	961	963	90.6		996	959	94.7	3.98		50 150	25
2,4'-DDE	76.3	972	963	93.0		974	959	93.6	0.600		50 150	25
4,4'-DDE	894	1070	963	18.0	H	1070	959	18.5	2.72	H	50 150	25
Dieldrin	11100	5050	963	-626	H	5030	959	-631	-0.738	H	50 150	25
Endrin	532	1310	963	81.0		1290	959	79.4	2.13		50 150	25
cis-Nonachlor	194	1030	963	86.8		934	959	77.1	11.8		50 150	25
Endosulfan II (beta)	148	832	963	71.1		1210	959	111	43.8	H	5 150	25
2,4'-DDD	1600	1230	963	-38.5	H	1280	959	-34.2	-12.0	H	50 150	25
2,4'-DDT	127	994	963	90.1		1020	959	93.0	3.08		50 150	25
4,4'-DDD	3480	1520	963	-204	H	1480	959	-209	-2.50	H	50 150	25
4,4'-DDT	1980	1050	963	-96.1	H	1060	959	-95.5	-0.716	H	50 150	25
Endosulfan Sulfate	192	1120	963	96.9		1070	959	91.6	5.66		50 150	25
4,4'-Methoxychlor	112	978	963	89.9		995	959	92.1	2.32		50 150	25
Mirex	12.5	997	963	102		983	959	101	1.13		50 150	25
Endrin Aldehyde	ND	980	963	102		962	959	100	1.46		50 150	25
Endrin Ketone	376	1300	953	97.3		1290	950	96.1	1.21		50 150	25

Labeled Standards	Type	MS % Rec	MS Quals	MSD % Rec	MSD Quals	Limits
13C6-Hexachlorobenzene	IS	38.3		37.4		5 - 120
13C6-alpha-BHC	IS	51.4		52.7		32 - 130
13C6-Lindane (gamma-BHC)	IS	49.6		51.4		11 - 120
13C6-beta-BHC	IS	49.6		51.7		32 - 130
13C6-delta-BHC	IS	48.9		50.6		36 - 137
13C10-Heptachlor	IS	31.7		40.7		5 - 120
13C12-Aldrin	IS	35.5		39.4		5 - 120
13C10-Oxychlordane	IS	37.5		44.6		23 - 135
13C10-cis-Heptachlor Epoxide	IS	38.3		44.3		27 - 137
13C10-trans-Chlordane (gamma)	IS	36.4		48.2		21 - 132
13C10-trans-Nonachlor	IS	36.4		39.5		14 - 136
13C9-Endosulfan I (alpha)	IS	39.6		48.9		15 - 148
13C12-2,4'-DDE	IS	41.6	H	46.5	H	47 - 160
13C12-4,4'-DDE	IS	40.6	H	45.9	H	47 - 160
13C12-Dieldrin	IS	37.4	H	43.9		40 - 151
13C12-Endrin	IS	32.3	H	39.0		35 - 155
13C10-cis-Nonachlor	IS	34.6	H	42.6		36 - 139
13C9-Endosulfan II (beta)	IS	40.0		45.3		5 - 122

Sample ID: 22B-U-S-20250609
EPA Method 1699

Name: Apex Laboratories	Lab Sample: B25F186-MSD1	Source Lab Sample: 2506190-01
Project: A5F1150 / RP Portland Harbor	QC Batch: B25F186	Date Extracted: 16-Jun-25
Matrix: Aqueous	Samp Size: 1.04/1.04 L	Column: ZB-50
Date Analyzed: 25-Jun-25 23:09 26-Jun-25 12:48		

Labeled Standards	Type	MS % Rec	MS Quals	MSD % Rec	MSD Quals	Limits
13C12-2,4'-DDD	IS	46.0		48.1		5 - 199
13C12-2,4'-DDT	IS	44.2		48.5		5 - 199
13C12-4,4'-DDD	IS	43.7		48.6		5 - 120
13C12-4,4'-DDT	IS	41.6		47.1		5 - 120
13C9-Endosulfan Sulfate	IS	32.6		40.5		15 - 148
13C12-Methoxychlor	IS	38.6		44.0		5 - 120
13C10-Mirex	IS	40.0		42.5		5 - 120
13C12-Endrin Aldehyde	IS	28.4		32.4		15 - 148
13C12-Endrin Ketone	IS	39.1		43.4		15 - 148

Sample ID: 22B-U-D-20250609

EPA Method 1699

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	2506190-02	Date Received:	11-Jun-25 09:34
Project:	A5F1150 / RP Portland Harbor	QC Batch:	B25F186	Date Extracted:	16-Jun-25
Matrix:	Water	Sample Size:	1.03 L	Column:	ZB-50
Date Collected:	09-Jun-25 10:30				

Analyte	Conc. (pg/L)	EDL	MDL	EMPC	Qualifiers	Analyzed	Dilution
Hexachlorobenzene	46.6		16.9		B	25-Jun-25 21:32	1
alpha-BHC	596		6.38			25-Jun-25 21:32	1
Lindane (gamma-BHC)	155		8.18			25-Jun-25 21:32	1
beta-BHC	1560		8.40			25-Jun-25 21:32	1
delta-BHC	643		8.23			25-Jun-25 21:32	1
Heptachlor	ND	0.872	23.2			25-Jun-25 21:32	1
Aldrin	11.4		9.24		J	25-Jun-25 21:32	1
Oxychlordane	ND	5.69	9.78			25-Jun-25 21:32	1
cis-Heptachlor Epoxide	49.9		12.3			25-Jun-25 21:32	1
trans-Heptachlor Epoxide	349		21.7			25-Jun-25 21:32	1
trans-Chlordane (gamma)	99.7		13.7			25-Jun-25 21:32	1
trans-Nonachlor	58.2		11.4			25-Jun-25 21:32	1
cis-Chlordane (alpha)	120		27.1			25-Jun-25 21:32	1
Endosulfan I (alpha)	ND		91.8	37.8		25-Jun-25 21:32	1
2,4'-DDE	12.5		8.29		J	25-Jun-25 21:32	1
4,4'-DDE	86.7		14.1			25-Jun-25 21:32	1
Dieldrin	4080		18.2			25-Jun-25 21:32	1
Endrin	267		14.4			25-Jun-25 21:32	1
cis-Nonachlor	ND	7.08	11.0			25-Jun-25 21:32	1
Endosulfan II (beta)	93.6		63.0		J	25-Jun-25 21:32	1
2,4'-DDD	215		9.46			25-Jun-25 21:32	1
2,4'-DDT	ND	10.1	11.3			25-Jun-25 21:32	1
4,4'-DDD	519		8.93			25-Jun-25 21:32	1
4,4'-DDT	47.7		10.9			25-Jun-25 21:32	1
Endosulfan Sulfate	129		35.4		J	25-Jun-25 21:32	1
4,4'-Methoxychlor	30.2		25.7		J	25-Jun-25 21:32	1
Mirex	ND	1.48	7.71			25-Jun-25 21:32	1
Endrin Aldehyde	ND	4.92	52.9			25-Jun-25 21:32	1
Endrin Ketone	311		48.9			25-Jun-25 21:32	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C6-Hexachlorobenzene	IS	45.9	5 - 120		25-Jun-25 21:32	1
13C6-alpha-BHC	IS	60.9	32 - 130		25-Jun-25 21:32	1
13C6-Lindane (gamma-BHC)	IS	60.3	11 - 120		25-Jun-25 21:32	1
13C6-beta-BHC	IS	60.0	32 - 130		25-Jun-25 21:32	1
13C6-delta-BHC	IS	59.2	36 - 137		25-Jun-25 21:32	1
13C10-Heptachlor	IS	50.3	5 - 120		25-Jun-25 21:32	1
13C12-Aldrin	IS	47.4	5 - 120		25-Jun-25 21:32	1
13C10-Oxychlordane	IS	50.3	23 - 135		25-Jun-25 21:32	1
13C10-cis-Heptachlor Epoxide	IS	53.2	27 - 137		25-Jun-25 21:32	1
13C10-trans-Chlordane (gamma)	IS	50.5	21 - 132		25-Jun-25 21:32	1
13C10-trans-Nonachlor	IS	50.5	14 - 136		25-Jun-25 21:32	1
13C9-Endosulfan I (alpha)	IS	51.5	15 - 148		25-Jun-25 21:32	1
13C12-2,4'-DDE	IS	53.7	47 - 160		25-Jun-25 21:32	1
13C12-4,4'-DDE	IS	53.4	47 - 160		25-Jun-25 21:32	1
13C12-Dieldrin	IS	47.2	40 - 151		25-Jun-25 21:32	1
13C12-Endrin	IS	46.1	35 - 155		25-Jun-25 21:32	1
13C10-cis-Nonachlor	IS	45.6	36 - 139		25-Jun-25 21:32	1
13C9-Endosulfan II (beta)	IS	44.8	5 - 122		25-Jun-25 21:32	1
13C12-2,4'-DDD	IS	55.3	5 - 199		25-Jun-25 21:32	1
13C12-2,4'-DDT	IS	55.7	5 - 199		25-Jun-25 21:32	1
13C12-4,4'-DDD	IS	53.8	5 - 120		25-Jun-25 21:32	1

Sample ID: 22B-U-D-20250609
EPA Method 1699
Client Data

 Name: Apex Laboratories
 Project: A5F1150 / RP Portland Harbor
 Matrix: Water
 Date Collected: 09-Jun-25 10:30

Laboratory Data

 Lab Sample: 2506190-02 Date Received: 11-Jun-25 09:34
 QC Batch: B25F186 Date Extracted: 16-Jun-25
 Sample Size: 1.03 L Column: ZB-50

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C12-4,4'-DDT	IS	53.5	5 - 120		25-Jun-25 21:32	1
13C9-Endosulfan Sulfate	IS	47.0	15 - 148		25-Jun-25 21:32	1
13C12-Methoxychlor	IS	51.8	5 - 120		25-Jun-25 21:32	1
13C10-Mirex	IS	48.1	5 - 120		25-Jun-25 21:32	1
13C12-Endrin Aldehyde	IS	39.9	15 - 148		25-Jun-25 21:32	1
13C12-Endrin Ketone	IS	50.7	15 - 148		25-Jun-25 21:32	1

 EDL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 MDL - Method Detection Limit

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
CRS	Cleanup Recovery Standard
D	Dilution
DL	Detection Limit
E	The associated compound concentration exceeded the calibration range of the instrument
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
H	Recovery and/or RPD was outside laboratory acceptance limits
I	Chemical Interference
IS	Internal Standard
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limit of Detection
LOQ	Limit of Quantitation
MDL	Method Detection Limit
NA	Not applicable
ND	Not Detected
OPR	Ongoing Precision and Recovery sample
P	The reported concentration may include contribution from chlorinated diphenyl ether(s).
Q	The ion transition ratio is outside of the acceptance criteria.
RL	Reporting Limit
RL	For 537.1, the reported RLs are the MRLs.
TEQ	Toxic Equivalency, sum of the toxic equivalency factors (TEF) multiplied by the sample concentrations.
TEQMax	TEQ calculation that uses the detection limit as the concentration for non-detects
TEQMin	TEQ calculation that uses zero as the concentration for non-detects
TEQRisk	TEQ calculation that uses ½ the detection limit as the concentration for non-detects
U	Not Detected (specific projects only)
*	See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Enthalpy Analytical - EDH Certifications

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	21-023-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025	3091.01
Florida Department of Health	E87777
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2020018
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	2211390
Nevada Division of Environmental Protection	CA00413
New Hampshire Environmental Accreditation Program	207721
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Ohio Environmental Protection Agency	87778
Oregon Laboratory Accreditation Program	4042-021
Texas Commission on Environmental Quality	T104704189-22-13
Vermont Department of Health	VT-4042
Virginia Department of General Services	11276
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters can be found at Enthalpy.com/Resources/Accreditations.

SUBCONTRACT ORDER

Apex Laboratories

A5F1150

Apex Laboratories

JAW

SENDING LABORATORY:

Apex Laboratories
 6700 S.W. Sandburg Street
 Tigard, OR 97223
 Phone: (503) 718-2323
 Fax: (503) 336-0745
 Project Manager: Philip Nerenberg

RECEIVING LABORATORY:

Enthalpy Analytical- CA
 1104 Windfield Way
 El Dorado Hills, CA 95762
 Phone: (916) 673-1520
 Fax: -

2506190 3-6°C

Sample Name: 22B-U-S-20250609 **Water** **Sampled: 06/09/25 09:10** **1/2 HCl Ambers, 6/6 HCl VOAs & 2/6 unpres. ' (A5F1150-01)**

Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB)	06/12/25 17:00	06/09/26 09:10	MS/MSD. sub to Enthalpy CA, MDL
1668C PCB Congeners (SUB)	06/12/25 17:00	06/09/26 09:10	MS/MSD. sub to Enthalpy CA, MDL
1699 Insecticides/Pesticides (SUB)	06/12/25 17:00	06/16/25 09:10	MS/MSD. sub to Enthalpy CA, MDL

Containers Supplied:

- (AA) 1 L Amber Glass - Non Preserved
- (S) 1 L Amber Glass - Non Preserved
- (T) 1 L Amber Glass - Non Preserved
- (U) 1 L Amber Glass - Non Preserved
- (V) 1 L Amber Glass - Non Preserved
- (W) 1 L Amber Glass - Non Preserved
- (X) 1 L Amber Glass - Non Preserved
- (Y) 1 L Amber Glass - Non Preserved
- (Z) 1 L Amber Glass - Non Preserved

Sample Name: 22B-U-D-20250609 **Water** **Sampled: 06/09/25 10:30** **1/2 HCl Ambers & 250 ml clear glass - Hcl has (A5F1150-03)**

Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB)	06/12/25 17:00	06/09/26 10:30	sub to Enthalpy CA, MDL
1668C PCB Congeners (SUB)	06/12/25 17:00	06/09/26 10:30	sub to Enthalpy CA, MDL
1699 Insecticides/Pesticides (SUB)	06/12/25 17:00	06/16/25 10:30	sub to Enthalpy CA, MDL

Containers Supplied:

- (L) 1 L Amber Glass - Non Preserved
- (M) 1 L Amber Glass - Non Preserved
- (N) 1 L Amber Glass - Non Preserved
- (O) 1 L Amber Glass - Non Preserved
- (P) 1 L Amber Glass - Non Preserved
- (Q) 1 L Amber Glass - Non Preserved

Standard TAT

<i>JA</i>	<i>6/10/25</i>	Fed Ex (Shipper)	
Released By	Date	Received By	Date
Fed Ex (Shipper)	<i>6/10/25</i>	<i>[Signature]</i>	<i>06/11/25 0934</i>
Released By	Date	Received By	Date

EJ
SUBCONTRACT ORDER

Apex Laboratories

A5F1150

2506190

SENDING LABORATORY:

Apex Laboratories
6700 S.W. Sandburg Street
Tigard, OR 97223
Phone: (503) 718-2323
Fax: (503) 336-0745
Project Manager: Philip Nerenberg

RECEIVING LABORATORY:

Enthalpy Analytical- CA
1104 Windfield Way
El Dorado Hills, CA 95762
Phone: (916) 673-1520
Fax: -

Sample Name: 22B-U-S-20250609 Water 1/2 HCl Ambers, 6/6 HCl VOAs & 2/6 unpres. Sampled: 06/09/25 09:10 (A5F1150-01)

Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB)	06/12/25 17:00	06/09/26 09:10	MS/MSD. sub to Enthalpy CA, MDL
1668C PCB Congeners (SUB)	06/12/25 17:00	06/09/26 09:10	MS/MSD. sub to Enthalpy CA, MDL
1699 Insecticides/Pesticides (SUB)	06/12/25 17:00	06/16/25 09:10	MS/MSD. sub to Enthalpy CA, MDL

Containers Supplied:

- ~~(A) 1 L Amber Glass - Non Preserved~~
- (AH) 1 L Amber Glass - Non Preserved
- (AI) 1 L Amber Glass - Non Preserved
- (AJ) 1 L Amber Glass - Non Preserved
- (AK) 1 L Amber Glass - Non Preserved
- ~~(S) 1 L Amber Glass - Non Preserved~~
- ~~(T) 1 L Amber Glass - Non Preserved~~
- ~~(U) 1 L Amber Glass - Non Preserved~~
- ~~(V) 1 L Amber Glass - Non Preserved~~
- ~~(W) 1 L Amber Glass - Non Preserved~~
- ~~(X) 1 L Amber Glass - Non Preserved~~
- ~~(Y) 1 L Amber Glass - Non Preserved~~
- ~~(Z) 1 L Amber Glass - Non Preserved~~

STANDARD TAT

[Signature] 6/24/25

Fed Ex (Shipper)

Released By	Date	Received By	Date
Fed Ex (Shipper)		<i>Karen A. Aske</i>	06/25/25 09:25
Released By	Date	Received By	Date

SUBCONTRACT ORDER

Apex Laboratories
A5F1150

Handwritten: 2506190

Handwritten: *Additional volume*

Handwritten: 2.6°C

Handwritten: Acc et net 15

SENDING LABORATORY:

Apex Laboratories
6700 S.W. Sandburg Street
Tigard, OR 97223
Phone: (503) 718-2323
Fax: (503) 336-0745
Project Manager: Philip Nerenberg

RECEIVING LABORATORY:

Enthalpy Analytical- CA
1104 Windfield Way
El Dorado Hills, CA 95762
Phone : (916) 673-1520
Fax: -

Sample Name: 22B-U-S-20250609 Water Sampled: 06/09/25 09:10 1/2 HCl Ambers, 6/6 HCl VOAs & 2/6 unpres. (A5F1150-01)

Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB)	06/12/25 17:00	06/09/26 09:10	MS/MSD. sub to Enthalpy CA, MDL
1668C PCB Congeners (SUB)	06/12/25 17:00	06/09/26 09:10	MS/MSD. sub to Enthalpy CA, MDL
1699 Insecticides/Pesticides (SUB)	06/12/25 17:00	06/16/25 09:10	MS/MSD. sub to Enthalpy CA, MDL
<i>Containers Supplied:</i>			
(AA) 1 L Amber Glass - Non Preserved			<i>Already sent Acc et net 15</i>
(AH) 1 L Amber Glass - Non Preserved			
(AI) 1 L Amber Glass - Non Preserved			
(AJ) 1 L Amber Glass - Non Preserved			
(AK) 1 L Amber Glass - Non Preserved			
(AN) 1 L Amber Glass - Non Preserved			
(AO) 1 L Amber Glass - Non Preserved			
(AP) 1 L Amber Glass - Non Preserved			
(S) 1 L Amber Glass - Non Preserved			
(T) 1 L Amber Glass - Non Preserved			
(U) 1 L Amber Glass - Non Preserved			
(V) 1 L Amber Glass - Non Preserved			
(W) 1 L Amber Glass - Non Preserved			
(X) 1 L Amber Glass - Non Preserved			
(Y) 1 L Amber Glass - Non Preserved			
(Z) 1 L Amber Glass - Non Preserved			

Standard TBT

Released By: *Kristal Norberg* Date: *6/26/25* Fed Ex (Shipper) Received By: _____ Date: _____

Released By: Fed Ex (Shipper) Received By: *[Signature]* Date: *6/27/25 0926*

SUBCONTRACT ORDER

Apex Laboratories

A5F1150

2506190

Sample Name: 22B-U-D-20250609 Water 1/2 HCl Ambers & 250 ml clear glass - Hcl has
Sampled: 06/09/25 10:30 (A5F1150-03)

Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB)	06/12/25 17:00	06/09/26 10:30	sub to Enthalpy CA, MDL
1668C PCB Congeners (SUB)	06/12/25 17:00	06/09/26 10:30	sub to Enthalpy CA, MDL
1699 Insecticides/Pesticides (SUB)	06/12/25 17:00	06/16/25 10:30	sub to Enthalpy CA, MDL

Containers Supplied:

- (L) 1 L Amber Glass - Non Preserved
- (M) 1 L Amber Glass - Non Preserved
- (N) 1 L Amber Glass - Non Preserved
- (O) 1 L Amber Glass - Non Preserved
- (P) 1 L Amber Glass - Non Preserved
- (Q) 1 L Amber Glass - Non Preserved

Already sent
analyzers

Fed Ex (Shipper)

Released By: Fed Ex (Shipper) Date: Received By: [Signature] Date: 06/27/25 0926

CoC/Label Reconciliation Report WO# 2506190

LabNumber	CoC Sample ID	SampleAlias	Sample Date/Time	Container	BaseMatrix	Sample Comments
2506190-01	A 22B-U-S-20250609	ASF1150-01	09-Jun-25 09:10	Amber Glass NM Bottle, 1L	Aqueous	MS/MSD
2506190-01	B 22B-U-S-20250609	ASF1150-01	09-Jun-25 09:10	Amber Glass NM Bottle, 1L	Aqueous	MS/MSD
2506190-01	C 22B-U-S-20250609	ASF1150-01	09-Jun-25 09:10	Amber Glass NM Bottle, 1L	Aqueous	MS/MSD
2506190-01	D 22B-U-S-20250609	ASF1150-01	09-Jun-25 09:10	Amber Glass NM Bottle, 1L	Aqueous	MS/MSD
2506190-01	E 22B-U-S-20250609	ASF1150-01	09-Jun-25 09:10	Amber Glass NM Bottle, 1L	Aqueous	MS/MSD
2506190-01	F 22B-U-S-20250609	ASF1150-01	09-Jun-25 09:10	Amber Glass NM Bottle, 1L	Aqueous	MS/MSD
2506190-01	G 22B-U-S-20250609	ASF1150-01	09-Jun-25 09:10	Amber Glass NM Bottle, 1L	Aqueous	MS/MSD
2506190-01	H 22B-U-S-20250609	ASF1150-01	09-Jun-25 09:10	Amber Glass NM Bottle, 1L	Aqueous	MS/MSD
2506190-01	I 22B-U-S-20250609	ASF1150-01	09-Jun-25 09:10	Amber Glass NM Bottle, 1L	Aqueous	MS/MSD
2506190-01	J 22B-U-S-20250609	ASF1150-01	09-Jun-25 09:10	Amber Glass NM Bottle, 1L	Aqueous	MS/MSD
2506190-01	K 22B-U-S-20250609	ASF1150-01	09-Jun-25 09:10	Amber Glass NM Bottle, 1L	Aqueous	MS/MSD
2506190-01	L 22B-U-S-20250609	ASF1150-01	09-Jun-25 09:10	Amber Glass NM Bottle, 1L	Aqueous	MS/MSD
2506190-01	M 22B-U-S-20250609	ASF1150-01	09-Jun-25 09:10	Amber Glass NM Bottle, 1L	Aqueous	MS/MSD
2506190-01	N 22B-U-S-20250609	ASF1150-01	09-Jun-25 09:10	Amber Glass NM Bottle, 1L	Aqueous	MS/MSD
2506190-01	O 22B-U-S-20250609	ASF1150-01	09-Jun-25 09:10	Amber Glass NM Bottle, 1L	Aqueous	MS/MSD
2506190-01	P 22B-U-S-20250609	ASF1150-01	09-Jun-25 09:10	Amber Glass NM Bottle, 1L	Aqueous	MS/MSD
2506190-02	A 22B-U-D-20250609	ASF1150-03	09-Jun-25 10:30	Amber Glass NM Bottle, 1L	Aqueous	
2506190-02	B 22B-U-D-20250609	ASF1150-03	09-Jun-25 10:30	Amber Glass NM Bottle, 1L	Aqueous	
2506190-02	C 22B-U-D-20250609	ASF1150-03	09-Jun-25 10:30	Amber Glass NM Bottle, 1L	Aqueous	
2506190-02	D 22B-U-D-20250609	ASF1150-03	09-Jun-25 10:30	Amber Glass NM Bottle, 1L	Aqueous	
2506190-02	E 22B-U-D-20250609	ASF1150-03	09-Jun-25 10:30	Amber Glass NM Bottle, 1L	Aqueous	
2506190-02	F 22B-U-D-20250609	ASF1150-03	09-Jun-25 10:30	Amber Glass NM Bottle, 1L	Aqueous	

Handwritten annotations in blue ink are present in the 'CoC Sample ID' column. These include checkmarks, vertical lines, and circled letters (A, C1, C2, C3, C4, C5) indicating specific sample groupings or discrepancies.

Checkmarks indicate that information on the COC reconciled with the sample label.
Any discrepancies are noted in the following columns.

CONDITION	Yes	No	NA
Sample Container Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample Container(s) Custody Seals Intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Custody Seals On Cooler Intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Adequate Sample Volume?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Container Type Appropriate for Analysis(es)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

C1 = Cooler #1

C2 = Cooler #2

C3 = Cooler #3

C4 = Cooler #4

C5 = Cooler #5

A) Originally labeled and reconciled on 06/11/25 by XAO

B) Originally labeled and reconciled on 06/25/25 by XAO

C) Sample received on 06/27/25, labeled and reconciled by KA on 06/27/25

Preservation Documented: Na2S2O3 Trizma NH4CH3CO2 None Other

Verified by/Date: KA 06/27/25



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Tuesday, July 22, 2025

Ted Norton
WSP USA Inc.
15862 SW 72nd Ave. Suite 150
Portland, OR 97224

RE: A5F1150 - Starlink Uplands Support - US0025871.2251

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A5F1150, which was received by the laboratory on 6/9/2025 at 3:00:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: pnerenberg@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Table with 2 columns: Cooler #, Temperature (degC). Header: Cooler Receipt Information. Sub-headers: Cooler #1, Cooler #2, Cooler #3, Cooler #4. Values: 2.3, 3.5, 3.0, 2.1.

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report. All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

Philip Nerenberg (signature)

The results in this report apply to the samples analyzed in accordance with the chain of custody document(s) and updated by any subsequent written communications. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Lab Director



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
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503-718-2323
ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
22B-U-S-20250609	A5F1150-01	Water	06/09/25 09:10	06/09/25 15:00
22B-F-S-20250609	A5F1150-02	Water	06/09/25 11:20	06/09/25 15:00
22B-U-D-20250609	A5F1150-03	Water	06/09/25 10:30	06/09/25 15:00
22B-F-D-20250609	A5F1150-04	Water	06/09/25 11:25	06/09/25 15:00
22B-F-RB-20250609	A5F1150-05	Water	06/09/25 13:00	06/09/25 15:00
22B-TB-20250609	A5F1150-06	Water	06/09/25 00:00	06/09/25 15:00

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ANALYTICAL SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
22B-U-S-20250609 (A5F1150-01)				Matrix: Water		Batch: 25F0420		DCNT
Gasoline Range Organics	ND	0.0962	0.0962	mg/L	1	06/12/25 22:48	NWTPH-HCID	
Diesel Range Organics	ND	0.240	0.240	mg/L	1	06/12/25 22:48	NWTPH-HCID	
Oil Range Organics	ND	0.240	0.240	mg/L	1	06/12/25 22:48	NWTPH-HCID	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 84 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>06/12/25 22:48</i>	<i>NWTPH-HCID</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>40 %</i>		<i>10-120 %</i>		<i>1</i>	<i>06/12/25 22:48</i>	<i>NWTPH-HCID</i>
22B-U-D-20250609 (A5F1150-03)				Matrix: Water		Batch: 25F0420		DCNT
Gasoline Range Organics	ND	0.0952	0.0952	mg/L	1	06/12/25 23:08	NWTPH-HCID	
Diesel Range Organics	ND	0.238	0.238	mg/L	1	06/12/25 23:08	NWTPH-HCID	
Oil Range Organics	ND	0.238	0.238	mg/L	1	06/12/25 23:08	NWTPH-HCID	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 80 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>06/12/25 23:08</i>	<i>NWTPH-HCID</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>39 %</i>		<i>10-120 %</i>		<i>1</i>	<i>06/12/25 23:08</i>	<i>NWTPH-HCID</i>

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ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
22B-U-S-20250609 (A5F1150-01)				Matrix: Water		Batch: 25F0453		DCNT
Diesel	ND	0.0962	0.192	mg/L	1	06/12/25 21:26	NWTPH-Dx/SG	
Oil	ND	0.192	0.385	mg/L	1	06/12/25 21:26	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 95 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>06/12/25 21:26</i>	<i>NWTPH-Dx/SG</i>
22B-U-D-20250609 (A5F1150-03)				Matrix: Water		Batch: 25F0453		DCNT
Diesel	ND	0.0952	0.190	mg/L	1	06/12/25 21:46	NWTPH-Dx/SG	
Oil	ND	0.190	0.381	mg/L	1	06/12/25 21:46	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 92 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>06/12/25 21:46</i>	<i>NWTPH-Dx/SG</i>

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ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
22B-U-S-20250609 (A5F1150-01)				Matrix: Water		Batch: 25F0352		
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	06/11/25 16:29	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 98 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>06/11/25 16:29</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>98 %</i>	<i>50-150 %</i>	<i>1</i>	<i>06/11/25 16:29</i>	<i>NWTPH-Gx (MS)</i>	
22B-U-D-20250609 (A5F1150-03)				Matrix: Water		Batch: 25F0352		
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	06/11/25 18:37	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 98 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>06/11/25 18:37</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>99 %</i>	<i>50-150 %</i>	<i>1</i>	<i>06/11/25 18:37</i>	<i>NWTPH-Gx (MS)</i>	
22B-TB-20250609 (A5F1150-06)				Matrix: Water		Batch: 25F0352		
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	06/11/25 17:55	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 98 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>06/11/25 17:55</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>98 %</i>	<i>50-150 %</i>	<i>1</i>	<i>06/11/25 17:55</i>	<i>NWTPH-Gx (MS)</i>	

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ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
22B-U-S-20250609 (A5F1150-01)				Matrix: Water		Batch: 25F0352		
Acetone	ND	10.0	20.0	ug/L	1	06/11/25 16:29	EPA 8260D	
Acrylonitrile	ND	1.00	2.00	ug/L	1	06/11/25 16:29	EPA 8260D	
Benzene	ND	0.100	0.200	ug/L	1	06/11/25 16:29	EPA 8260D	
Bromobenzene	ND	0.250	0.500	ug/L	1	06/11/25 16:29	EPA 8260D	
Bromochloromethane	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
Bromoform	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
Bromomethane	ND	5.00	5.00	ug/L	1	06/11/25 16:29	EPA 8260D	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	06/11/25 16:29	EPA 8260D	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
sec-Butylbenzene	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
Carbon disulfide	ND	5.00	10.0	ug/L	1	06/11/25 16:29	EPA 8260D	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
Chlorobenzene	ND	0.250	0.500	ug/L	1	06/11/25 16:29	EPA 8260D	
Chloroethane	ND	5.00	5.00	ug/L	1	06/11/25 16:29	EPA 8260D	
Chloroform	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
Chloromethane	ND	2.50	5.00	ug/L	1	06/11/25 16:29	EPA 8260D	
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	06/11/25 16:29	EPA 8260D	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	06/11/25 16:29	EPA 8260D	
Dibromomethane	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	06/11/25 16:29	EPA 8260D	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	06/11/25 16:29	EPA 8260D	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	06/11/25 16:29	EPA 8260D	
Dichlorodifluoromethane	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	06/11/25 16:29	EPA 8260D	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	06/11/25 16:29	EPA 8260D	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	06/11/25 16:29	EPA 8260D	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	06/11/25 16:29	EPA 8260D	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	06/11/25 16:29	EPA 8260D	

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ANALYTICAL REPORT

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WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
22B-U-S-20250609 (A5F1150-01)				Matrix: Water		Batch: 25F0352		
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	06/11/25 16:29	EPA 8260D	
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
Ethylbenzene	ND	0.250	0.500	ug/L	1	06/11/25 16:29	EPA 8260D	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	06/11/25 16:29	EPA 8260D	
2-Hexanone	ND	5.00	10.0	ug/L	1	06/11/25 16:29	EPA 8260D	
Isopropylbenzene	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
Methylene chloride	ND	5.00	10.0	ug/L	1	06/11/25 16:29	EPA 8260D	
4-Methyl-2-pentanone (MIBK)	ND	5.00	10.0	ug/L	1	06/11/25 16:29	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
Naphthalene	ND	2.50	5.00	ug/L	1	06/11/25 16:29	EPA 8260D	
n-Propylbenzene	ND	0.250	0.500	ug/L	1	06/11/25 16:29	EPA 8260D	
Styrene	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	06/11/25 16:29	EPA 8260D	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	06/11/25 16:29	EPA 8260D	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	06/11/25 16:29	EPA 8260D	
Toluene	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	06/11/25 16:29	EPA 8260D	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	06/11/25 16:29	EPA 8260D	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	06/11/25 16:29	EPA 8260D	
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	06/11/25 16:29	EPA 8260D	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	06/11/25 16:29	EPA 8260D	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	06/11/25 16:29	EPA 8260D	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
Vinyl chloride	ND	0.100	0.200	ug/L	1	06/11/25 16:29	EPA 8260D	
m,p-Xylene	ND	0.500	1.00	ug/L	1	06/11/25 16:29	EPA 8260D	
o-Xylene	ND	0.250	0.500	ug/L	1	06/11/25 16:29	EPA 8260D	

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ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
22B-U-S-20250609 (A5F1150-01)			Matrix: Water			Batch: 25F0352		
Acrolein	ND	5.00	10.0	ug/L	1	06/11/25 16:29	EPA 8260D	
2-Chloroethyl vinyl ether	ND	10.0	10.0	ug/L	1	06/11/25 16:29	EPA 8260D	
Iodomethane	ND	10.0	10.0	ug/L	1	06/11/25 16:29	EPA 8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 111 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>06/11/25 16:29</i>	<i>EPA 8260D</i>
<i>Toluene-d8 (Surr)</i>		<i>98 %</i>		<i>80-120 %</i>		<i>1</i>	<i>06/11/25 16:29</i>	<i>EPA 8260D</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>100 %</i>		<i>80-120 %</i>		<i>1</i>	<i>06/11/25 16:29</i>	<i>EPA 8260D</i>
22B-U-D-20250609 (A5F1150-03)			Matrix: Water			Batch: 25F0352		
Acetone	ND	10.0	20.0	ug/L	1	06/11/25 18:37	EPA 8260D	
Acrylonitrile	ND	1.00	2.00	ug/L	1	06/11/25 18:37	EPA 8260D	
Benzene	ND	0.100	0.200	ug/L	1	06/11/25 18:37	EPA 8260D	
Bromobenzene	ND	0.250	0.500	ug/L	1	06/11/25 18:37	EPA 8260D	
Bromochloromethane	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
Bromoform	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
Bromomethane	ND	5.00	5.00	ug/L	1	06/11/25 18:37	EPA 8260D	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	06/11/25 18:37	EPA 8260D	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
sec-Butylbenzene	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
Carbon disulfide	ND	5.00	10.0	ug/L	1	06/11/25 18:37	EPA 8260D	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
Chlorobenzene	ND	0.250	0.500	ug/L	1	06/11/25 18:37	EPA 8260D	
Chloroethane	ND	5.00	5.00	ug/L	1	06/11/25 18:37	EPA 8260D	
Chloroform	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
Chloromethane	ND	2.50	5.00	ug/L	1	06/11/25 18:37	EPA 8260D	
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	06/11/25 18:37	EPA 8260D	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	06/11/25 18:37	EPA 8260D	
Dibromomethane	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	06/11/25 18:37	EPA 8260D	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	06/11/25 18:37	EPA 8260D	

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WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
22B-U-D-20250609 (A5F1150-03)				Matrix: Water		Batch: 25F0352		
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	06/11/25 18:37	EPA 8260D	
Dichlorodifluoromethane	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	06/11/25 18:37	EPA 8260D	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	06/11/25 18:37	EPA 8260D	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	06/11/25 18:37	EPA 8260D	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	06/11/25 18:37	EPA 8260D	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	06/11/25 18:37	EPA 8260D	
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	06/11/25 18:37	EPA 8260D	
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
Ethylbenzene	ND	0.250	0.500	ug/L	1	06/11/25 18:37	EPA 8260D	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	06/11/25 18:37	EPA 8260D	
2-Hexanone	ND	5.00	10.0	ug/L	1	06/11/25 18:37	EPA 8260D	
Isopropylbenzene	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
Methylene chloride	ND	5.00	10.0	ug/L	1	06/11/25 18:37	EPA 8260D	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	ug/L	1	06/11/25 18:37	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
Naphthalene	ND	2.50	5.00	ug/L	1	06/11/25 18:37	EPA 8260D	
n-Propylbenzene	ND	0.250	0.500	ug/L	1	06/11/25 18:37	EPA 8260D	
Styrene	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	06/11/25 18:37	EPA 8260D	
1,1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	06/11/25 18:37	EPA 8260D	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	06/11/25 18:37	EPA 8260D	
Toluene	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	06/11/25 18:37	EPA 8260D	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	06/11/25 18:37	EPA 8260D	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	06/11/25 18:37	EPA 8260D	
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	06/11/25 18:37	EPA 8260D	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	06/11/25 18:37	EPA 8260D	

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
 Tigard, OR 97223
 503-718-2323
 ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
			Matrix: Water			Batch: 25F0352		
22B-U-D-20250609 (A5F1150-03)								
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	06/11/25 18:37	EPA 8260D	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
Vinyl chloride	ND	0.100	0.200	ug/L	1	06/11/25 18:37	EPA 8260D	
m,p-Xylene	ND	0.500	1.00	ug/L	1	06/11/25 18:37	EPA 8260D	
o-Xylene	ND	0.250	0.500	ug/L	1	06/11/25 18:37	EPA 8260D	
Acrolein	ND	5.00	10.0	ug/L	1	06/11/25 18:37	EPA 8260D	
2-Chloroethyl vinyl ether	ND	10.0	10.0	ug/L	1	06/11/25 18:37	EPA 8260D	
Iodomethane	ND	10.0	10.0	ug/L	1	06/11/25 18:37	EPA 8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 112 %</i>		<i>Limits: 80-120 %</i>	<i>1</i>	<i>06/11/25 18:37</i>	<i>EPA 8260D</i>	
<i>Toluene-d8 (Surr)</i>		<i>97 %</i>		<i>80-120 %</i>	<i>1</i>	<i>06/11/25 18:37</i>	<i>EPA 8260D</i>	
<i>4-Bromofluorobenzene (Surr)</i>		<i>99 %</i>		<i>80-120 %</i>	<i>1</i>	<i>06/11/25 18:37</i>	<i>EPA 8260D</i>	
			Matrix: Water			Batch: 25F0352		
22B-TB-20250609 (A5F1150-06)								
Acetone	ND	10.0	20.0	ug/L	1	06/11/25 17:55	EPA 8260D	
Acrylonitrile	ND	1.00	2.00	ug/L	1	06/11/25 17:55	EPA 8260D	
Benzene	ND	0.100	0.200	ug/L	1	06/11/25 17:55	EPA 8260D	
Bromobenzene	ND	0.250	0.500	ug/L	1	06/11/25 17:55	EPA 8260D	
Bromochloromethane	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
Bromoform	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
Bromomethane	ND	5.00	5.00	ug/L	1	06/11/25 17:55	EPA 8260D	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	06/11/25 17:55	EPA 8260D	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
sec-Butylbenzene	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
Carbon disulfide	ND	5.00	10.0	ug/L	1	06/11/25 17:55	EPA 8260D	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
Chlorobenzene	ND	0.250	0.500	ug/L	1	06/11/25 17:55	EPA 8260D	
Chloroethane	ND	5.00	5.00	ug/L	1	06/11/25 17:55	EPA 8260D	
Chloroform	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
Chloromethane	ND	2.50	5.00	ug/L	1	06/11/25 17:55	EPA 8260D	
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	

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Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
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 503-718-2323
 ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
22B-TB-20250609 (A5F1150-06)				Matrix: Water		Batch: 25F0352		
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	06/11/25 17:55	EPA 8260D	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	06/11/25 17:55	EPA 8260D	
Dibromomethane	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	06/11/25 17:55	EPA 8260D	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	06/11/25 17:55	EPA 8260D	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	06/11/25 17:55	EPA 8260D	
Dichlorodifluoromethane	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	06/11/25 17:55	EPA 8260D	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	06/11/25 17:55	EPA 8260D	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	06/11/25 17:55	EPA 8260D	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	06/11/25 17:55	EPA 8260D	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	06/11/25 17:55	EPA 8260D	
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	06/11/25 17:55	EPA 8260D	
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
Ethylbenzene	ND	0.250	0.500	ug/L	1	06/11/25 17:55	EPA 8260D	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	06/11/25 17:55	EPA 8260D	
2-Hexanone	ND	5.00	10.0	ug/L	1	06/11/25 17:55	EPA 8260D	
Isopropylbenzene	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
Methylene chloride	ND	5.00	10.0	ug/L	1	06/11/25 17:55	EPA 8260D	
4-Methyl-2-pentanone (MIBK)	ND	5.00	10.0	ug/L	1	06/11/25 17:55	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
Naphthalene	ND	2.50	5.00	ug/L	1	06/11/25 17:55	EPA 8260D	
n-Propylbenzene	ND	0.250	0.500	ug/L	1	06/11/25 17:55	EPA 8260D	
Styrene	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	06/11/25 17:55	EPA 8260D	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	06/11/25 17:55	EPA 8260D	

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Philip Nerenberg, Lab Director



ANALYTICAL REPORT

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ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
22B-TB-20250609 (A5F1150-06)			Matrix: Water			Batch: 25F0352		
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	06/11/25 17:55	EPA 8260D	
Toluene	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	06/11/25 17:55	EPA 8260D	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	06/11/25 17:55	EPA 8260D	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	06/11/25 17:55	EPA 8260D	
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	06/11/25 17:55	EPA 8260D	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	06/11/25 17:55	EPA 8260D	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	06/11/25 17:55	EPA 8260D	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
Vinyl chloride	ND	0.100	0.200	ug/L	1	06/11/25 17:55	EPA 8260D	
m,p-Xylene	ND	0.500	1.00	ug/L	1	06/11/25 17:55	EPA 8260D	
o-Xylene	ND	0.250	0.500	ug/L	1	06/11/25 17:55	EPA 8260D	
Acrolein	ND	5.00	10.0	ug/L	1	06/11/25 17:55	EPA 8260D	
Iodomethane	ND	10.0	10.0	ug/L	1	06/11/25 17:55	EPA 8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 111 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>06/11/25 17:55</i>	<i>EPA 8260D</i>
<i>Toluene-d8 (Surr)</i>		<i>97 %</i>		<i>80-120 %</i>		<i>1</i>	<i>06/11/25 17:55</i>	<i>EPA 8260D</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>99 %</i>		<i>80-120 %</i>		<i>1</i>	<i>06/11/25 17:55</i>	<i>EPA 8260D</i>

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ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
22B-U-S-20250609 (A5F1150-01RE1)			Matrix: Water			Batch: 25F0406		
Acenaphthene	0.0114	0.00952	0.0190	ug/L	1	06/12/25 19:47	EPA 8270E	J
Acenaphthylene	ND	0.00952	0.0190	ug/L	1	06/12/25 19:47	EPA 8270E	
Anthracene	ND	0.00952	0.0190	ug/L	1	06/12/25 19:47	EPA 8270E	
Benz(a)anthracene	ND	0.00952	0.0190	ug/L	1	06/12/25 19:47	EPA 8270E	
Benzo(a)pyrene	ND	0.0143	0.0286	ug/L	1	06/12/25 19:47	EPA 8270E	
Benzo(b)fluoranthene	ND	0.0143	0.0286	ug/L	1	06/12/25 19:47	EPA 8270E	
Benzo(k)fluoranthene	ND	0.0143	0.0286	ug/L	1	06/12/25 19:47	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.00952	0.0190	ug/L	1	06/12/25 19:47	EPA 8270E	
Chrysene	ND	0.00952	0.0190	ug/L	1	06/12/25 19:47	EPA 8270E	
Dibenz(a,h)anthracene	ND	0.00952	0.0190	ug/L	1	06/12/25 19:47	EPA 8270E	
Fluoranthene	ND	0.00952	0.0190	ug/L	1	06/12/25 19:47	EPA 8270E	
Fluorene	ND	0.00952	0.0190	ug/L	1	06/12/25 19:47	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.00952	0.0190	ug/L	1	06/12/25 19:47	EPA 8270E	
1-Methylnaphthalene	ND	0.0190	0.0381	ug/L	1	06/12/25 19:47	EPA 8270E	
2-Methylnaphthalene	ND	0.0190	0.0381	ug/L	1	06/12/25 19:47	EPA 8270E	
Naphthalene	ND	0.0190	0.0381	ug/L	1	06/12/25 19:47	EPA 8270E	
Phenanthrene	0.0104	0.00952	0.0190	ug/L	1	06/12/25 19:47	EPA 8270E	J
Pyrene	ND	0.00952	0.0190	ug/L	1	06/12/25 19:47	EPA 8270E	
Carbazole	ND	0.0143	0.0286	ug/L	1	06/12/25 19:47	EPA 8270E	
Dibenzofuran	ND	0.00952	0.0190	ug/L	1	06/12/25 19:47	EPA 8270E	
2-Chlorophenol	ND	0.0476	0.0952	ug/L	1	06/12/25 19:47	EPA 8270E	
4-Chloro-3-methylphenol	ND	0.0952	0.190	ug/L	1	06/12/25 19:47	EPA 8270E	
2,4-Dimethylphenol	ND	0.238	0.476	ug/L	1	06/12/25 19:47	EPA 8270E	
2,4-Dinitrophenol	ND	0.238	0.476	ug/L	1	06/12/25 19:47	EPA 8270E	
4,6-Dinitro-2-methylphenol	ND	0.238	0.476	ug/L	1	06/12/25 19:47	EPA 8270E	
2-Methylphenol	0.0431	0.0238	0.0476	ug/L	1	06/12/25 19:47	EPA 8270E	J
3+4-Methylphenol(s)	ND	0.0238	0.0476	ug/L	1	06/12/25 19:47	EPA 8270E	
2-Nitrophenol	ND	0.0952	0.190	ug/L	1	06/12/25 19:47	EPA 8270E	
4-Nitrophenol	ND	0.0952	0.190	ug/L	1	06/12/25 19:47	EPA 8270E	
Phenol	ND	0.190	0.381	ug/L	1	06/12/25 19:47	EPA 8270E	
2,3,4,6-Tetrachlorophenol	ND	0.0476	0.0952	ug/L	1	06/12/25 19:47	EPA 8270E	
2,3,5,6-Tetrachlorophenol	ND	0.0476	0.0952	ug/L	1	06/12/25 19:47	EPA 8270E	
2,4,5-Trichlorophenol	0.175	0.0476	0.0952	ug/L	1	06/12/25 19:47	EPA 8270E	

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Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

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ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
22B-U-S-20250609 (A5F1150-01RE1)				Matrix: Water		Batch: 25F0406		
2,4,6-Trichlorophenol	0.143	0.0476	0.0952	ug/L	1	06/12/25 19:47	EPA 8270E	
Bis(2-ethylhexyl)phthalate	ND	0.190	0.381	ug/L	1	06/12/25 19:47	EPA 8270E	
Butyl benzyl phthalate	ND	0.190	0.381	ug/L	1	06/12/25 19:47	EPA 8270E	
Diethylphthalate	ND	0.190	0.381	ug/L	1	06/12/25 19:47	EPA 8270E	
Dimethylphthalate	ND	0.190	0.381	ug/L	1	06/12/25 19:47	EPA 8270E	
Di-n-butylphthalate	ND	0.190	0.381	ug/L	1	06/12/25 19:47	EPA 8270E	
Di-n-octyl phthalate	ND	0.190	0.381	ug/L	1	06/12/25 19:47	EPA 8270E	
N-Nitrosodimethylamine	ND	0.0476	0.0952	ug/L	1	06/12/25 19:47	EPA 8270E	
N-Nitroso-di-n-propylamine	ND	0.0238	0.0476	ug/L	1	06/12/25 19:47	EPA 8270E	
N-Nitrosodiphenylamine	ND	0.0238	0.0476	ug/L	1	06/12/25 19:47	EPA 8270E	
Bis(2-Chloroethoxy) methane	ND	0.0238	0.0476	ug/L	1	06/12/25 19:47	EPA 8270E	
Bis(2-Chloroethyl) ether	ND	0.0238	0.0476	ug/L	1	06/12/25 19:47	EPA 8270E	
2,2'-Oxybis(1-Chloropropane)	ND	0.0238	0.0476	ug/L	1	06/12/25 19:47	EPA 8270E	
Hexachlorobenzene	ND	0.00952	0.0190	ug/L	1	06/12/25 19:47	EPA 8270E	
Hexachlorobutadiene	ND	0.0238	0.0476	ug/L	1	06/12/25 19:47	EPA 8270E	
Hexachlorocyclopentadiene	ND	0.0476	0.0952	ug/L	1	06/12/25 19:47	EPA 8270E	
Hexachloroethane	ND	0.0238	0.0476	ug/L	1	06/12/25 19:47	EPA 8270E	
2-Chloronaphthalene	ND	0.00952	0.0190	ug/L	1	06/12/25 19:47	EPA 8270E	
1,2,4-Trichlorobenzene	ND	0.0238	0.0476	ug/L	1	06/12/25 19:47	EPA 8270E	
4-Bromophenyl phenyl ether	ND	0.0238	0.0476	ug/L	1	06/12/25 19:47	EPA 8270E	
4-Chlorophenyl phenyl ether	ND	0.0238	0.0476	ug/L	1	06/12/25 19:47	EPA 8270E	
Aniline	ND	0.0476	0.0952	ug/L	1	06/12/25 19:47	EPA 8270E	
4-Chloroaniline	ND	0.0952	0.190	ug/L	1	06/12/25 19:47	EPA 8270E	Q-42
2-Nitroaniline	ND	0.190	0.381	ug/L	1	06/12/25 19:47	EPA 8270E	
3-Nitroaniline	ND	0.190	0.381	ug/L	1	06/12/25 19:47	EPA 8270E	Q-42
4-Nitroaniline	ND	0.190	0.381	ug/L	1	06/12/25 19:47	EPA 8270E	
Nitrobenzene	ND	0.0952	0.190	ug/L	1	06/12/25 19:47	EPA 8270E	
2,4-Dinitrotoluene	ND	0.0952	0.190	ug/L	1	06/12/25 19:47	EPA 8270E	
2,6-Dinitrotoluene	ND	0.0952	0.190	ug/L	1	06/12/25 19:47	EPA 8270E	
Benzoic acid	ND	2.38	2.38	ug/L	1	06/12/25 19:47	EPA 8270E	Q-42
Benzyl alcohol	ND	0.190	0.381	ug/L	1	06/12/25 19:47	EPA 8270E	
Isophorone	ND	0.0238	0.0476	ug/L	1	06/12/25 19:47	EPA 8270E	
Azobenzene (1,2-DPH)	ND	0.0238	0.0476	ug/L	1	06/12/25 19:47	EPA 8270E	

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ANALYTICAL REPORT

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6700 S.W. Sandburg Street
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503-718-2323
ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
22B-U-S-20250609 (A5F1150-01RE1)			Matrix: Water		Batch: 25F0406			
Bis(2-Ethylhexyl) adipate	ND	0.238	0.476	ug/L	1	06/12/25 19:47	EPA 8270E	
3,3'-Dichlorobenzidine	ND	0.476	0.952	ug/L	1	06/12/25 19:47	EPA 8270E	Q-42, Q-52
1,2-Dinitrobenzene	ND	0.238	0.476	ug/L	1	06/12/25 19:47	EPA 8270E	
1,3-Dinitrobenzene	ND	0.238	0.476	ug/L	1	06/12/25 19:47	EPA 8270E	
1,4-Dinitrobenzene	ND	0.238	0.476	ug/L	1	06/12/25 19:47	EPA 8270E	
Pyridine	ND	0.0952	0.190	ug/L	1	06/12/25 19:47	EPA 8270E	
1,2-Dichlorobenzene	ND	0.0238	0.0476	ug/L	1	06/12/25 19:47	EPA 8270E	
1,3-Dichlorobenzene	ND	0.0238	0.0476	ug/L	1	06/12/25 19:47	EPA 8270E	
1,4-Dichlorobenzene	ND	0.0238	0.0476	ug/L	1	06/12/25 19:47	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 68 %</i>		<i>Limits: 44-120 %</i>		<i>1</i>	<i>06/12/25 19:47</i>	<i>EPA 8270E</i>
<i>2-Fluorobiphenyl (Surr)</i>		<i>62 %</i>		<i>44-120 %</i>		<i>1</i>	<i>06/12/25 19:47</i>	<i>EPA 8270E</i>
<i>Phenol-d6 (Surr)</i>		<i>22 %</i>		<i>10-133 %</i>		<i>1</i>	<i>06/12/25 19:47</i>	<i>EPA 8270E</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>70 %</i>		<i>50-134 %</i>		<i>1</i>	<i>06/12/25 19:47</i>	<i>EPA 8270E</i>
<i>2-Fluorophenol (Surr)</i>		<i>32 %</i>		<i>19-120 %</i>		<i>1</i>	<i>06/12/25 19:47</i>	<i>EPA 8270E</i>
<i>2,4,6-Tribromophenol (Surr)</i>		<i>79 %</i>		<i>43-140 %</i>		<i>1</i>	<i>06/12/25 19:47</i>	<i>EPA 8270E</i>
22B-U-S-20250609 (A5F1150-01RE2)			Matrix: Water		Batch: 25F0406			
2,4-Dichlorophenol	0.530	0.0476	0.0952	ug/L	1	06/16/25 16:24	EPA 8270E	
Pentachlorophenol (PCP)	0.129	0.0952	0.190	ug/L	1	06/16/25 16:24	EPA 8270E	J
22B-U-D-20250609 (A5F1150-03RE1)			Matrix: Water		Batch: 25F0406			
2,4-Dichlorophenol	0.514	0.192	0.385	ug/L	4	06/16/25 17:01	EPA 8270E	
22B-U-D-20250609 (A5F1150-03RE2)			Matrix: Water		Batch: 25F0406			
Acenaphthene	0.0100	0.00962	0.0192	ug/L	1	07/21/25 20:49	EPA 8270E	J
Acenaphthylene	ND	0.00962	0.0192	ug/L	1	07/21/25 20:49	EPA 8270E	
Anthracene	ND	0.00962	0.0192	ug/L	1	07/21/25 20:49	EPA 8270E	
Benz(a)anthracene	ND	0.00962	0.0192	ug/L	1	07/21/25 20:49	EPA 8270E	
Benzo(a)pyrene	ND	0.0144	0.0288	ug/L	1	07/21/25 20:49	EPA 8270E	
Benzo(b)fluoranthene	ND	0.0144	0.0288	ug/L	1	07/21/25 20:49	EPA 8270E	
Benzo(k)fluoranthene	ND	0.0144	0.0288	ug/L	1	07/21/25 20:49	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.00962	0.0192	ug/L	1	07/21/25 20:49	EPA 8270E	
Chrysene	ND	0.00962	0.0192	ug/L	1	07/21/25 20:49	EPA 8270E	
Dibenz(a,h)anthracene	ND	0.00962	0.0192	ug/L	1	07/21/25 20:49	EPA 8270E	

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ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
22B-U-D-20250609 (A5F1150-03RE2)			Matrix: Water			Batch: 25F0406		
Fluoranthene	ND	0.00962	0.0192	ug/L	1	07/21/25 20:49	EPA 8270E	
Fluorene	ND	0.00962	0.0192	ug/L	1	07/21/25 20:49	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.00962	0.0192	ug/L	1	07/21/25 20:49	EPA 8270E	
1-Methylnaphthalene	ND	0.0192	0.0385	ug/L	1	07/21/25 20:49	EPA 8270E	
2-Methylnaphthalene	ND	0.0192	0.0385	ug/L	1	07/21/25 20:49	EPA 8270E	
Naphthalene	ND	0.0192	0.0385	ug/L	1	07/21/25 20:49	EPA 8270E	
Phenanthrene	0.0118	0.00962	0.0192	ug/L	1	07/21/25 20:49	EPA 8270E	J
Pyrene	ND	0.00962	0.0192	ug/L	1	07/21/25 20:49	EPA 8270E	
Carbazole	ND	0.0144	0.0288	ug/L	1	07/21/25 20:49	EPA 8270E	
Dibenzofuran	ND	0.00962	0.0192	ug/L	1	07/21/25 20:49	EPA 8270E	
2-Chlorophenol	ND	0.0481	0.0962	ug/L	1	07/21/25 20:49	EPA 8270E	
4-Chloro-3-methylphenol	ND	0.192	0.192	ug/L	1	07/21/25 20:49	EPA 8270E	
2,4-Dimethylphenol	ND	0.240	0.481	ug/L	1	07/21/25 20:49	EPA 8270E	
2,4-Dinitrophenol	ND	0.240	0.481	ug/L	1	07/21/25 20:49	EPA 8270E	
4,6-Dinitro-2-methylphenol	ND	0.240	0.481	ug/L	1	07/21/25 20:49	EPA 8270E	
2-Methylphenol	0.0556	0.0240	0.0481	ug/L	1	07/21/25 20:49	EPA 8270E	
3+4-Methylphenol(s)	ND	0.0481	0.0481	ug/L	1	07/21/25 20:49	EPA 8270E	
2-Nitrophenol	ND	0.0962	0.192	ug/L	1	07/21/25 20:49	EPA 8270E	
4-Nitrophenol	ND	0.0962	0.192	ug/L	1	07/21/25 20:49	EPA 8270E	
Pentachlorophenol (PCP)	0.132	0.0962	0.192	ug/L	1	07/21/25 20:49	EPA 8270E	J, Q-54g
Phenol	ND	0.192	0.385	ug/L	1	07/21/25 20:49	EPA 8270E	
2,3,4,6-Tetrachlorophenol	0.0548	0.0481	0.0962	ug/L	1	07/21/25 20:49	EPA 8270E	J
2,3,5,6-Tetrachlorophenol	0.0484	0.0481	0.0962	ug/L	1	07/21/25 20:49	EPA 8270E	J
2,4,5-Trichlorophenol	0.293	0.0481	0.0962	ug/L	1	07/21/25 20:49	EPA 8270E	Q-54b
2,4,6-Trichlorophenol	0.174	0.0481	0.0962	ug/L	1	07/21/25 20:49	EPA 8270E	Q-54a
Bis(2-ethylhexyl)phthalate	ND	0.192	0.385	ug/L	1	07/21/25 20:49	EPA 8270E	
Butyl benzyl phthalate	ND	0.192	0.385	ug/L	1	07/21/25 20:49	EPA 8270E	
Diethylphthalate	ND	0.192	0.385	ug/L	1	07/21/25 20:49	EPA 8270E	
Dimethylphthalate	ND	0.192	0.385	ug/L	1	07/21/25 20:49	EPA 8270E	
Di-n-butylphthalate	ND	0.192	0.385	ug/L	1	07/21/25 20:49	EPA 8270E	
Di-n-octyl phthalate	ND	0.192	0.385	ug/L	1	07/21/25 20:49	EPA 8270E	
N-Nitrosodimethylamine	ND	0.0481	0.0962	ug/L	1	07/21/25 20:49	EPA 8270E	
N-Nitroso-di-n-propylamine	ND	0.0240	0.0481	ug/L	1	07/21/25 20:49	EPA 8270E	

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ANALYTICAL REPORT

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ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
22B-U-D-20250609 (A5F1150-03RE2)				Matrix: Water		Batch: 25F0406		
N-Nitrosodiphenylamine	ND	0.0240	0.0481	ug/L	1	07/21/25 20:49	EPA 8270E	
Bis(2-Chloroethoxy) methane	ND	0.0240	0.0481	ug/L	1	07/21/25 20:49	EPA 8270E	
Bis(2-Chloroethyl) ether	ND	0.0240	0.0481	ug/L	1	07/21/25 20:49	EPA 8270E	
2,2'-Oxybis(1-Chloropropane)	ND	0.0240	0.0481	ug/L	1	07/21/25 20:49	EPA 8270E	
Hexachlorobenzene	ND	0.00962	0.0192	ug/L	1	07/21/25 20:49	EPA 8270E	
Hexachlorobutadiene	ND	0.0240	0.0481	ug/L	1	07/21/25 20:49	EPA 8270E	
Hexachlorocyclopentadiene	ND	0.0481	0.0962	ug/L	1	07/21/25 20:49	EPA 8270E	
Hexachloroethane	ND	0.0240	0.0481	ug/L	1	07/21/25 20:49	EPA 8270E	
2-Chloronaphthalene	ND	0.00962	0.0192	ug/L	1	07/21/25 20:49	EPA 8270E	
1,2,4-Trichlorobenzene	ND	0.0240	0.0481	ug/L	1	07/21/25 20:49	EPA 8270E	
4-Bromophenyl phenyl ether	ND	0.0240	0.0481	ug/L	1	07/21/25 20:49	EPA 8270E	
4-Chlorophenyl phenyl ether	ND	0.0240	0.0481	ug/L	1	07/21/25 20:49	EPA 8270E	
Aniline	ND	0.0481	0.0962	ug/L	1	07/21/25 20:49	EPA 8270E	
4-Chloroaniline	ND	0.0962	0.192	ug/L	1	07/21/25 20:49	EPA 8270E	
2-Nitroaniline	ND	0.192	0.385	ug/L	1	07/21/25 20:49	EPA 8270E	
3-Nitroaniline	ND	0.192	0.385	ug/L	1	07/21/25 20:49	EPA 8270E	
4-Nitroaniline	ND	0.192	0.385	ug/L	1	07/21/25 20:49	EPA 8270E	
Nitrobenzene	ND	0.0962	0.192	ug/L	1	07/21/25 20:49	EPA 8270E	
2,4-Dinitrotoluene	ND	0.0962	0.192	ug/L	1	07/21/25 20:49	EPA 8270E	
2,6-Dinitrotoluene	ND	0.192	0.192	ug/L	1	07/21/25 20:49	EPA 8270E	
Benzoic acid	ND	2.40	2.40	ug/L	1	07/21/25 20:49	EPA 8270E	
Benzyl alcohol	ND	0.192	0.385	ug/L	1	07/21/25 20:49	EPA 8270E	
Isophorone	ND	0.0240	0.0481	ug/L	1	07/21/25 20:49	EPA 8270E	
Azobenzene (1,2-DPH)	ND	0.0240	0.0481	ug/L	1	07/21/25 20:49	EPA 8270E	
Bis(2-Ethylhexyl) adipate	ND	0.240	0.481	ug/L	1	07/21/25 20:49	EPA 8270E	
3,3'-Dichlorobenzidine	ND	0.962	0.962	ug/L	1	07/21/25 20:49	EPA 8270E	Q-52
1,2-Dinitrobenzene	ND	0.240	0.481	ug/L	1	07/21/25 20:49	EPA 8270E	
1,3-Dinitrobenzene	ND	0.240	0.481	ug/L	1	07/21/25 20:49	EPA 8270E	
1,4-Dinitrobenzene	ND	0.240	0.481	ug/L	1	07/21/25 20:49	EPA 8270E	
Pyridine	ND	0.0962	0.192	ug/L	1	07/21/25 20:49	EPA 8270E	
1,2-Dichlorobenzene	ND	0.0240	0.0481	ug/L	1	07/21/25 20:49	EPA 8270E	
1,3-Dichlorobenzene	ND	0.0240	0.0481	ug/L	1	07/21/25 20:49	EPA 8270E	
1,4-Dichlorobenzene	ND	0.0240	0.0481	ug/L	1	07/21/25 20:49	EPA 8270E	

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ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
22B-U-D-20250609 (A5F1150-03RE2)				Matrix: Water		Batch: 25F0406		
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 79 %</i>		<i>Limits: 44-120 %</i>	<i>1</i>	<i>07/21/25 20:49</i>	<i>EPA 8270E</i>	
<i>2-Fluorobiphenyl (Surr)</i>			<i>66 %</i>	<i>44-120 %</i>	<i>1</i>	<i>07/21/25 20:49</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>			<i>29 %</i>	<i>10-133 %</i>	<i>1</i>	<i>07/21/25 20:49</i>	<i>EPA 8270E</i>	<i>Q-41</i>
<i>p-Terphenyl-d14 (Surr)</i>			<i>70 %</i>	<i>50-134 %</i>	<i>1</i>	<i>07/21/25 20:49</i>	<i>EPA 8270E</i>	
<i>2-Fluorophenol (Surr)</i>			<i>36 %</i>	<i>19-120 %</i>	<i>1</i>	<i>07/21/25 20:49</i>	<i>EPA 8270E</i>	
<i>2,4,6-Tribromophenol (Surr)</i>			<i>89 %</i>	<i>43-140 %</i>	<i>1</i>	<i>07/21/25 20:49</i>	<i>EPA 8270E</i>	

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ANALYTICAL SAMPLE RESULTS

Low Level Mercury by Cold Vapor Atomic Fluorescence (CVAF) by EPA 1631E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
				Matrix: Water		Batch: 25F0321		
Mercury	1.17	0.250	0.500	ng/L	1	06/11/25 18:38	EPA 1631E-LL	
				Matrix: Water		Batch: 25F0321		
Mercury	1.33	0.250	0.500	ng/L	1	06/11/25 18:53	EPA 1631E-LL	

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ANALYTICAL SAMPLE RESULTS

Dissolved Low Level Mercury by Cold Vapor Atomic Fluorescence (CVAF) by EPA 1631E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
22B-F-S-20250609 (A5F1150-02)				Matrix: Water		Batch: 25F0336		
Mercury	0.564	0.250	0.500	ng/L	1	06/11/25 19:43	EPA 1631E-LL (Diss)	
22B-F-D-20250609 (A5F1150-04)				Matrix: Water		Batch: 25F0336		
Mercury	0.519	0.250	0.500	ng/L	1	06/11/25 19:58	EPA 1631E-LL (Diss)	
22B-F-RB-20250609 (A5F1150-05)				Matrix: Water		Batch: 25F0336		
Mercury	ND	0.250	0.500	ng/L	1	06/11/25 20:03	EPA 1631E-LL (Diss)	A-01

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503-718-2323
ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
22B-U-S-20250609 (A5F1150-01) Matrix: Water								
Batch: 25F0357								
Arsenic	5.76	0.500	1.00	ug/L	1	06/11/25 17:01	EPA 200.8	
Barium	27.9	1.00	2.00	ug/L	1	06/11/25 17:01	EPA 200.8	
Cadmium	ND	0.100	0.200	ug/L	1	06/11/25 17:01	EPA 200.8	
Calcium	36900	375	600	ug/L	1	06/11/25 17:01	EPA 200.8	
Chromium	ND	1.00	2.00	ug/L	1	06/11/25 17:01	EPA 200.8	
Copper	1.15	1.00	2.00	ug/L	1	06/11/25 17:01	EPA 200.8	J
Iron	973	25.0	50.0	ug/L	1	06/11/25 17:01	EPA 200.8	
Lead	0.435	0.100	0.200	ug/L	1	06/11/25 17:01	EPA 200.8	
Magnesium	11600	75.0	150	ug/L	1	06/11/25 17:01	EPA 200.8	
Manganese	65.5	0.500	1.00	ug/L	1	06/11/25 17:01	EPA 200.8	
Nickel	1.43	1.00	2.00	ug/L	1	06/11/25 17:01	EPA 200.8	J
Selenium	ND	0.500	1.00	ug/L	1	06/11/25 17:01	EPA 200.8	
Silver	ND	0.100	0.200	ug/L	1	06/11/25 17:01	EPA 200.8	
Zinc	4.01	2.00	4.00	ug/L	1	06/11/25 17:01	EPA 200.8	
22B-U-D-20250609 (A5F1150-03) Matrix: Water								
Batch: 25F0357								
Arsenic	9.16	0.500	1.00	ug/L	1	06/11/25 17:18	EPA 200.8	
Barium	34.4	1.00	2.00	ug/L	1	06/11/25 17:18	EPA 200.8	
Cadmium	0.102	0.100	0.200	ug/L	1	06/11/25 17:18	EPA 200.8	J
Calcium	37100	375	600	ug/L	1	06/11/25 17:18	EPA 200.8	
Chromium	ND	1.00	2.00	ug/L	1	06/11/25 17:18	EPA 200.8	
Copper	3.08	1.00	2.00	ug/L	1	06/11/25 17:18	EPA 200.8	
Iron	2290	25.0	50.0	ug/L	1	06/11/25 17:18	EPA 200.8	
Lead	1.73	0.100	0.200	ug/L	1	06/11/25 17:18	EPA 200.8	
Magnesium	11500	75.0	150	ug/L	1	06/11/25 17:18	EPA 200.8	
Manganese	108	0.500	1.00	ug/L	1	06/11/25 17:18	EPA 200.8	
Nickel	1.73	1.00	2.00	ug/L	1	06/11/25 17:18	EPA 200.8	J
Selenium	ND	0.500	1.00	ug/L	1	06/11/25 17:18	EPA 200.8	
Silver	ND	0.100	0.200	ug/L	1	06/11/25 17:18	EPA 200.8	
Zinc	12.5	2.00	4.00	ug/L	1	06/11/25 17:18	EPA 200.8	

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ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
22B-F-S-20250609 (A5F1150-02) Matrix: Water								
Batch: 25F0339								
Barium	23.3	0.500	1.00	ug/L	1	06/11/25 18:32	EPA 200.8 (Diss)	
Cadmium	ND	0.100	0.200	ug/L	1	06/11/25 18:32	EPA 200.8 (Diss)	
Calcium	36000	300	600	ug/L	1	06/11/25 18:32	EPA 200.8 (Diss)	
Chromium	ND	1.00	2.00	ug/L	1	06/11/25 18:32	EPA 200.8 (Diss)	
Copper	1.12	1.00	2.00	ug/L	1	06/11/25 18:32	EPA 200.8 (Diss)	J
Iron	47.4	25.0	50.0	ug/L	1	06/11/25 18:32	EPA 200.8 (Diss)	J
Lead	ND	0.100	0.200	ug/L	1	06/11/25 18:32	EPA 200.8 (Diss)	
Magnesium	11600	75.0	150	ug/L	1	06/11/25 18:32	EPA 200.8 (Diss)	
Manganese	41.9	0.500	1.00	ug/L	1	06/11/25 18:32	EPA 200.8 (Diss)	
Nickel	1.24	1.00	2.00	ug/L	1	06/11/25 18:32	EPA 200.8 (Diss)	J
Selenium	ND	0.500	1.00	ug/L	1	06/11/25 18:32	EPA 200.8 (Diss)	
Silver	ND	0.100	0.200	ug/L	1	06/11/25 18:32	EPA 200.8 (Diss)	
Zinc	ND	2.00	4.00	ug/L	1	06/11/25 18:32	EPA 200.8 (Diss)	
22B-F-S-20250609 (A5F1150-02RE1) Matrix: Water								
Batch: 25F0339								
Arsenic	3.27	0.500	1.00	ug/L	1	06/12/25 17:55	EPA 200.8 (Diss)	
22B-F-D-20250609 (A5F1150-04) Matrix: Water								
Batch: 25F0339								
Barium	23.8	0.500	1.00	ug/L	1	06/11/25 18:48	EPA 200.8 (Diss)	
Cadmium	ND	0.100	0.200	ug/L	1	06/11/25 18:48	EPA 200.8 (Diss)	
Calcium	36900	300	600	ug/L	1	06/11/25 18:48	EPA 200.8 (Diss)	
Chromium	ND	1.00	2.00	ug/L	1	06/11/25 18:48	EPA 200.8 (Diss)	
Copper	ND	1.00	2.00	ug/L	1	06/11/25 18:48	EPA 200.8 (Diss)	
Iron	76.1	25.0	50.0	ug/L	1	06/11/25 18:48	EPA 200.8 (Diss)	
Lead	ND	0.100	0.200	ug/L	1	06/11/25 18:48	EPA 200.8 (Diss)	
Magnesium	11800	75.0	150	ug/L	1	06/11/25 18:48	EPA 200.8 (Diss)	
Manganese	41.5	0.500	1.00	ug/L	1	06/11/25 18:48	EPA 200.8 (Diss)	
Nickel	1.40	1.00	2.00	ug/L	1	06/11/25 18:48	EPA 200.8 (Diss)	J
Selenium	ND	0.500	1.00	ug/L	1	06/11/25 18:48	EPA 200.8 (Diss)	
Silver	ND	0.100	0.200	ug/L	1	06/11/25 18:48	EPA 200.8 (Diss)	
Zinc	ND	2.00	4.00	ug/L	1	06/11/25 18:48	EPA 200.8 (Diss)	

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ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
22B-F-D-20250609 (A5F1150-04RE1)					Matrix: Water				
Batch: 25F0339									
Arsenic	3.28	0.500	1.00	ug/L	1	06/12/25 18:22	EPA 200.8 (Diss)		
22B-F-RB-20250609 (A5F1150-05)					Matrix: Water				
Batch: 25F0339									
Arsenic	ND	0.500	1.00	ug/L	1	06/11/25 19:04	EPA 200.8 (Diss)		
Barium	ND	0.500	1.00	ug/L	1	06/11/25 19:04	EPA 200.8 (Diss)		
Cadmium	ND	0.100	0.200	ug/L	1	06/11/25 19:04	EPA 200.8 (Diss)		
Calcium	ND	300	600	ug/L	1	06/11/25 19:04	EPA 200.8 (Diss)		
Chromium	ND	1.00	2.00	ug/L	1	06/11/25 19:04	EPA 200.8 (Diss)		
Copper	ND	1.00	2.00	ug/L	1	06/11/25 19:04	EPA 200.8 (Diss)		
Iron	ND	25.0	50.0	ug/L	1	06/11/25 19:04	EPA 200.8 (Diss)		
Lead	ND	0.100	0.200	ug/L	1	06/11/25 19:04	EPA 200.8 (Diss)		
Magnesium	ND	75.0	150	ug/L	1	06/11/25 19:04	EPA 200.8 (Diss)		
Manganese	ND	0.500	1.00	ug/L	1	06/11/25 19:04	EPA 200.8 (Diss)		
Nickel	ND	1.00	2.00	ug/L	1	06/11/25 19:04	EPA 200.8 (Diss)		
Selenium	ND	0.500	1.00	ug/L	1	06/11/25 19:04	EPA 200.8 (Diss)		
Silver	ND	0.100	0.200	ug/L	1	06/11/25 19:04	EPA 200.8 (Diss)		
Zinc	ND	2.00	4.00	ug/L	1	06/11/25 19:04	EPA 200.8 (Diss)		

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ANALYTICAL SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
22B-U-S-20250609 (A5F1150-01)				Matrix: Water				
Batch: 25F0325								
Total Suspended Solids	ND	5.00	5.00	mg/L	1	06/11/25 11:43	SM 2540 D	TSS
22B-U-D-20250609 (A5F1150-03)				Matrix: Water				
Batch: 25F0325								
Total Suspended Solids	ND	5.00	5.00	mg/L	1	06/11/25 11:43	SM 2540 D	TSS

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Table with project information: WSP USA Inc., Project: Starlink Uplands Support, Project Number: US0025871.2251, Project Manager: Ted Norton, Report ID: A5F1150 - 07 22 25 1700

Weck Laboratories, Inc.

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Hexavalent Chromium by IC

Main data table with columns: Analyte, Sample Result, Detection Limit, Reporting Limit, Units, Dilution, Date Analyzed, Method Ref., Notes. Contains 6 rows of sample results for Hexavalent Chromium.

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QUALITY CONTROL (QC) SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0420 - EPA 3510C (Fuels/Acid Ext.)						Water						
Blank (25F0420-BLK1)						Prepared: 06/12/25 09:33 Analyzed: 06/12/25 21:46						
<u>NWTPH-HCID</u>												
Gasoline Range Organics	ND	0.100	0.100	mg/L	1	---	---	---	---	---	---	
Diesel Range Organics	ND	0.250	0.250	mg/L	1	---	---	---	---	---	---	
Oil Range Organics	ND	0.250	0.250	mg/L	1	---	---	---	---	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 81 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>53 %</i>		<i>10-120 %</i>		"						

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QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0453 - EPA 3510C (Fuels/Acid Ext.) w/SG+Acid						Water						
Blank (25F0453-BLK1)			Prepared: 06/12/25 09:33 Analyzed: 06/12/25 20:24									
<u>NWTPH-Dx/SG</u>												
Diesel	ND	0.100	0.200	mg/L	1	---	---	---	---	---	---	
Oil	ND	0.200	0.400	mg/L	1	---	---	---	---	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 92 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
LCS (25F0453-BS1)			Prepared: 06/12/25 09:33 Analyzed: 06/12/25 20:44									
<u>NWTPH-Dx/SG</u>												
Diesel	0.976	0.100	0.200	mg/L	1	1.25	---	78	36-132%	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 91 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
LCS Dup (25F0453-BSD1)			Prepared: 06/12/25 09:33 Analyzed: 06/12/25 21:05									Q-19
<u>NWTPH-Dx/SG</u>												
Diesel	0.927	0.100	0.200	mg/L	1	1.25	---	74	36-132%	5	30%	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 88 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						

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QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0352 - EPA 5030C						Water						
Blank (25F0352-BLK1)						Prepared: 06/11/25 06:56 Analyzed: 06/11/25 12:14						
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	---	---	---	---	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 99 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>107 %</i>		<i>50-150 %</i>		<i>"</i>						
LCS (25F0352-BS2)						Prepared: 06/11/25 06:56 Analyzed: 06/11/25 11:32						
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	0.509	0.0500	0.100	mg/L	1	0.500	---	102	80-120%	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 98 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>104 %</i>		<i>50-150 %</i>		<i>"</i>						
Duplicate (25F0352-DUP1)						Prepared: 06/11/25 06:56 Analyzed: 06/11/25 16:08						
<u>QC Source Sample: Non-SDG (A5F1191-01)</u>												
Gasoline Range Organics	ND	0.100	0.100	mg/L	1	---	ND	---	---	---	---	30%
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 98 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>97 %</i>		<i>50-150 %</i>		<i>"</i>						

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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0352 - EPA 5030C						Water						
Blank (25F0352-BLK1)						Prepared: 06/11/25 06:56 Analyzed: 06/11/25 12:14						
EPA 8260D												
Acetone	ND	10.0	20.0	ug/L	1	---	---	---	---	---	---	
Acrylonitrile	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
Benzene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Bromobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Bromochloromethane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Bromoform	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Bromomethane	ND	5.00	5.00	ug/L	1	---	---	---	---	---	---	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
sec-Butylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Carbon disulfide	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Chlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Chloroethane	ND	5.00	5.00	ug/L	1	---	---	---	---	---	---	
Chloroform	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Chloromethane	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Dibromomethane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	

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ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
---------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------	----------------------------------------------

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0352 - EPA 5030C						Water						
Blank (25F0352-BLK1)						Prepared: 06/11/25 06:56 Analyzed: 06/11/25 12:14						
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
2-Hexanone	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	
Isopropylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Methylene chloride	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
n-Propylbenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Styrene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Toluene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Vinyl chloride	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
m,p-Xylene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
o-Xylene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
trans-1,4-Dichloro-2-butene	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	

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Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

Apex Laboratories, LLC

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503-718-2323
ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0352 - EPA 5030C						Water						
Blank (25F0352-BLK1)			Prepared: 06/11/25 06:56 Analyzed: 06/11/25 12:14									
Acrolein	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	
2-Chloroethyl vinyl ether	ND	10.0	10.0	ug/L	1	---	---	---	---	---	---	
Iodomethane	ND	10.0	10.0	ug/L	1	---	---	---	---	---	---	
Vinyl acetate	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 115 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>100 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>96 %</i>		<i>80-120 %</i>		<i>"</i>						

LCS (25F0352-BS1)		Prepared: 06/11/25 06:56 Analyzed: 06/11/25 11:02										
EPA 8260D												
Acetone	32.5	10.0	20.0	ug/L	1	40.0	---	81	80-120%	---	---	
Acrylonitrile	21.9	1.00	2.00	ug/L	1	20.0	---	109	80-120%	---	---	
Benzene	21.6	0.100	0.200	ug/L	1	20.0	---	108	80-120%	---	---	
Bromobenzene	20.2	0.250	0.500	ug/L	1	20.0	---	101	80-120%	---	---	
Bromochloromethane	23.2	0.500	1.00	ug/L	1	20.0	---	116	80-120%	---	---	
Bromodichloromethane	25.0	0.500	1.00	ug/L	1	20.0	---	125	80-120%	---	---	Q-56
Bromoform	22.6	0.500	1.00	ug/L	1	20.0	---	113	80-120%	---	---	
Bromomethane	32.1	5.00	5.00	ug/L	1	20.0	---	161	80-120%	---	---	Q-56
2-Butanone (MEK)	38.6	5.00	10.0	ug/L	1	40.0	---	96	80-120%	---	---	
n-Butylbenzene	22.1	0.500	1.00	ug/L	1	20.0	---	110	80-120%	---	---	
sec-Butylbenzene	22.2	0.500	1.00	ug/L	1	20.0	---	111	80-120%	---	---	
tert-Butylbenzene	19.1	0.500	1.00	ug/L	1	20.0	---	95	80-120%	---	---	
Carbon disulfide	23.8	5.00	10.0	ug/L	1	20.0	---	119	80-120%	---	---	
Carbon tetrachloride	25.6	0.500	1.00	ug/L	1	20.0	---	128	80-120%	---	---	Q-56
Chlorobenzene	20.1	0.250	0.500	ug/L	1	20.0	---	100	80-120%	---	---	
Chloroethane	26.2	5.00	5.00	ug/L	1	20.0	---	131	80-120%	---	---	Q-56
Chloroform	21.8	0.500	1.00	ug/L	1	20.0	---	109	80-120%	---	---	
Chloromethane	18.6	2.50	5.00	ug/L	1	20.0	---	93	80-120%	---	---	
2-Chlorotoluene	21.3	0.500	1.00	ug/L	1	20.0	---	106	80-120%	---	---	
4-Chlorotoluene	20.1	0.500	1.00	ug/L	1	20.0	---	100	80-120%	---	---	
Dibromochloromethane	21.6	0.500	1.00	ug/L	1	20.0	---	108	80-120%	---	---	
1,2-Dibromo-3-chloropropane	21.0	2.50	5.00	ug/L	1	20.0	---	105	80-120%	---	---	
1,2-Dibromoethane (EDB)	20.6	0.250	0.500	ug/L	1	20.0	---	103	80-120%	---	---	
Dibromomethane	23.1	0.500	1.00	ug/L	1	20.0	---	115	80-120%	---	---	

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Philip Nerenberg, Lab Director

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WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0352 - EPA 5030C												
Water												
LCS (25F0352-BS1)												
Prepared: 06/11/25 06:56						Analyzed: 06/11/25 11:02						
1,2-Dichlorobenzene	21.2	0.250	0.500	ug/L	1	20.0	---	106	80-120%	---	---	
1,3-Dichlorobenzene	21.4	0.250	0.500	ug/L	1	20.0	---	107	80-120%	---	---	
1,4-Dichlorobenzene	20.4	0.250	0.500	ug/L	1	20.0	---	102	80-120%	---	---	
Dichlorodifluoromethane	21.1	0.500	1.00	ug/L	1	20.0	---	106	80-120%	---	---	
1,1-Dichloroethane	21.9	0.200	0.400	ug/L	1	20.0	---	110	80-120%	---	---	
1,2-Dichloroethane (EDC)	19.5	0.200	0.400	ug/L	1	20.0	---	97	80-120%	---	---	
1,1-Dichloroethene	22.0	0.200	0.400	ug/L	1	20.0	---	110	80-120%	---	---	
cis-1,2-Dichloroethene	20.8	0.200	0.400	ug/L	1	20.0	---	104	80-120%	---	---	
trans-1,2-Dichloroethene	20.8	0.200	0.400	ug/L	1	20.0	---	104	80-120%	---	---	
1,2-Dichloropropane	21.9	0.250	0.500	ug/L	1	20.0	---	110	80-120%	---	---	
1,3-Dichloropropane	19.5	0.500	1.00	ug/L	1	20.0	---	98	80-120%	---	---	
2,2-Dichloropropane	22.2	0.500	1.00	ug/L	1	20.0	---	111	80-120%	---	---	
1,1-Dichloropropene	21.7	0.500	1.00	ug/L	1	20.0	---	108	80-120%	---	---	
cis-1,3-Dichloropropene	21.9	0.500	1.00	ug/L	1	20.0	---	109	80-120%	---	---	
trans-1,3-Dichloropropene	23.3	0.500	1.00	ug/L	1	20.0	---	117	80-120%	---	---	
Ethylbenzene	19.4	0.250	0.500	ug/L	1	20.0	---	97	80-120%	---	---	
Hexachlorobutadiene	21.6	2.50	5.00	ug/L	1	20.0	---	108	80-120%	---	---	
2-Hexanone	34.0	5.00	10.0	ug/L	1	40.0	---	85	80-120%	---	---	
Isopropylbenzene	19.7	0.500	1.00	ug/L	1	20.0	---	98	80-120%	---	---	
4-Isopropyltoluene	21.9	0.500	1.00	ug/L	1	20.0	---	110	80-120%	---	---	
Methylene chloride	21.5	5.00	10.0	ug/L	1	20.0	---	107	80-120%	---	---	
4-Methyl-2-pentanone (MiBK)	34.5	5.00	10.0	ug/L	1	40.0	---	86	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	19.6	0.500	1.00	ug/L	1	20.0	---	98	80-120%	---	---	
Naphthalene	19.9	2.50	5.00	ug/L	1	20.0	---	99	80-120%	---	---	
n-Propylbenzene	21.1	0.250	0.500	ug/L	1	20.0	---	105	80-120%	---	---	
Styrene	20.2	0.500	1.00	ug/L	1	20.0	---	101	80-120%	---	---	
1,1,1,2-Tetrachloroethane	23.8	0.200	0.400	ug/L	1	20.0	---	119	80-120%	---	---	
1,1,2,2-Tetrachloroethane	22.6	0.250	0.500	ug/L	1	20.0	---	113	80-120%	---	---	
Tetrachloroethene (PCE)	19.0	0.200	0.400	ug/L	1	20.0	---	95	80-120%	---	---	
Toluene	19.3	0.500	1.00	ug/L	1	20.0	---	96	80-120%	---	---	
1,2,3-Trichlorobenzene	20.9	1.00	2.00	ug/L	1	20.0	---	104	80-120%	---	---	
1,2,4-Trichlorobenzene	20.4	1.00	2.00	ug/L	1	20.0	---	102	80-120%	---	---	
1,1,1-Trichloroethane	21.2	0.200	0.400	ug/L	1	20.0	---	106	80-120%	---	---	
1,1,2-Trichloroethane	20.7	0.250	0.500	ug/L	1	20.0	---	104	80-120%	---	---	

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Philip Nerenberg, Lab Director

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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0352 - EPA 5030C												
Water												
LCS (25F0352-BS1)												
Prepared: 06/11/25 06:56						Analyzed: 06/11/25 11:02						
Trichloroethene (TCE)	22.2	0.200	0.400	ug/L	1	20.0	---	111	80-120%	---	---	
Trichlorofluoromethane	33.2	1.00	2.00	ug/L	1	20.0	---	166	80-120%	---	---	Q-56
1,2,3-Trichloropropane	19.6	0.500	1.00	ug/L	1	20.0	---	98	80-120%	---	---	
1,2,4-Trimethylbenzene	21.3	0.500	1.00	ug/L	1	20.0	---	106	80-120%	---	---	
1,3,5-Trimethylbenzene	21.1	0.500	1.00	ug/L	1	20.0	---	106	80-120%	---	---	
Vinyl chloride	24.1	0.100	0.200	ug/L	1	20.0	---	121	80-120%	---	---	Q-56
m,p-Xylene	38.9	0.500	1.00	ug/L	1	40.0	---	97	80-120%	---	---	
o-Xylene	18.4	0.250	0.500	ug/L	1	20.0	---	92	80-120%	---	---	
trans-1,4-Dichloro-2-butene	17.9	5.00	10.0	ug/L	1	20.0	---	90	80-120%	---	---	
Acrolein	16.1	5.00	10.0	ug/L	1	20.0	---	80	80-120%	---	---	
2-Chloroethyl vinyl ether	15.6	10.0	10.0	ug/L	1	20.0	---	78	80-120%	---	---	Q-55
Iodomethane	18.3	10.0	10.0	ug/L	1	20.0	---	92	80-120%	---	---	
Vinyl acetate	16.0	5.00	10.0	ug/L	1	20.0	---	80	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr) Recovery: 111 % Limits: 80-120 % Dilution: 1x												
Toluene-d8 (Surr) 99 % 80-120 % "												
4-Bromofluorobenzene (Surr) 97 % 80-120 % "												

Duplicate (25F0352-DUP1)												
Prepared: 06/11/25 06:56						Analyzed: 06/11/25 16:08						
QC Source Sample: Non-SDG (A5F1191-01)												
Acetone	ND	10.0	20.0	ug/L	1	---	ND	---	---	---	30%	
Acrylonitrile	ND	1.00	2.00	ug/L	1	---	ND	---	---	---	30%	
Benzene	ND	0.100	0.200	ug/L	1	---	ND	---	---	---	30%	
Bromobenzene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
Bromochloromethane	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Bromoform	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Bromomethane	ND	5.00	5.00	ug/L	1	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	---	ND	---	---	---	30%	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
sec-Butylbenzene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Carbon disulfide	ND	5.00	10.0	ug/L	1	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Chlorobenzene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0352 - EPA 5030C						Water						
Duplicate (25F0352-DUP1)						Prepared: 06/11/25 06:56 Analyzed: 06/11/25 16:08						
QC Source Sample: Non-SDG (A5F1191-01)												
Chloroethane	ND	5.00	5.00	ug/L	1	---	ND	---	---	---	30%	
Chloroform	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Chloromethane	ND	2.50	5.00	ug/L	1	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
Dibromomethane	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Ethylbenzene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	---	ND	---	---	---	30%	
2-Hexanone	ND	5.00	10.0	ug/L	1	---	ND	---	---	---	30%	
Isopropylbenzene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Methylene chloride	ND	5.00	10.0	ug/L	1	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MIBK)	ND	5.00	10.0	ug/L	1	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Naphthalene	ND	2.50	5.00	ug/L	1	---	ND	---	---	---	30%	

Apex Laboratories

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
---------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------	----------------------------------------------

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0352 - EPA 5030C												
Water												
Duplicate (25F0352-DUP1)												
Prepared: 06/11/25 06:56 Analyzed: 06/11/25 16:08												
QC Source Sample: Non-SDG (A5F1191-01)												
n-Propylbenzene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
Styrene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
Toluene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Vinyl chloride	ND	0.100	0.200	ug/L	1	---	ND	---	---	---	30%	
m,p-Xylene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
o-Xylene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
trans-1,4-Dichloro-2-butene	ND	5.00	10.0	ug/L	1	---	ND	---	---	---	30%	
Acrolein	ND	5.00	10.0	ug/L	1	---	ND	---	---	---	30%	
2-Chloroethyl vinyl ether	ND	10.0	10.0	ug/L	1	---	ND	---	---	---	30%	
Iodomethane	ND	10.0	10.0	ug/L	1	---	ND	---	---	---	30%	
Vinyl acetate	ND	5.00	10.0	ug/L	1	---	ND	---	---	---	30%	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 111 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>98 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>99 %</i>		<i>80-120 %</i>		<i>"</i>						

Matrix Spike (25F0352-MS1)												
Prepared: 06/11/25 06:56 Analyzed: 06/11/25 16:50												
QC Source Sample: 22B-U-S-20250609 (A5F1150-01)												
EPA 8260D												
Acetone	32.6	10.0	20.0	ug/L	1	40.0	ND	82	39-160%	---	---	
Acrylonitrile	21.0	1.00	2.00	ug/L	1	20.0	ND	105	63-135%	---	---	
Benzene	22.1	0.100	0.200	ug/L	1	20.0	ND	111	79-120%	---	---	

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Philip Nerenberg, Lab Director



ANALYTICAL REPORT

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503-718-2323
ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0352 - EPA 5030C						Water						
Matrix Spike (25F0352-MS1)						Prepared: 06/11/25 06:56 Analyzed: 06/11/25 16:50						
QC Source Sample: 22B-U-S-20250609 (A5F1150-01)												
Bromobenzene	20.4	0.250	0.500	ug/L	1	20.0	ND	102	80-120%	---	---	
Bromochloromethane	22.3	0.500	1.00	ug/L	1	20.0	ND	111	78-123%	---	---	
Bromodichloromethane	24.5	0.500	1.00	ug/L	1	20.0	ND	122	79-125%	---	---	Q-54e
Bromoform	23.8	0.500	1.00	ug/L	1	20.0	ND	119	66-130%	---	---	
Bromomethane	32.7	5.00	5.00	ug/L	1	20.0	ND	163	53-141%	---	---	Q-54c
2-Butanone (MEK)	38.9	5.00	10.0	ug/L	1	40.0	ND	97	56-143%	---	---	
n-Butylbenzene	22.2	0.500	1.00	ug/L	1	20.0	ND	111	75-128%	---	---	
sec-Butylbenzene	22.5	0.500	1.00	ug/L	1	20.0	ND	113	77-126%	---	---	
tert-Butylbenzene	19.5	0.500	1.00	ug/L	1	20.0	ND	97	78-124%	---	---	
Carbon disulfide	24.4	5.00	10.0	ug/L	1	20.0	ND	122	64-133%	---	---	
Carbon tetrachloride	28.8	0.500	1.00	ug/L	1	20.0	ND	144	72-136%	---	---	Q-54f
Chlorobenzene	20.6	0.250	0.500	ug/L	1	20.0	ND	103	80-120%	---	---	
Chloroethane	27.0	5.00	5.00	ug/L	1	20.0	ND	135	60-138%	---	---	Q-54a
Chloroform	22.3	0.500	1.00	ug/L	1	20.0	ND	111	79-124%	---	---	
Chloromethane	17.9	2.50	5.00	ug/L	1	20.0	ND	89	50-139%	---	---	
2-Chlorotoluene	21.6	0.500	1.00	ug/L	1	20.0	ND	108	79-122%	---	---	
4-Chlorotoluene	19.4	0.500	1.00	ug/L	1	20.0	ND	97	78-122%	---	---	
Dibromochloromethane	22.3	0.500	1.00	ug/L	1	20.0	ND	111	74-126%	---	---	
1,2-Dibromo-3-chloropropane	22.8	2.50	5.00	ug/L	1	20.0	ND	114	62-128%	---	---	
1,2-Dibromoethane (EDB)	22.0	0.250	0.500	ug/L	1	20.0	ND	110	77-121%	---	---	
Dibromomethane	23.4	0.500	1.00	ug/L	1	20.0	ND	117	79-123%	---	---	
1,2-Dichlorobenzene	21.1	0.250	0.500	ug/L	1	20.0	ND	106	80-120%	---	---	
1,3-Dichlorobenzene	20.9	0.250	0.500	ug/L	1	20.0	ND	105	80-120%	---	---	
1,4-Dichlorobenzene	20.0	0.250	0.500	ug/L	1	20.0	ND	100	79-120%	---	---	
Dichlorodifluoromethane	24.7	0.500	1.00	ug/L	1	20.0	ND	124	32-152%	---	---	
1,1-Dichloroethane	22.2	0.200	0.400	ug/L	1	20.0	ND	111	77-125%	---	---	
1,2-Dichloroethane (EDC)	19.6	0.200	0.400	ug/L	1	20.0	ND	98	73-128%	---	---	
1,1-Dichloroethene	23.8	0.200	0.400	ug/L	1	20.0	ND	119	71-131%	---	---	
cis-1,2-Dichloroethene	21.5	0.200	0.400	ug/L	1	20.0	ND	108	78-123%	---	---	
trans-1,2-Dichloroethene	21.6	0.200	0.400	ug/L	1	20.0	ND	108	75-124%	---	---	
1,2-Dichloropropane	21.8	0.250	0.500	ug/L	1	20.0	ND	109	78-122%	---	---	
1,3-Dichloropropane	20.2	0.500	1.00	ug/L	1	20.0	ND	101	80-120%	---	---	
2,2-Dichloropropane	23.0	0.500	1.00	ug/L	1	20.0	ND	115	60-139%	---	---	

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Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

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6700 S.W. Sandburg Street
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503-718-2323
ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
---------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------	----------------------------------------------

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0352 - EPA 5030C						Water						
Matrix Spike (25F0352-MS1)						Prepared: 06/11/25 06:56 Analyzed: 06/11/25 16:50						
QC Source Sample: 22B-U-S-20250609 (A5F1150-01)												
1,1-Dichloropropene	23.8	0.500	1.00	ug/L	1	20.0	ND	119	79-125%	---	---	
cis-1,3-Dichloropropene	22.9	0.500	1.00	ug/L	1	20.0	ND	114	75-124%	---	---	
trans-1,3-Dichloropropene	23.6	0.500	1.00	ug/L	1	20.0	ND	118	73-127%	---	---	
Ethylbenzene	20.4	0.250	0.500	ug/L	1	20.0	ND	102	79-121%	---	---	
Hexachlorobutadiene	24.6	2.50	5.00	ug/L	1	20.0	ND	123	66-134%	---	---	
2-Hexanone	35.6	5.00	10.0	ug/L	1	40.0	ND	89	57-139%	---	---	
Isopropylbenzene	21.4	0.500	1.00	ug/L	1	20.0	ND	107	72-131%	---	---	
4-Isopropyltoluene	22.6	0.500	1.00	ug/L	1	20.0	ND	113	77-127%	---	---	
Methylene chloride	20.8	5.00	10.0	ug/L	1	20.0	ND	104	74-124%	---	---	
4-Methyl-2-pentanone (MiBK)	36.2	5.00	10.0	ug/L	1	40.0	ND	90	67-130%	---	---	
Methyl tert-butyl ether (MTBE)	20.8	0.500	1.00	ug/L	1	20.0	ND	104	71-124%	---	---	
Naphthalene	22.2	2.50	5.00	ug/L	1	20.0	ND	111	61-128%	---	---	
n-Propylbenzene	20.8	0.250	0.500	ug/L	1	20.0	ND	104	76-126%	---	---	
Styrene	20.7	0.500	1.00	ug/L	1	20.0	ND	104	78-123%	---	---	
1,1,1,2-Tetrachloroethane	24.7	0.200	0.400	ug/L	1	20.0	ND	124	78-124%	---	---	
1,1,2,2-Tetrachloroethane	21.2	0.250	0.500	ug/L	1	20.0	ND	106	71-121%	---	---	
Tetrachloroethene (PCE)	21.8	0.200	0.400	ug/L	1	20.0	ND	109	74-129%	---	---	
Toluene	19.9	0.500	1.00	ug/L	1	20.0	ND	99	80-121%	---	---	
1,2,3-Trichlorobenzene	22.3	1.00	2.00	ug/L	1	20.0	ND	111	69-129%	---	---	
1,2,4-Trichlorobenzene	22.4	1.00	2.00	ug/L	1	20.0	ND	112	69-130%	---	---	
1,1,1-Trichloroethane	23.3	0.200	0.400	ug/L	1	20.0	ND	116	74-131%	---	---	
1,1,2-Trichloroethane	21.1	0.250	0.500	ug/L	1	20.0	ND	105	80-120%	---	---	
Trichloroethene (TCE)	24.3	0.200	0.400	ug/L	1	20.0	ND	121	79-123%	---	---	
Trichlorofluoromethane	35.1	1.00	2.00	ug/L	1	20.0	ND	176	65-141%	---	---	Q-54d
1,2,3-Trichloropropane	18.9	0.500	1.00	ug/L	1	20.0	ND	94	73-122%	---	---	
1,2,4-Trimethylbenzene	21.1	0.500	1.00	ug/L	1	20.0	ND	105	76-124%	---	---	
1,3,5-Trimethylbenzene	21.1	0.500	1.00	ug/L	1	20.0	ND	105	75-124%	---	---	
Vinyl chloride	25.6	0.100	0.200	ug/L	1	20.0	ND	128	58-137%	---	---	Q-54
m,p-Xylene	40.8	0.500	1.00	ug/L	1	40.0	ND	102	80-121%	---	---	
o-Xylene	19.8	0.250	0.500	ug/L	1	20.0	ND	99	78-122%	---	---	
trans-1,4-Dichloro-2-butene	17.8	5.00	10.0	ug/L	1	20.0	ND	89	43-140%	---	---	
Acrolein	7.36	5.00	10.0	ug/L	1	20.0	ND	37	39-155%	---	---	J, Q-02
2-Chloroethyl vinyl ether	16.6	10.0	10.0	ug/L	1	20.0	ND	83	51-139%	---	---	Q-54h

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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0352 - EPA 5030C												
Water												
Matrix Spike (25F0352-MS1)			Prepared: 06/11/25 06:56 Analyzed: 06/11/25 16:50									
QC Source Sample: 22B-U-S-20250609 (A5F1150-01)												
Iodomethane	19.0	10.0	10.0	ug/L	1	20.0	ND	95	69-131%	---	---	
Vinyl acetate	14.8	5.00	10.0	ug/L	1	20.0	ND	74	54-146%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 110 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>97 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>100 %</i>		<i>80-120 %</i>		<i>"</i>						

Matrix Spike Dup (25F0352-MSD1)			Prepared: 06/11/25 06:56 Analyzed: 06/11/25 17:12									
QC Source Sample: 22B-U-S-20250609 (A5F1150-01)												
EPA 8260D												
Acetone	34.8	10.0	20.0	ug/L	1	40.0	ND	87	39-160%	7	30%	
Acrylonitrile	21.8	1.00	2.00	ug/L	1	20.0	ND	109	63-135%	4	30%	
Benzene	22.3	0.100	0.200	ug/L	1	20.0	ND	111	79-120%	0.7	30%	
Bromobenzene	21.0	0.250	0.500	ug/L	1	20.0	ND	105	80-120%	3	30%	
Bromochloromethane	22.4	0.500	1.00	ug/L	1	20.0	ND	112	78-123%	0.6	30%	
Bromodichloromethane	25.3	0.500	1.00	ug/L	1	20.0	ND	126	79-125%	3	30%	Q-54e
Bromoform	24.7	0.500	1.00	ug/L	1	20.0	ND	123	66-130%	3	30%	
Bromomethane	33.1	5.00	5.00	ug/L	1	20.0	ND	166	53-141%	1	30%	Q-54c
2-Butanone (MEK)	39.8	5.00	10.0	ug/L	1	40.0	ND	99	56-143%	2	30%	
n-Butylbenzene	22.4	0.500	1.00	ug/L	1	20.0	ND	112	75-128%	1	30%	
sec-Butylbenzene	22.8	0.500	1.00	ug/L	1	20.0	ND	114	77-126%	1	30%	
tert-Butylbenzene	19.9	0.500	1.00	ug/L	1	20.0	ND	100	78-124%	2	30%	
Carbon disulfide	25.2	5.00	10.0	ug/L	1	20.0	ND	126	64-133%	3	30%	
Carbon tetrachloride	29.6	0.500	1.00	ug/L	1	20.0	ND	148	72-136%	3	30%	Q-54f
Chlorobenzene	21.0	0.250	0.500	ug/L	1	20.0	ND	105	80-120%	2	30%	
Chloroethane	27.9	5.00	5.00	ug/L	1	20.0	ND	140	60-138%	3	30%	Q-54a
Chloroform	22.6	0.500	1.00	ug/L	1	20.0	ND	113	79-124%	1	30%	
Chloromethane	18.1	2.50	5.00	ug/L	1	20.0	ND	91	50-139%	1	30%	
2-Chlorotoluene	21.8	0.500	1.00	ug/L	1	20.0	ND	109	79-122%	0.7	30%	
4-Chlorotoluene	19.6	0.500	1.00	ug/L	1	20.0	ND	98	78-122%	0.9	30%	
Dibromochloromethane	22.9	0.500	1.00	ug/L	1	20.0	ND	115	74-126%	3	30%	
1,2-Dibromo-3-chloropropane	23.2	2.50	5.00	ug/L	1	20.0	ND	116	62-128%	2	30%	
1,2-Dibromoethane (EDB)	22.5	0.250	0.500	ug/L	1	20.0	ND	112	77-121%	2	30%	
Dibromomethane	23.9	0.500	1.00	ug/L	1	20.0	ND	119	79-123%	2	30%	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0352 - EPA 5030C												
Water												
Matrix Spike Dup (25F0352-MSD1)												
Prepared: 06/11/25 06:56 Analyzed: 06/11/25 17:12												
QC Source Sample: 22B-U-S-20250609 (A5F1150-01)												
1,2-Dichlorobenzene	21.5	0.250	0.500	ug/L	1	20.0	ND	107	80-120%	2	30%	
1,3-Dichlorobenzene	21.2	0.250	0.500	ug/L	1	20.0	ND	106	80-120%	1	30%	
1,4-Dichlorobenzene	20.4	0.250	0.500	ug/L	1	20.0	ND	102	79-120%	2	30%	
Dichlorodifluoromethane	25.2	0.500	1.00	ug/L	1	20.0	ND	126	32-152%	2	30%	
1,1-Dichloroethane	22.4	0.200	0.400	ug/L	1	20.0	ND	112	77-125%	0.9	30%	
1,2-Dichloroethane (EDC)	19.8	0.200	0.400	ug/L	1	20.0	ND	99	73-128%	1	30%	
1,1-Dichloroethene	24.3	0.200	0.400	ug/L	1	20.0	ND	122	71-131%	2	30%	
cis-1,2-Dichloroethene	21.8	0.200	0.400	ug/L	1	20.0	ND	109	78-123%	1	30%	
trans-1,2-Dichloroethene	22.2	0.200	0.400	ug/L	1	20.0	ND	111	75-124%	3	30%	
1,2-Dichloropropane	22.2	0.250	0.500	ug/L	1	20.0	ND	111	78-122%	2	30%	
1,3-Dichloropropane	20.2	0.500	1.00	ug/L	1	20.0	ND	101	80-120%	0.1	30%	
2,2-Dichloropropane	23.4	0.500	1.00	ug/L	1	20.0	ND	117	60-139%	2	30%	
1,1-Dichloropropene	24.2	0.500	1.00	ug/L	1	20.0	ND	121	79-125%	2	30%	
cis-1,3-Dichloropropene	23.1	0.500	1.00	ug/L	1	20.0	ND	115	75-124%	1	30%	
trans-1,3-Dichloropropene	24.3	0.500	1.00	ug/L	1	20.0	ND	121	73-127%	3	30%	
Ethylbenzene	20.4	0.250	0.500	ug/L	1	20.0	ND	102	79-121%	0.1	30%	
Hexachlorobutadiene	25.5	2.50	5.00	ug/L	1	20.0	ND	127	66-134%	3	30%	
2-Hexanone	36.3	5.00	10.0	ug/L	1	40.0	ND	91	57-139%	2	30%	
Isopropylbenzene	22.0	0.500	1.00	ug/L	1	20.0	ND	110	72-131%	3	30%	
4-Isopropyltoluene	22.7	0.500	1.00	ug/L	1	20.0	ND	114	77-127%	0.7	30%	
Methylene chloride	21.1	5.00	10.0	ug/L	1	20.0	ND	105	74-124%	1	30%	
4-Methyl-2-pentanone (MIBK)	36.9	5.00	10.0	ug/L	1	40.0	ND	92	67-130%	2	30%	
Methyl tert-butyl ether (MTBE)	21.5	0.500	1.00	ug/L	1	20.0	ND	107	71-124%	3	30%	
Naphthalene	22.6	2.50	5.00	ug/L	1	20.0	ND	113	61-128%	2	30%	
n-Propylbenzene	21.0	0.250	0.500	ug/L	1	20.0	ND	105	76-126%	0.7	30%	
Styrene	20.8	0.500	1.00	ug/L	1	20.0	ND	104	78-123%	0.3	30%	
1,1,1,2-Tetrachloroethane	24.8	0.200	0.400	ug/L	1	20.0	ND	124	78-124%	0.5	30%	
1,1,2,2-Tetrachloroethane	21.6	0.250	0.500	ug/L	1	20.0	ND	108	71-121%	2	30%	
Tetrachloroethene (PCE)	22.0	0.200	0.400	ug/L	1	20.0	ND	110	74-129%	1	30%	
Toluene	20.0	0.500	1.00	ug/L	1	20.0	ND	100	80-121%	0.8	30%	
1,2,3-Trichlorobenzene	22.9	1.00	2.00	ug/L	1	20.0	ND	114	69-129%	3	30%	
1,2,4-Trichlorobenzene	23.2	1.00	2.00	ug/L	1	20.0	ND	116	69-130%	3	30%	
1,1,1-Trichloroethane	23.8	0.200	0.400	ug/L	1	20.0	ND	119	74-131%	2	30%	

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
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503-718-2323
ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0352 - EPA 5030C						Water						
Matrix Spike Dup (25F0352-MSD1)						Prepared: 06/11/25 06:56 Analyzed: 06/11/25 17:12						
QC Source Sample: 22B-U-S-20250609 (A5F1150-01)												
1,1,2-Trichloroethane	21.4	0.250	0.500	ug/L	1	20.0	ND	107	80-120%	1	30%	
Trichloroethene (TCE)	24.7	0.200	0.400	ug/L	1	20.0	ND	123	79-123%	2	30%	
Trichlorofluoromethane	35.4	1.00	2.00	ug/L	1	20.0	ND	177	65-141%	0.7	30%	Q-54d
1,2,3-Trichloropropane	19.8	0.500	1.00	ug/L	1	20.0	ND	99	73-122%	5	30%	
1,2,4-Trimethylbenzene	21.3	0.500	1.00	ug/L	1	20.0	ND	107	76-124%	1	30%	
1,3,5-Trimethylbenzene	21.4	0.500	1.00	ug/L	1	20.0	ND	107	75-124%	2	30%	
Vinyl chloride	26.2	0.100	0.200	ug/L	1	20.0	ND	131	58-137%	2	30%	Q-54
m,p-Xylene	41.5	0.500	1.00	ug/L	1	40.0	ND	104	80-121%	2	30%	
o-Xylene	20.1	0.250	0.500	ug/L	1	20.0	ND	100	78-122%	1	30%	
trans-1,4-Dichloro-2-butene	18.1	5.00	10.0	ug/L	1	20.0	ND	91	43-140%	2	30%	
Acrolein	7.08	5.00	10.0	ug/L	1	20.0	ND	35	39-155%	4	30%	J, Q-02
2-Chloroethyl vinyl ether	16.7	10.0	10.0	ug/L	1	20.0	ND	83	51-139%	0.2	30%	Q-54h
Iodomethane	22.5	10.0	10.0	ug/L	1	20.0	ND	112	69-131%	17	30%	
Vinyl acetate	14.4	5.00	10.0	ug/L	1	20.0	ND	72	54-146%	2	30%	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 111 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>97 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>100 %</i>		<i>80-120 %</i>		<i>"</i>						

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QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0406 - EPA 3510C (Acid/Base Neutral)						Water						
Blank (25F0406-BLK1)						Prepared: 06/12/25 07:29 Analyzed: 06/12/25 18:04						
<u>EPA 8270E</u>												
Acenaphthene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Anthracene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	0.0150	0.0300	ug/L	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	0.0150	0.0300	ug/L	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	0.0150	0.0300	ug/L	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Chrysene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Fluoranthene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Fluorene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	0.0200	0.0400	ug/L	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	0.0200	0.0400	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	0.0200	0.0400	ug/L	1	---	---	---	---	---	---	
Phenanthrene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Pyrene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Carbazole	ND	0.0150	0.0300	ug/L	1	---	---	---	---	---	---	
Dibenzofuran	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
2-Chlorophenol	ND	0.0500	0.100	ug/L	1	---	---	---	---	---	---	
4-Chloro-3-methylphenol	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
2,4-Dichlorophenol	ND	0.0500	0.100	ug/L	1	---	---	---	---	---	---	
2,4-Dimethylphenol	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
2,4-Dinitrophenol	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
4,6-Dinitro-2-methylphenol	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
2-Methylphenol	ND	0.0250	0.0500	ug/L	1	---	---	---	---	---	---	
3+4-Methylphenol(s)	ND	0.0250	0.0500	ug/L	1	---	---	---	---	---	---	
2-Nitrophenol	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
4-Nitrophenol	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Pentachlorophenol (PCP)	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Phenol	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
2,3,4,6-Tetrachlorophenol	ND	0.0500	0.100	ug/L	1	---	---	---	---	---	---	

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ANALYTICAL REPORT

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6700 S.W. Sandburg Street
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503-718-2323
ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
---------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0406 - EPA 3510C (Acid/Base Neutral)						Water						
Blank (25F0406-BLK1)						Prepared: 06/12/25 07:29 Analyzed: 06/12/25 18:04						
2,3,5,6-Tetrachlorophenol	ND	0.0500	0.100	ug/L	1	---	---	---	---	---	---	
2,4,5-Trichlorophenol	ND	0.0500	0.100	ug/L	1	---	---	---	---	---	---	
2,4,6-Trichlorophenol	ND	0.0500	0.100	ug/L	1	---	---	---	---	---	---	
Bis(2-ethylhexyl)phthalate	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Butyl benzyl phthalate	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Diethylphthalate	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Dimethylphthalate	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Di-n-butylphthalate	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Di-n-octyl phthalate	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
N-Nitrosodimethylamine	ND	0.0500	0.100	ug/L	1	---	---	---	---	---	---	
N-Nitroso-di-n-propylamine	ND	0.0250	0.0500	ug/L	1	---	---	---	---	---	---	
N-Nitrosodiphenylamine	ND	0.0250	0.0500	ug/L	1	---	---	---	---	---	---	
Bis(2-Chloroethoxy) methane	ND	0.0250	0.0500	ug/L	1	---	---	---	---	---	---	
Bis(2-Chloroethyl) ether	ND	0.0250	0.0500	ug/L	1	---	---	---	---	---	---	
2,2'-Oxybis(1-Chloropropane)	ND	0.0250	0.0500	ug/L	1	---	---	---	---	---	---	
Hexachlorobenzene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	0.0250	0.0500	ug/L	1	---	---	---	---	---	---	
Hexachlorocyclopentadiene	ND	0.0500	0.100	ug/L	1	---	---	---	---	---	---	
Hexachloroethane	ND	0.0250	0.0500	ug/L	1	---	---	---	---	---	---	
2-Chloronaphthalene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	0.0250	0.0500	ug/L	1	---	---	---	---	---	---	
4-Bromophenyl phenyl ether	ND	0.0250	0.0500	ug/L	1	---	---	---	---	---	---	
4-Chlorophenyl phenyl ether	ND	0.0250	0.0500	ug/L	1	---	---	---	---	---	---	
Aniline	ND	0.0500	0.100	ug/L	1	---	---	---	---	---	---	
4-Chloroaniline	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
2-Nitroaniline	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
3-Nitroaniline	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
4-Nitroaniline	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Nitrobenzene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
2,4-Dinitrotoluene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
2,6-Dinitrotoluene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Benzoic acid	ND	1.25	2.50	ug/L	1	---	---	---	---	---	---	
Benzyl alcohol	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Isophorone	ND	0.0250	0.0500	ug/L	1	---	---	---	---	---	---	

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ANALYTICAL REPORT

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ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
---------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------	----------------------------------------------

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0406 - EPA 3510C (Acid/Base Neutral)						Water						
Blank (25F0406-BLK1)			Prepared: 06/12/25 07:29			Analyzed: 06/12/25 18:04						
Azobenzene (1,2-DPH)	ND	0.0250	0.0500	ug/L	1	---	---	---	---	---	---	
Bis(2-Ethylhexyl) adipate	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
3,3'-Dichlorobenzidine	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	Q-52
1,2-Dinitrobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
1,3-Dinitrobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
1,4-Dinitrobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Pyridine	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	0.0250	0.0500	ug/L	1	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	0.0250	0.0500	ug/L	1	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	0.0250	0.0500	ug/L	1	---	---	---	---	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 64 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 1x</i>						
<i>2-Fluorobiphenyl (Surr)</i>		<i>53 %</i>		<i>44-120 %</i>		<i>"</i>						
<i>Phenol-d6 (Surr)</i>		<i>21 %</i>		<i>10-133 %</i>		<i>"</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>79 %</i>		<i>50-134 %</i>		<i>"</i>						
<i>2-Fluorophenol (Surr)</i>		<i>29 %</i>		<i>19-120 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>46 %</i>		<i>43-140 %</i>		<i>"</i>						

LCS (25F0406-BS1)			Prepared: 06/12/25 07:29			Analyzed: 06/12/25 18:38						
EPA 8270E												
Acenaphthene	2.63	0.0400	0.0800	ug/L	4	4.00	---	66	47-122%	---	---	
Acenaphthylene	2.94	0.0400	0.0800	ug/L	4	4.00	---	74	41-130%	---	---	
Anthracene	3.07	0.0400	0.0800	ug/L	4	4.00	---	77	57-123%	---	---	
Benz(a)anthracene	3.40	0.0400	0.0800	ug/L	4	4.00	---	85	58-125%	---	---	
Benzo(a)pyrene	3.61	0.0600	0.120	ug/L	4	4.00	---	90	54-128%	---	---	
Benzo(b)fluoranthene	3.69	0.0600	0.120	ug/L	4	4.00	---	92	53-131%	---	---	
Benzo(k)fluoranthene	3.63	0.0600	0.120	ug/L	4	4.00	---	91	57-129%	---	---	
Benzo(g,h,i)perylene	3.48	0.0400	0.0800	ug/L	4	4.00	---	87	50-134%	---	---	
Chrysene	3.28	0.0400	0.0800	ug/L	4	4.00	---	82	59-123%	---	---	
Dibenz(a,h)anthracene	3.34	0.0400	0.0800	ug/L	4	4.00	---	84	51-134%	---	---	
Fluoranthene	3.68	0.0400	0.0800	ug/L	4	4.00	---	92	57-128%	---	---	
Fluorene	2.97	0.0400	0.0800	ug/L	4	4.00	---	74	52-124%	---	---	
Indeno(1,2,3-cd)pyrene	3.38	0.0400	0.0800	ug/L	4	4.00	---	85	52-134%	---	---	
1-Methylnaphthalene	2.63	0.0800	0.160	ug/L	4	4.00	---	66	41-120%	---	---	
2-Methylnaphthalene	2.66	0.0800	0.160	ug/L	4	4.00	---	67	40-121%	---	---	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0406 - EPA 3510C (Acid/Base Neutral)						Water						
LCS (25F0406-BS1)			Prepared: 06/12/25 07:29			Analyzed: 06/12/25 18:38						
Naphthalene	2.49	0.0800	0.160	ug/L	4	4.00	---	62	40-121%	---	---	
Phenanthrene	2.97	0.0400	0.0800	ug/L	4	4.00	---	74	59-120%	---	---	
Pyrene	3.58	0.0400	0.0800	ug/L	4	4.00	---	90	57-126%	---	---	
Carbazole	4.03	0.0600	0.120	ug/L	4	4.00	---	101	60-122%	---	---	Q-41
Dibenzofuran	2.83	0.0400	0.0800	ug/L	4	4.00	---	71	53-120%	---	---	
2-Chlorophenol	2.51	0.200	0.400	ug/L	4	4.00	---	63	38-120%	---	---	
4-Chloro-3-methylphenol	3.35	0.400	0.800	ug/L	4	4.00	---	84	52-120%	---	---	
2,4-Dichlorophenol	3.30	0.200	0.400	ug/L	4	4.00	---	83	47-121%	---	---	Q-41
2,4-Dimethylphenol	2.07	1.00	2.00	ug/L	4	4.00	---	52	31-124%	---	---	
2,4-Dinitrophenol	2.19	1.00	2.00	ug/L	4	4.00	---	55	23-143%	---	---	Q-31
4,6-Dinitro-2-methylphenol	3.39	1.00	2.00	ug/L	4	4.00	---	85	44-137%	---	---	
2-Methylphenol	2.16	0.100	0.200	ug/L	4	4.00	---	54	30-120%	---	---	
3+4-Methylphenol(s)	2.14	0.100	0.200	ug/L	4	4.00	---	53	29-120%	---	---	
2-Nitrophenol	2.98	0.400	0.800	ug/L	4	4.00	---	74	47-123%	---	---	
4-Nitrophenol	1.09	0.400	0.800	ug/L	4	4.00	---	27	10-120%	---	---	
Pentachlorophenol (PCP)	2.03	0.400	0.800	ug/L	4	4.00	---	51	35-138%	---	---	Q-31
Phenol	1.22	0.800	0.800	ug/L	4	4.00	---	30	10-120%	---	---	Q-41
2,3,4,6-Tetrachlorophenol	2.54	0.200	0.400	ug/L	4	4.00	---	63	50-128%	---	---	
2,3,5,6-Tetrachlorophenol	2.40	0.200	0.400	ug/L	4	4.00	---	60	50-121%	---	---	
2,4,5-Trichlorophenol	3.20	0.200	0.400	ug/L	4	4.00	---	80	53-123%	---	---	
2,4,6-Trichlorophenol	2.70	0.200	0.400	ug/L	4	4.00	---	68	50-125%	---	---	
Bis(2-ethylhexyl)phthalate	3.29	0.800	1.60	ug/L	4	4.00	---	82	55-135%	---	---	
Butyl benzyl phthalate	3.51	0.800	1.60	ug/L	4	4.00	---	88	53-134%	---	---	
Diethylphthalate	3.42	0.800	1.60	ug/L	4	4.00	---	85	56-125%	---	---	
Dimethylphthalate	3.11	0.800	1.60	ug/L	4	4.00	---	78	45-127%	---	---	
Di-n-butylphthalate	3.84	0.800	1.60	ug/L	4	4.00	---	96	59-127%	---	---	
Di-n-octyl phthalate	4.01	0.800	1.60	ug/L	4	4.00	---	100	51-140%	---	---	
N-Nitrosodimethylamine	1.47	0.200	0.400	ug/L	4	4.00	---	37	19-120%	---	---	
N-Nitroso-di-n-propylamine	2.82	0.100	0.200	ug/L	4	4.00	---	71	49-120%	---	---	
N-Nitrosodiphenylamine	2.80	0.100	0.200	ug/L	4	4.00	---	70	51-123%	---	---	
Bis(2-Chloroethoxy) methane	2.68	0.100	0.200	ug/L	4	4.00	---	67	48-120%	---	---	
Bis(2-Chloroethyl) ether	2.41	0.100	0.200	ug/L	4	4.00	---	60	43-120%	---	---	
2,2'-Oxybis(1-Chloropropane)	2.49	0.100	0.200	ug/L	4	4.00	---	62	41-120%	---	---	
Hexachlorobenzene	2.75	0.0400	0.0800	ug/L	4	4.00	---	69	53-125%	---	---	

Apex Laboratories

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
---------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0406 - EPA 3510C (Acid/Base Neutral)						Water						
LCS (25F0406-BS1)			Prepared: 06/12/25 07:29			Analyzed: 06/12/25 18:38						
Hexachlorobutadiene	2.25	0.100	0.200	ug/L	4	4.00	---	56	22-124%	---	---	
Hexachlorocyclopentadiene	1.68	0.200	0.400	ug/L	4	4.00	---	42	10-127%	---	---	
Hexachloroethane	2.14	0.100	0.200	ug/L	4	4.00	---	54	21-120%	---	---	
2-Chloronaphthalene	2.63	0.0400	0.0800	ug/L	4	4.00	---	66	40-120%	---	---	
1,2,4-Trichlorobenzene	2.34	0.100	0.200	ug/L	4	4.00	---	58	29-120%	---	---	
4-Bromophenyl phenyl ether	2.77	0.100	0.200	ug/L	4	4.00	---	69	55-124%	---	---	
4-Chlorophenyl phenyl ether	2.89	0.100	0.200	ug/L	4	4.00	---	72	53-121%	---	---	
Aniline	1.30	0.200	0.400	ug/L	4	4.00	---	32	10-120%	---	---	
4-Chloroaniline	2.34	0.400	0.800	ug/L	4	4.00	---	58	33-120%	---	---	
2-Nitroaniline	2.98	0.800	1.60	ug/L	4	4.00	---	75	55-127%	---	---	
3-Nitroaniline	3.19	0.800	1.60	ug/L	4	4.00	---	80	41-128%	---	---	Q-41
4-Nitroaniline	3.61	0.800	1.60	ug/L	4	4.00	---	90	25-120%	---	---	
Nitrobenzene	2.66	0.400	0.800	ug/L	4	4.00	---	67	45-121%	---	---	
2,4-Dinitrotoluene	3.12	0.400	0.800	ug/L	4	4.00	---	78	57-128%	---	---	
2,6-Dinitrotoluene	2.86	0.400	0.800	ug/L	4	4.00	---	71	57-124%	---	---	
Benzoic acid	3.58	3.20	3.20	ug/L	4	8.00	---	45	10-120%	---	---	Q-31
Benzyl alcohol	2.30	0.800	1.60	ug/L	4	4.00	---	58	31-120%	---	---	
Isophorone	2.88	0.100	0.200	ug/L	4	4.00	---	72	42-124%	---	---	
Azobenzene (1,2-DPH)	2.61	0.100	0.200	ug/L	4	4.00	---	65	61-120%	---	---	
Bis(2-Ethylhexyl) adipate	3.42	1.00	2.00	ug/L	4	4.00	---	86	63-121%	---	---	
3,3'-Dichlorobenzidine	9.07	2.00	4.00	ug/L	4	8.00	---	113	27-129%	---	---	Q-52
1,2-Dinitrobenzene	2.90	1.00	2.00	ug/L	4	4.00	---	73	59-120%	---	---	
1,3-Dinitrobenzene	2.95	1.00	2.00	ug/L	4	4.00	---	74	49-128%	---	---	
1,4-Dinitrobenzene	3.03	1.00	2.00	ug/L	4	4.00	---	76	54-120%	---	---	
Pyridine	1.40	0.400	0.800	ug/L	4	4.00	---	35	10-120%	---	---	
1,2-Dichlorobenzene	2.13	0.100	0.200	ug/L	4	4.00	---	53	32-120%	---	---	
1,3-Dichlorobenzene	2.05	0.100	0.200	ug/L	4	4.00	---	51	28-120%	---	---	
1,4-Dichlorobenzene	2.13	0.100	0.200	ug/L	4	4.00	---	53	29-120%	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 70 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 4x</i>						
<i>2-Fluorobiphenyl (Surr)</i>		<i>67 %</i>		<i>44-120 %</i>		<i>"</i>						
<i>Phenol-d6 (Surr)</i>		<i>23 %</i>		<i>10-133 %</i>		<i>"</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>84 %</i>		<i>50-134 %</i>		<i>"</i>						
<i>2-Fluorophenol (Surr)</i>		<i>32 %</i>		<i>19-120 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>68 %</i>		<i>43-140 %</i>		<i>"</i>						

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Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0406 - EPA 3510C (Acid/Base Neutral)						Water						
Matrix Spike (25F0406-MS1)						Prepared: 06/12/25 07:29 Analyzed: 06/12/25 20:22						
QC Source Sample: 22B-U-S-20250609 (A5F1150-01RE1)												
EPA 8270E												
Acenaphthene	2.23	0.0377	0.0755	ug/L	4	3.77	ND	59	47-122%	---	---	
Acenaphthylene	2.44	0.0377	0.0755	ug/L	4	3.77	ND	65	41-130%	---	---	
Anthracene	3.06	0.0377	0.0755	ug/L	4	3.77	ND	81	57-123%	---	---	
Benz(a)anthracene	3.21	0.0377	0.0755	ug/L	4	3.77	ND	85	58-125%	---	---	
Benzo(a)pyrene	3.35	0.0566	0.113	ug/L	4	3.77	ND	89	54-128%	---	---	
Benzo(b)fluoranthene	3.46	0.0566	0.113	ug/L	4	3.77	ND	92	53-131%	---	---	
Benzo(k)fluoranthene	3.40	0.0566	0.113	ug/L	4	3.77	ND	90	57-129%	---	---	
Benzo(g,h,i)perylene	3.28	0.0377	0.0755	ug/L	4	3.77	ND	87	50-134%	---	---	
Chrysene	3.22	0.0377	0.0755	ug/L	4	3.77	ND	85	59-123%	---	---	
Dibenz(a,h)anthracene	3.13	0.0377	0.0755	ug/L	4	3.77	ND	83	51-134%	---	---	
Fluoranthene	3.49	0.0377	0.0755	ug/L	4	3.77	ND	92	57-128%	---	---	
Fluorene	2.75	0.0377	0.0755	ug/L	4	3.77	ND	73	52-124%	---	---	
Indeno(1,2,3-cd)pyrene	3.11	0.0377	0.0755	ug/L	4	3.77	ND	82	52-134%	---	---	
1-Methylnaphthalene	1.91	0.0755	0.151	ug/L	4	3.77	ND	51	41-120%	---	---	
2-Methylnaphthalene	1.90	0.0755	0.151	ug/L	4	3.77	ND	50	40-121%	---	---	
Naphthalene	1.71	0.0755	0.151	ug/L	4	3.77	ND	45	40-121%	---	---	
Phenanthrene	2.95	0.0377	0.0755	ug/L	4	3.77	ND	78	59-120%	---	---	
Pyrene	3.38	0.0377	0.0755	ug/L	4	3.77	ND	90	57-126%	---	---	
Carbazole	3.87	0.0566	0.113	ug/L	4	3.77	ND	102	60-122%	---	---	Q-41
Dibenzofuran	2.47	0.0377	0.0755	ug/L	4	3.77	ND	65	53-120%	---	---	
2-Chlorophenol	1.80	0.189	0.377	ug/L	4	3.77	ND	48	38-120%	---	---	
4-Chloro-3-methylphenol	3.25	0.377	0.755	ug/L	4	3.77	ND	86	52-120%	---	---	
2,4-Dichlorophenol	3.08	0.189	0.377	ug/L	4	3.77	0.584	66	47-121%	---	---	Q-41
2,4-Dimethylphenol	2.04	0.943	1.89	ug/L	4	3.77	ND	54	31-124%	---	---	
2,4-Dinitrophenol	3.60	0.943	1.89	ug/L	4	3.77	ND	95	23-143%	---	---	Q-31
4,6-Dinitro-2-methylphenol	3.60	0.943	1.89	ug/L	4	3.77	ND	96	44-137%	---	---	
2-Methylphenol	1.64	0.0943	0.189	ug/L	4	3.77	ND	43	30-120%	---	---	
3+4-Methylphenol(s)	1.59	0.0943	0.189	ug/L	4	3.77	ND	42	29-120%	---	---	
2-Nitrophenol	2.08	0.377	0.755	ug/L	4	3.77	ND	55	47-123%	---	---	
4-Nitrophenol	1.43	0.377	0.755	ug/L	4	3.77	ND	38	10-120%	---	---	
Pentachlorophenol (PCP)	3.22	0.377	0.755	ug/L	4	3.77	ND	85	35-138%	---	---	Q-31

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Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
 Tigard, OR 97223
 503-718-2323
 ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0406 - EPA 3510C (Acid/Base Neutral)						Water						
Matrix Spike (25F0406-MS1)						Prepared: 06/12/25 07:29 Analyzed: 06/12/25 20:22						
QC Source Sample: 22B-U-S-20250609 (A5F1150-01RE1)												
Phenol	0.885	0.755	1.51	ug/L	4	3.77	ND	23	10-120%	---	---	J, Q-41
2,3,4,6-Tetrachlorophenol	3.07	0.189	0.377	ug/L	4	3.77	ND	81	50-128%	---	---	
2,3,5,6-Tetrachlorophenol	3.13	0.189	0.377	ug/L	4	3.77	ND	83	50-121%	---	---	
2,4,5-Trichlorophenol	3.58	0.189	0.377	ug/L	4	3.77	ND	95	53-123%	---	---	
2,4,6-Trichlorophenol	2.75	0.189	0.377	ug/L	4	3.77	ND	73	50-125%	---	---	
Bis(2-ethylhexyl)phthalate	3.47	0.755	1.51	ug/L	4	3.77	ND	92	55-135%	---	---	
Butyl benzyl phthalate	3.62	0.755	1.51	ug/L	4	3.77	ND	96	53-134%	---	---	
Diethylphthalate	3.15	0.755	1.51	ug/L	4	3.77	ND	83	56-125%	---	---	
Dimethylphthalate	2.88	0.755	1.51	ug/L	4	3.77	ND	76	45-127%	---	---	
Di-n-butylphthalate	3.59	0.755	1.51	ug/L	4	3.77	ND	95	59-127%	---	---	
Di-n-octyl phthalate	4.33	0.755	1.51	ug/L	4	3.77	ND	115	51-140%	---	---	
N-Nitrosodimethylamine	1.07	0.189	0.377	ug/L	4	3.77	ND	28	19-120%	---	---	
N-Nitroso-di-n-propylamine	1.95	0.0943	0.189	ug/L	4	3.77	ND	52	49-120%	---	---	
N-Nitrosodiphenylamine	2.80	0.0943	0.189	ug/L	4	3.77	ND	74	51-123%	---	---	
Bis(2-Chloroethoxy) methane	1.87	0.0943	0.189	ug/L	4	3.77	ND	50	48-120%	---	---	
Bis(2-Chloroethyl) ether	1.66	0.0943	0.189	ug/L	4	3.77	ND	44	43-120%	---	---	
2,2'-Oxybis(1-Chloropropane)	1.60	0.0943	0.189	ug/L	4	3.77	ND	43	41-120%	---	---	
Hexachlorobenzene	2.53	0.0377	0.0755	ug/L	4	3.77	ND	67	53-125%	---	---	
Hexachlorobutadiene	1.39	0.0943	0.189	ug/L	4	3.77	ND	37	22-124%	---	---	
Hexachlorocyclopentadiene	1.02	0.189	0.377	ug/L	4	3.77	ND	27	10-127%	---	---	
Hexachloroethane	1.34	0.0943	0.189	ug/L	4	3.77	ND	36	21-120%	---	---	
2-Chloronaphthalene	1.99	0.0377	0.0755	ug/L	4	3.77	ND	53	40-120%	---	---	
1,2,4-Trichlorobenzene	1.50	0.0943	0.189	ug/L	4	3.77	ND	40	29-120%	---	---	
4-Bromophenyl phenyl ether	2.76	0.0943	0.189	ug/L	4	3.77	ND	73	55-124%	---	---	
4-Chlorophenyl phenyl ether	2.66	0.0943	0.189	ug/L	4	3.77	ND	71	53-121%	---	---	
Aniline	0.997	0.189	0.377	ug/L	4	3.77	ND	26	10-120%	---	---	
4-Chloroaniline	0.857	0.377	0.755	ug/L	4	3.77	ND	23	33-120%	---	---	Q-01
2-Nitroaniline	2.78	0.755	1.51	ug/L	4	3.77	ND	74	55-127%	---	---	
3-Nitroaniline	1.14	0.755	1.51	ug/L	4	3.77	ND	30	41-128%	---	---	J, Q-01, Q-41
4-Nitroaniline	1.56	0.755	1.51	ug/L	4	3.77	ND	41	25-120%	---	---	
Nitrobenzene	2.05	0.377	0.755	ug/L	4	3.77	ND	54	45-121%	---	---	
2,4-Dinitrotoluene	3.01	0.377	0.755	ug/L	4	3.77	ND	80	57-128%	---	---	
2,6-Dinitrotoluene	2.81	0.377	0.755	ug/L	4	3.77	ND	75	57-124%	---	---	

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Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

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ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0406 - EPA 3510C (Acid/Base Neutral)						Water						
Matrix Spike (25F0406-MS1)						Prepared: 06/12/25 07:29 Analyzed: 06/12/25 20:22						
QC Source Sample: 22B-U-S-20250609 (A5F1150-01RE1)												
Benzoic acid	ND	9.43	9.43	ug/L	4	7.55	ND		10-120%	---	---	Q-01, Q-31
Benzyl alcohol	1.80	0.755	1.51	ug/L	4	3.77	ND	48	31-120%	---	---	
Isophorone	2.09	0.0943	0.189	ug/L	4	3.77	ND	56	42-124%	---	---	
Azobenzene (1,2-DPH)	2.47	0.0943	0.189	ug/L	4	3.77	ND	65	61-120%	---	---	
Bis(2-Ethylhexyl) adipate	3.62	0.943	1.89	ug/L	4	3.77	ND	96	63-121%	---	---	
3,3'-Dichlorobenzidine	ND	1.89	3.77	ug/L	4	7.55	ND		27-129%	---	---	Q-01, Q-52
1,2-Dinitrobenzene	2.87	0.943	1.89	ug/L	4	3.77	ND	76	59-120%	---	---	
1,3-Dinitrobenzene	2.90	0.943	1.89	ug/L	4	3.77	ND	77	49-128%	---	---	
1,4-Dinitrobenzene	2.86	0.943	1.89	ug/L	4	3.77	ND	76	54-120%	---	---	
Pyridine	1.07	0.377	0.755	ug/L	4	3.77	ND	28	10-120%	---	---	
1,2-Dichlorobenzene	1.38	0.0943	0.189	ug/L	4	3.77	ND	37	32-120%	---	---	
1,3-Dichlorobenzene	1.33	0.0943	0.189	ug/L	4	3.77	ND	35	28-120%	---	---	
1,4-Dichlorobenzene	1.36	0.0943	0.189	ug/L	4	3.77	ND	36	29-120%	---	---	
<i>Surr: Nitrobenzene-d5 (Surr) Recovery: 51 % Limits: 44-120 % Dilution: 4x</i>												
<i>2-Fluorobiphenyl (Surr) 55 % 44-120 % "</i>												
<i>Phenol-d6 (Surr) 17 % 10-133 % "</i>												
<i>p-Terphenyl-d14 (Surr) 69 % 50-134 % "</i>												
<i>2-Fluorophenol (Surr) 24 % 19-120 % "</i>												
<i>2,4,6-Tribromophenol (Surr) 82 % 43-140 % "</i>												

Matrix Spike Dup (25F0406-MSD1)						Prepared: 06/12/25 07:29 Analyzed: 06/12/25 20:55						
QC Source Sample: 22B-U-S-20250609 (A5F1150-01RE1)												
EPA 8270E												
Acenaphthene	2.36	0.0385	0.0769	ug/L	4	3.85	ND	61	47-122%	6	30%	
Acenaphthylene	2.61	0.0385	0.0769	ug/L	4	3.85	ND	68	41-130%	7	30%	
Anthracene	3.17	0.0385	0.0769	ug/L	4	3.85	ND	83	57-123%	4	30%	
Benz(a)anthracene	3.34	0.0385	0.0769	ug/L	4	3.85	ND	87	58-125%	4	30%	
Benzo(a)pyrene	3.64	0.0577	0.115	ug/L	4	3.85	ND	95	54-128%	8	30%	
Benzo(b)fluoranthene	3.70	0.0577	0.115	ug/L	4	3.85	ND	96	53-131%	7	30%	
Benzo(k)fluoranthene	3.55	0.0577	0.115	ug/L	4	3.85	ND	92	57-129%	5	30%	
Benzo(g,h,i)perylene	3.45	0.0385	0.0769	ug/L	4	3.85	ND	90	50-134%	5	30%	
Chrysene	3.36	0.0385	0.0769	ug/L	4	3.85	ND	87	59-123%	4	30%	
Dibenz(a,h)anthracene	3.39	0.0385	0.0769	ug/L	4	3.85	ND	88	51-134%	8	30%	

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ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0406 - EPA 3510C (Acid/Base Neutral)						Water						
Matrix Spike Dup (25F0406-MSD1)						Prepared: 06/12/25 07:29 Analyzed: 06/12/25 20:55						
QC Source Sample: 22B-U-S-20250609 (A5F1150-01RE1)												
Fluoranthene	3.60	0.0385	0.0769	ug/L	4	3.85	ND	94	57-128%	3	30%	
Fluorene	2.89	0.0385	0.0769	ug/L	4	3.85	ND	75	52-124%	5	30%	
Indeno(1,2,3-cd)pyrene	3.26	0.0385	0.0769	ug/L	4	3.85	ND	85	52-134%	5	30%	
1-Methylnaphthalene	2.21	0.0769	0.154	ug/L	4	3.85	ND	58	41-120%	15	30%	
2-Methylnaphthalene	2.22	0.0769	0.154	ug/L	4	3.85	ND	58	40-121%	16	30%	
Naphthalene	2.06	0.0769	0.154	ug/L	4	3.85	ND	54	40-121%	19	30%	
Phenanthrene	3.04	0.0385	0.0769	ug/L	4	3.85	ND	79	59-120%	3	30%	
Pyrene	3.51	0.0385	0.0769	ug/L	4	3.85	ND	91	57-126%	4	30%	
Carbazole	4.01	0.0577	0.115	ug/L	4	3.85	ND	104	60-122%	4	30%	Q-41
Dibenzofuran	2.61	0.0385	0.0769	ug/L	4	3.85	ND	68	53-120%	6	30%	
2-Chlorophenol	2.18	0.192	0.385	ug/L	4	3.85	ND	57	38-120%	19	30%	
4-Chloro-3-methylphenol	3.53	0.385	0.769	ug/L	4	3.85	ND	92	52-120%	8	30%	
2,4-Dichlorophenol	3.62	0.192	0.385	ug/L	4	3.85	0.584	79	47-121%	16	30%	Q-41
2,4-Dimethylphenol	2.29	0.962	1.92	ug/L	4	3.85	ND	59	31-124%	11	30%	
2,4-Dinitrophenol	3.73	0.962	1.92	ug/L	4	3.85	ND	97	23-143%	4	30%	Q-31
4,6-Dinitro-2-methylphenol	3.78	0.962	1.92	ug/L	4	3.85	ND	98	44-137%	5	30%	
2-Methylphenol	1.94	0.0962	0.192	ug/L	4	3.85	ND	50	30-120%	17	30%	
3+4-Methylphenol(s)	1.86	0.0962	0.192	ug/L	4	3.85	ND	48	29-120%	15	30%	
2-Nitrophenol	2.47	0.385	0.769	ug/L	4	3.85	ND	64	47-123%	17	30%	
4-Nitrophenol	1.51	0.385	0.769	ug/L	4	3.85	ND	39	10-120%	6	30%	
Pentachlorophenol (PCP)	3.32	0.385	0.769	ug/L	4	3.85	ND	86	35-138%	3	30%	Q-31
Phenol	1.06	0.769	1.54	ug/L	4	3.85	ND	28	10-120%	18	30%	J, Q-41
2,3,4,6-Tetrachlorophenol	3.22	0.192	0.385	ug/L	4	3.85	ND	84	50-128%	5	30%	
2,3,5,6-Tetrachlorophenol	3.28	0.192	0.385	ug/L	4	3.85	ND	85	50-121%	5	30%	
2,4,5-Trichlorophenol	3.79	0.192	0.385	ug/L	4	3.85	ND	99	53-123%	6	30%	
2,4,6-Trichlorophenol	2.99	0.192	0.385	ug/L	4	3.85	ND	78	50-125%	8	30%	
Bis(2-ethylhexyl)phthalate	3.50	0.769	1.54	ug/L	4	3.85	ND	91	55-135%	0.8	30%	
Butyl benzyl phthalate	3.83	0.769	1.54	ug/L	4	3.85	ND	99	53-134%	6	30%	
Diethylphthalate	3.25	0.769	1.54	ug/L	4	3.85	ND	84	56-125%	3	30%	
Dimethylphthalate	2.99	0.769	1.54	ug/L	4	3.85	ND	78	45-127%	4	30%	
Di-n-butylphthalate	3.77	0.769	1.54	ug/L	4	3.85	ND	98	59-127%	5	30%	
Di-n-octyl phthalate	4.55	0.769	1.54	ug/L	4	3.85	ND	118	51-140%	5	30%	
N-Nitrosodimethylamine	1.30	0.192	0.385	ug/L	4	3.85	ND	34	19-120%	20	30%	

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WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0406 - EPA 3510C (Acid/Base Neutral)						Water						
Matrix Spike Dup (25F0406-MSD1)						Prepared: 06/12/25 07:29 Analyzed: 06/12/25 20:55						
QC Source Sample: 22B-U-S-20250609 (A5F1150-01RE1)												
N-Nitroso-di-n-propylamine	2.30	0.0962	0.192	ug/L	4	3.85	ND	60	49-120%	16	30%	
N-Nitrosodiphenylamine	2.89	0.0962	0.192	ug/L	4	3.85	ND	75	51-123%	3	30%	
Bis(2-Chloroethoxy) methane	2.18	0.0962	0.192	ug/L	4	3.85	ND	57	48-120%	15	30%	
Bis(2-Chloroethyl) ether	2.07	0.0962	0.192	ug/L	4	3.85	ND	54	43-120%	22	30%	
2,2'-Oxybis(1-Chloropropane)	2.02	0.0962	0.192	ug/L	4	3.85	ND	52	41-120%	23	30%	
Hexachlorobenzene	2.67	0.0385	0.0769	ug/L	4	3.85	ND	69	53-125%	5	30%	
Hexachlorobutadiene	1.80	0.0962	0.192	ug/L	4	3.85	ND	47	22-124%	26	30%	
Hexachlorocyclopentadiene	1.30	0.192	0.385	ug/L	4	3.85	ND	34	10-127%	24	30%	
Hexachloroethane	1.73	0.0962	0.192	ug/L	4	3.85	ND	45	21-120%	25	30%	
2-Chloronaphthalene	2.25	0.0385	0.0769	ug/L	4	3.85	ND	59	40-120%	13	30%	
1,2,4-Trichlorobenzene	1.92	0.0962	0.192	ug/L	4	3.85	ND	50	29-120%	24	30%	
4-Bromophenyl phenyl ether	2.86	0.0962	0.192	ug/L	4	3.85	ND	74	55-124%	4	30%	
4-Chlorophenyl phenyl ether	2.76	0.0962	0.192	ug/L	4	3.85	ND	72	53-121%	4	30%	
Aniline	1.22	0.192	0.385	ug/L	4	3.85	ND	32	10-120%	20	30%	
4-Chloroaniline	1.12	0.385	0.769	ug/L	4	3.85	ND	29	33-120%	27	30%	Q-01
2-Nitroaniline	2.94	0.769	1.54	ug/L	4	3.85	ND	76	55-127%	6	30%	
3-Nitroaniline	1.23	0.769	1.54	ug/L	4	3.85	ND	32	41-128%	8	30%	J, Q-01, Q-41
4-Nitroaniline	1.65	0.769	1.54	ug/L	4	3.85	ND	43	25-120%	6	30%	
Nitrobenzene	2.46	0.385	0.769	ug/L	4	3.85	ND	64	45-121%	18	30%	
2,4-Dinitrotoluene	3.06	0.385	0.769	ug/L	4	3.85	ND	79	57-128%	2	30%	
2,6-Dinitrotoluene	2.94	0.385	0.769	ug/L	4	3.85	ND	76	57-124%	4	30%	
Benzoic acid	ND	9.62	9.62	ug/L	4	7.69	ND		10-120%	200	30%	Q-01, Q-31
Benzyl alcohol	2.09	0.769	1.54	ug/L	4	3.85	ND	54	31-120%	15	30%	
Isophorone	2.42	0.0962	0.192	ug/L	4	3.85	ND	63	42-124%	14	30%	
Azobenzene (1,2-DPH)	2.57	0.0962	0.192	ug/L	4	3.85	ND	67	61-120%	4	30%	
Bis(2-Ethylhexyl) adipate	3.75	0.962	1.92	ug/L	4	3.85	ND	97	63-121%	4	30%	
3,3'-Dichlorobenzidine	ND	1.92	3.85	ug/L	4	7.69	ND		27-129%		30%	Q-01, Q-52
1,2-Dinitrobenzene	3.00	0.962	1.92	ug/L	4	3.85	ND	78	59-120%	5	30%	
1,3-Dinitrobenzene	3.00	0.962	1.92	ug/L	4	3.85	ND	78	49-128%	4	30%	
1,4-Dinitrobenzene	3.08	0.962	1.92	ug/L	4	3.85	ND	80	54-120%	7	30%	
Pyridine	1.32	0.385	0.769	ug/L	4	3.85	ND	34	10-120%	21	30%	
1,2-Dichlorobenzene	1.75	0.0962	0.192	ug/L	4	3.85	ND	46	32-120%	24	30%	
1,3-Dichlorobenzene	1.70	0.0962	0.192	ug/L	4	3.85	ND	44	28-120%	24	30%	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0406 - EPA 3510C (Acid/Base Neutral)						Water						
Matrix Spike Dup (25F0406-MSD1)						Prepared: 06/12/25 07:29 Analyzed: 06/12/25 20:55						
QC Source Sample: 22B-U-S-20250609 (A5F1150-01RE1)												
1,4-Dichlorobenzene	1.72	0.0962	0.192	ug/L	4	3.85	ND	45	29-120%	23	30%	
<i>Surr: Nitrobenzene-d5 (Surr) Recovery: 59 % Limits: 44-120 % Dilution: 4x</i>												
<i>2-Fluorobiphenyl (Surr) 59 % 44-120 % "</i>												
<i>Phenol-d6 (Surr) 20 % 10-133 % "</i>												
<i>p-Terphenyl-d14 (Surr) 77 % 50-134 % "</i>												
<i>2-Fluorophenol (Surr) 28 % 19-120 % "</i>												
<i>2,4,6-Tribromophenol (Surr) 84 % 43-140 % "</i>												

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QUALITY CONTROL (QC) SAMPLE RESULTS

Low Level Mercury by Cold Vapor Atomic Fluorescence (CVAF) by EPA 1631E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0321 - 1631E Mercury (H2O)						Water						
Blank (25F0321-BLK1)			Prepared: 06/10/25 11:45 Analyzed: 06/11/25 17:48									
<u>EPA 1631E-LL</u>												
Mercury	ND	0.250	0.500	ng/L	1	---	---	---	---	---	---	
Blank (25F0321-BLK2)			Prepared: 06/10/25 11:45 Analyzed: 06/11/25 17:53									
<u>EPA 1631E-LL</u>												
Mercury	ND	0.250	0.500	ng/L	1	---	---	---	---	---	---	
Blank (25F0321-BLK3)			Prepared: 06/10/25 11:45 Analyzed: 06/11/25 17:58									
<u>EPA 1631E-LL</u>												
Mercury	ND	0.250	0.500	ng/L	1	---	---	---	---	---	---	
LCS (25F0321-BS1)			Prepared: 06/10/25 11:45 Analyzed: 06/11/25 18:03									
<u>EPA 1631E-LL</u>												
Mercury	7.72	0.250	0.500	ng/L	1	8.00	---	96	80-120%	---	---	
Matrix Spike (25F0321-MS1)			Prepared: 06/10/25 11:45 Analyzed: 06/11/25 18:43									
<u>QC Source Sample: 22B-U-S-20250609 (A5F1150-01)</u>												
<u>EPA 1631E-LL</u>												
Mercury	8.53	0.250	0.500	ng/L	1	8.00	1.17	92	75-125%	---	---	
Matrix Spike Dup (25F0321-MSD1)			Prepared: 06/10/25 11:45 Analyzed: 06/11/25 18:48									
<u>QC Source Sample: 22B-U-S-20250609 (A5F1150-01)</u>												
<u>EPA 1631E-LL</u>												
Mercury	8.52	0.250	0.500	ng/L	1	8.00	1.17	92	75-125%	0.1	24%	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Low Level Mercury by Cold Vapor Atomic Fluorescence (CVAf) by EPA 1631E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0336 - 1631E Mercury (H2O)						Water						
Blank (25F0336-BLK1)						Prepared: 06/10/25 13:51 Analyzed: 06/11/25 19:13						
<u>EPA 1631E-LL (Diss)</u>												
Mercury	ND	0.250	0.500	ng/L	1	---	---	---	---	---	---	
Blank (25F0336-BLK2)						Prepared: 06/10/25 13:51 Analyzed: 06/11/25 19:18						
<u>EPA 1631E-LL (Diss)</u>												
Mercury	ND	0.250	0.500	ng/L	1	---	---	---	---	---	---	
Blank (25F0336-BLK3)						Prepared: 06/10/25 13:51 Analyzed: 06/11/25 19:23						
<u>EPA 1631E-LL (Diss)</u>												
Mercury	ND	0.250	0.500	ng/L	1	---	---	---	---	---	---	
LCS (25F0336-BS1)						Prepared: 06/10/25 13:51 Analyzed: 06/11/25 19:38						
<u>EPA 1631E-LL (Diss)</u>												
Mercury	7.78	0.250	0.500	ng/L	1	8.00	---	97	80-120%	---	---	
Matrix Spike (25F0336-MS1)						Prepared: 06/10/25 13:51 Analyzed: 06/11/25 19:48						
<u>QC Source Sample: 22B-F-S-20250609 (A5F1150-02)</u>												
<u>EPA 1631E-LL (Diss)</u>												
Mercury	8.57	0.250	0.500	ng/L	1	8.00	0.564	100	75-125%	---	---	
Matrix Spike Dup (25F0336-MSD1)						Prepared: 06/10/25 13:51 Analyzed: 06/11/25 19:53						
<u>QC Source Sample: 22B-F-S-20250609 (A5F1150-02)</u>												
<u>EPA 1631E-LL (Diss)</u>												
Mercury	8.75	0.250	0.500	ng/L	1	8.00	0.564	102	75-125%	2	24%	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0357 - EPA 3015A												
Water												
Blank (25F0357-BLK1)												
						Prepared: 06/11/25 08:00 Analyzed: 06/11/25 16:01						
EPA 200.8												
Arsenic	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Barium	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
Cadmium	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Calcium	ND	375	600	ug/L	1	---	---	---	---	---	---	
Chromium	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
Copper	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
Iron	45.8	25.0	50.0	ug/L	1	---	---	---	---	---	---	J, B-02
Lead	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Magnesium	ND	75.0	150	ug/L	1	---	---	---	---	---	---	
Manganese	0.723	0.500	1.00	ug/L	1	---	---	---	---	---	---	J, B-02
Nickel	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
Selenium	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Silver	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Zinc	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	

LCS (25F0357-BS1)												
						Prepared: 06/11/25 08:00 Analyzed: 06/11/25 16:06						
EPA 200.8												
Arsenic	56.0	0.500	1.00	ug/L	1	55.6	---	101	85-115%	---	---	
Barium	56.5	1.00	2.00	ug/L	1	55.6	---	102	85-115%	---	---	
Cadmium	56.5	0.100	0.200	ug/L	1	55.6	---	102	85-115%	---	---	
Calcium	5720	375	600	ug/L	1	5560	---	103	85-115%	---	---	
Chromium	56.0	1.00	2.00	ug/L	1	55.6	---	101	85-115%	---	---	
Copper	56.0	1.00	2.00	ug/L	1	55.6	---	101	85-115%	---	---	
Iron	5770	25.0	50.0	ug/L	1	5560	---	104	85-115%	---	---	
Lead	57.2	0.100	0.200	ug/L	1	55.6	---	103	85-115%	---	---	
Magnesium	5980	75.0	150	ug/L	1	5560	---	108	85-115%	---	---	
Manganese	56.2	0.500	1.00	ug/L	1	55.6	---	101	85-115%	---	---	
Nickel	58.7	1.00	2.00	ug/L	1	55.6	---	106	85-115%	---	---	
Selenium	28.7	0.500	1.00	ug/L	1	27.8	---	103	85-115%	---	---	
Silver	27.5	0.100	0.200	ug/L	1	27.8	---	99	85-115%	---	---	
Zinc	59.6	2.00	4.00	ug/L	1	55.6	---	107	85-115%	---	---	

Matrix Spike (25F0357-MS1)												
						Prepared: 06/11/25 08:00 Analyzed: 06/11/25 17:07						

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Philip Nerenberg, Lab Director

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Apex Laboratories, LLC

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503-718-2323
ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0357 - EPA 3015A						Water						
Matrix Spike Dup (25F0357-MSD1)						Prepared: 06/11/25 08:00 Analyzed: 06/11/25 17:12						
QC Source Sample: 22B-U-S-20250609 (A5F1150-01)												
EPA 200.8												
Arsenic	60.1	0.500	1.00	ug/L	1	55.6	5.76	98	70-130%	2	20%	
Barium	82.9	1.00	2.00	ug/L	1	55.6	27.9	99	70-130%	2	20%	
Cadmium	56.4	0.100	0.200	ug/L	1	55.6	ND	101	70-130%	1	20%	
Calcium	41700	375	600	ug/L	1	5560	36900	86	70-130%	1	20%	
Chromium	53.8	1.00	2.00	ug/L	1	55.6	ND	97	70-130%	1	20%	
Copper	53.3	1.00	2.00	ug/L	1	55.6	1.15	94	70-130%	2	20%	
Iron	6030	25.0	50.0	ug/L	1	5560	973	91	70-130%	13	20%	
Lead	55.7	0.100	0.200	ug/L	1	55.6	0.435	99	70-130%	3	20%	
Magnesium	16800	75.0	150	ug/L	1	5560	11600	93	70-130%	3	20%	
Manganese	120	0.500	1.00	ug/L	1	55.6	65.5	99	70-130%	0.9	20%	
Nickel	55.9	1.00	2.00	ug/L	1	55.6	1.43	98	70-130%	3	20%	
Selenium	27.9	0.500	1.00	ug/L	1	27.8	ND	100	70-130%	1	20%	
Silver	27.2	0.100	0.200	ug/L	1	27.8	ND	98	70-130%	2	20%	
Zinc	60.7	2.00	4.00	ug/L	1	55.6	4.01	102	70-130%	1	20%	

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 ORELAP ID: OR100062

WSP USA Inc.	Project: Starlink Uplands Support	
15862 SW 72nd Ave. Suite 150	Project Number: US0025871.2251	Report ID:
Portland, OR 97224	Project Manager: Ted Norton	A5F1150 - 07 22 25 1700

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0339 - EPA 3015A - Dissolved						Water						
Blank (25F0339-BLK1)						Prepared: 06/11/25 12:00 Analyzed: 06/11/25 18:21						
<u>EPA 200.8 (Diss)</u>												
Barium	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Cadmium	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Calcium	ND	300	600	ug/L	1	---	---	---	---	---	---	
Chromium	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
Copper	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
Iron	ND	25.0	50.0	ug/L	1	---	---	---	---	---	---	
Lead	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Magnesium	ND	75.0	150	ug/L	1	---	---	---	---	---	---	
Manganese	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Nickel	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
Selenium	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Silver	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Zinc	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
Blank (25F0339-BLK2)						Prepared: 06/11/25 12:00 Analyzed: 06/12/25 17:50						
<u>EPA 200.8 (Diss)</u>												
Arsenic	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	Q-16
LCS (25F0339-BS1)						Prepared: 06/11/25 12:00 Analyzed: 06/11/25 18:26						
<u>EPA 200.8 (Diss)</u>												
Arsenic	52.6	0.500	1.00	ug/L	1	55.6	---	95	85-115%	---	---	
Barium	53.9	0.500	1.00	ug/L	1	55.6	---	97	85-115%	---	---	
Cadmium	54.7	0.100	0.200	ug/L	1	55.6	---	98	85-115%	---	---	
Calcium	5620	300	600	ug/L	1	5560	---	101	85-115%	---	---	
Chromium	53.2	1.00	2.00	ug/L	1	55.6	---	96	85-115%	---	---	
Copper	53.3	1.00	2.00	ug/L	1	55.6	---	96	85-115%	---	---	
Iron	5610	25.0	50.0	ug/L	1	5560	---	101	85-115%	---	---	
Lead	55.4	0.100	0.200	ug/L	1	55.6	---	100	85-115%	---	---	
Magnesium	6010	75.0	150	ug/L	1	5560	---	108	85-115%	---	---	
Manganese	53.8	0.500	1.00	ug/L	1	55.6	---	97	85-115%	---	---	
Nickel	54.7	1.00	2.00	ug/L	1	55.6	---	99	85-115%	---	---	
Selenium	27.8	0.500	1.00	ug/L	1	27.8	---	100	85-115%	---	---	
Silver	26.9	0.100	0.200	ug/L	1	27.8	---	97	85-115%	---	---	

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ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
---------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0339 - EPA 3015A - Dissolved						Water						
LCS (25F0339-BS1)						Prepared: 06/11/25 12:00 Analyzed: 06/11/25 18:26						
Zinc	57.1	2.00	4.00	ug/L	1	55.6	---	103	85-115%	---	---	
Matrix Spike (25F0339-MS1)						Prepared: 06/11/25 12:00 Analyzed: 06/11/25 18:37						
QC Source Sample: 22B-F-S-20250609 (A5F1150-02)												
EPA 200.8 (Diss)												
Barium	78.5	0.500	1.00	ug/L	1	55.6	23.3	99	70-130%	---	---	
Cadmium	56.5	0.100	0.200	ug/L	1	55.6	ND	102	70-130%	---	---	
Calcium	42600	300	600	ug/L	1	5560	36000	119	70-130%	---	---	
Chromium	53.5	1.00	2.00	ug/L	1	55.6	ND	96	70-130%	---	---	
Copper	53.1	1.00	2.00	ug/L	1	55.6	1.12	94	70-130%	---	---	
Iron	5710	25.0	50.0	ug/L	1	5560	47.4	102	70-130%	---	---	
Lead	55.3	0.100	0.200	ug/L	1	55.6	ND	100	70-130%	---	---	
Magnesium	17400	75.0	150	ug/L	1	5560	11600	104	70-130%	---	---	
Manganese	95.1	0.500	1.00	ug/L	1	55.6	41.9	96	70-130%	---	---	
Nickel	54.8	1.00	2.00	ug/L	1	55.6	1.24	96	70-130%	---	---	
Selenium	28.0	0.500	1.00	ug/L	1	27.8	ND	101	70-130%	---	---	
Silver	26.9	0.100	0.200	ug/L	1	27.8	ND	97	70-130%	---	---	
Zinc	58.2	2.00	4.00	ug/L	1	55.6	ND	105	70-130%	---	---	
Matrix Spike (25F0339-MS2)						Prepared: 06/11/25 12:00 Analyzed: 06/12/25 18:00						
QC Source Sample: 22B-F-S-20250609 (A5F1150-02RE1)												
EPA 200.8 (Diss)												
Arsenic	59.5	0.500	1.00	ug/L	1	55.6	3.27	101	70-130%	---	---	Q-16
Matrix Spike Dup (25F0339-MSD1)						Prepared: 06/11/25 12:00 Analyzed: 06/11/25 18:42						
QC Source Sample: 22B-F-S-20250609 (A5F1150-02)												
EPA 200.8 (Diss)												
Barium	77.6	0.500	1.00	ug/L	1	55.6	23.3	98	70-130%	1	20%	
Cadmium	55.5	0.100	0.200	ug/L	1	55.6	ND	100	70-130%	2	20%	
Calcium	42000	300	600	ug/L	1	5560	36000	109	70-130%	1	20%	
Chromium	53.2	1.00	2.00	ug/L	1	55.6	ND	96	70-130%	0.5	20%	
Copper	52.6	1.00	2.00	ug/L	1	55.6	1.12	93	70-130%	1	20%	
Iron	5590	25.0	50.0	ug/L	1	5560	47.4	100	70-130%	2	20%	

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WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0339 - EPA 3015A - Dissolved						Water						
Matrix Spike Dup (25F0339-MSD1)						Prepared: 06/11/25 12:00 Analyzed: 06/11/25 18:42						
QC Source Sample: 22B-F-S-20250609 (A5F1150-02)												
Lead	54.3	0.100	0.200	ug/L	1	55.6	ND	98	70-130%	2	20%	
Magnesium	17100	75.0	150	ug/L	1	5560	11600	100	70-130%	1	20%	
Manganese	95.9	0.500	1.00	ug/L	1	55.6	41.9	97	70-130%	0.8	20%	
Nickel	54.7	1.00	2.00	ug/L	1	55.6	1.24	96	70-130%	0.2	20%	
Selenium	27.9	0.500	1.00	ug/L	1	27.8	ND	101	70-130%	0.3	20%	
Silver	26.9	0.100	0.200	ug/L	1	27.8	ND	97	70-130%	0.1	20%	
Zinc	61.0	2.00	4.00	ug/L	1	55.6	ND	110	70-130%	5	20%	
Matrix Spike Dup (25F0339-MSD2)						Prepared: 06/11/25 12:00 Analyzed: 06/12/25 18:06						
QC Source Sample: 22B-F-S-20250609 (A5F1150-02RE1)												
EPA 200.8 (Diss)												
Arsenic	58.3	0.500	1.00	ug/L	1	55.6	3.27	99	70-130%	2	20%	Q-16

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QUALITY CONTROL (QC) SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 25F0325 - Total Suspended Solids - 2022						Water						
Blank (25F0325-BLK1)			Prepared: 06/11/25 11:43 Analyzed: 06/11/25 11:43									
<u>SM 2540 D</u>												
Total Suspended Solids	ND	5.00	5.00	mg/L	1	---	---	---	---	---	---	
Duplicate (25F0325-DUP1)			Prepared: 06/11/25 11:43 Analyzed: 06/11/25 11:43									
<u>QC Source Sample: Non-SDG (A5F1053-01)</u>												
Total Suspended Solids	ND	5.00	5.00	mg/L	1	---	5.00	---	---	***	10%	Q-05, TSS
Duplicate (25F0325-DUP2)			Prepared: 06/11/25 11:43 Analyzed: 06/11/25 11:43									
<u>QC Source Sample: 22B-U-S-20250609 (A5F1150-01)</u>												
<u>SM 2540 D</u>												
Total Suspended Solids	ND	5.00	5.00	mg/L	1	---	ND	---	---	---	10%	TSS
Reference (25F0325-SRM1)			Prepared: 06/11/25 11:43 Analyzed: 06/11/25 11:43									
<u>SM 2540 D</u>												
Total Suspended Solids	858			mg/L	1	832		103	85-115%	---	---	

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Weck Laboratories, Inc.

QUALITY CONTROL (QC) SAMPLE RESULTS

Hexavalent Chromium by IC

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch W5F1096 - _NONE (LC) Water												
Blank (W5F1096-BLK1)			Prepared: 06/16/25 12:21 Analyzed: 06/17/25 11:18									
<u>EPA 218.6</u>												
Chromium 6+, Dissolved	ND	---	0.020	ug/l	1	---	---	---	---	---	---	
Chromium 6+	ND	---	0.020	ug/l	1	---	---	---	---	---	---	
Blank (W5F1096-BLK2)			Prepared: 06/16/25 12:21 Analyzed: 06/17/25 11:30									
<u>EPA 218.6</u>												
Chromium 6+, Dissolved	ND	---	0.020	ug/l	1	---	---	---	---	---	---	
Chromium 6+	ND	---	0.020	ug/l	1	---	---	---	---	---	---	
LCS (W5F1096-BS1)			Prepared: 06/16/25 12:21 Analyzed: 06/17/25 11:43									
<u>EPA 218.6</u>												
Chromium 6+, Dissolved	4.93	---	0.020	ug/l	1	5.00	---	99	90-110%	---	---	
Chromium 6+	4.93	---	0.020	ug/l	1	5.00	---	99	90-110%	---	---	
LCS (W5F1096-BS2)			Prepared: 06/16/25 12:21 Analyzed: 06/17/25 11:55									
<u>EPA 218.6</u>												
Chromium 6+, Dissolved	4.88	---	0.020	ug/l	1	5.00	---	98	90-110%	---	---	
Chromium 6+	4.88	---	0.020	ug/l	1	5.00	---	98	90-110%	---	---	
Matrix Spike (W5F1096-MS1)			Prepared: 06/16/25 12:21 Analyzed: 06/17/25 12:08									
<u>QC Source Sample: A5F1150-01 (A5F1150-01)</u>												
<u>EPA 218.6</u>												
Chromium 6+, Dissolved	4.95	---	0.020	ug/l	1	5.00	0.0414	98	90-110%	---	---	
Chromium 6+	4.95	---	0.020	ug/l	1	5.00	0.0414	98	90-110%	---	---	
Matrix Spike (W5F1096-MS2)			Prepared: 06/16/25 12:21 Analyzed: 06/17/25 12:33									
<u>QC Source Sample: A5F1150-02 (A5F1150-02)</u>												
<u>EPA 218.6</u>												
Chromium 6+, Dissolved	4.95	---	0.020	ug/l	1	5.00	0.0523	98	90-110%	---	---	
Chromium 6+	4.95	---	0.020	ug/l	1	5.00	0.0523	98	90-110%	---	---	

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Weck Laboratories, Inc.

QUALITY CONTROL (QC) SAMPLE RESULTS

Hexavalent Chromium by IC

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch W5F1096 - _NONE (LC)							Water					
Matrix Spike Dup (W5F1096-MSD1)			Prepared: 06/16/25 12:21 Analyzed: 06/17/25 12:20									
QC Source Sample: A5F1150-01 (A5F1150-01)												
EPA 218.6												
Chromium 6+, Dissolved	4.88	---	0.020	ug/l	1	5.00	0.0414	97	90-110%	1	10%	
Chromium 6+	4.88	---	0.020	ug/l	1	5.00	0.0414	97	90-110%	1	10%	
Matrix Spike Dup (W5F1096-MSD2)			Prepared: 06/16/25 12:21 Analyzed: 06/17/25 12:45									
QC Source Sample: A5F1150-02 (A5F1150-02)												
EPA 218.6												
Chromium 6+, Dissolved	4.98	---	0.020	ug/l	1	5.00	0.0523	99	90-110%	0.7	10%	
Chromium 6+	4.98	---	0.020	ug/l	1	5.00	0.0523	99	90-110%	0.7	10%	

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SAMPLE PREPARATION INFORMATION

Hydrocarbon Identification Screen by NWTPH-HCID

Prep: EPA 3510C (Fuels/Acid Ext.)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 25F0420</u>							
A5F1150-01	Water	NWTPH-HCID	06/09/25 09:10	06/12/25 09:33	1040mL/5mL	1000mL/5mL	0.96
A5F1150-03	Water	NWTPH-HCID	06/09/25 10:30	06/12/25 09:33	1050mL/5mL	1000mL/5mL	0.95

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Prep: EPA 3510C (Fuels/Acid Ext.) w/SG+Acid

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 25F0453</u>							
A5F1150-01	Water	NWTPH-Dx/SG	06/09/25 09:10	06/12/25 09:33	1040mL/5mL	1000mL/5mL	0.96
A5F1150-03	Water	NWTPH-Dx/SG	06/09/25 10:30	06/12/25 09:33	1050mL/5mL	1000mL/5mL	0.95

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5030C

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 25F0352</u>							
A5F1150-01	Water	NWTPH-Gx (MS)	06/09/25 09:10	06/11/25 11:16	5mL/5mL	5mL/5mL	1.00
A5F1150-03	Water	NWTPH-Gx (MS)	06/09/25 10:30	06/11/25 11:16	5mL/5mL	5mL/5mL	1.00
A5F1150-06	Water	NWTPH-Gx (MS)	06/09/25 00:00	06/11/25 11:16	5mL/5mL	5mL/5mL	1.00

Volatile Organic Compounds by EPA 8260D

Prep: EPA 5030C

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 25F0352</u>							
A5F1150-01	Water	EPA 8260D	06/09/25 09:10	06/11/25 11:16	5mL/5mL	5mL/5mL	1.00
A5F1150-03	Water	EPA 8260D	06/09/25 10:30	06/11/25 11:16	5mL/5mL	5mL/5mL	1.00
A5F1150-06	Water	EPA 8260D	06/09/25 00:00	06/11/25 11:16	5mL/5mL	5mL/5mL	1.00

Semivolatile Organic Compounds by EPA 8270E

Prep: EPA 3510C (Acid/Base Neutral)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 25F0406</u>							
A5F1150-01RE1	Water	EPA 8270E	06/09/25 09:10	06/12/25 07:29	1050mL/1mL	1000mL/1mL	0.95
A5F1150-01RE2	Water	EPA 8270E	06/09/25 09:10	06/12/25 07:29	1050mL/1mL	1000mL/1mL	0.95

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Philip Nerenberg, Lab Director



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
---------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------

SAMPLE PREPARATION INFORMATION

Semivolatile Organic Compounds by EPA 8270E

Prep: EPA 3510C (Acid/Base Neutral)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A5F1150-03RE1	Water	EPA 8270E	06/09/25 10:30	06/12/25 07:29	1040mL/1mL	1000mL/1mL	0.96
A5F1150-03RE2	Water	EPA 8270E	06/09/25 10:30	06/12/25 07:29	1040mL/1mL	1000mL/1mL	0.96

Low Level Mercury by Cold Vapor Atomic Fluorescence (CVAf) by EPA 1631E

Prep: 1631E Mercury (H2O)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 25F0321</u>							
A5F1150-01	Water	EPA 1631E-LL	06/09/25 09:10	06/10/25 11:45	20mL/20mL	20mL/20mL	1.00
A5F1150-03	Water	EPA 1631E-LL	06/09/25 10:30	06/10/25 11:45	20mL/20mL	20mL/20mL	1.00

Dissolved Low Level Mercury by Cold Vapor Atomic Fluorescence (CVAf) by EPA 1631E

Prep: 1631E Mercury (H2O)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 25F0336</u>							
A5F1150-02	Water	EPA 1631E-LL (Diss)	06/09/25 11:20	06/10/25 13:51	20mL/20mL	20mL/20mL	1.00
A5F1150-04	Water	EPA 1631E-LL (Diss)	06/09/25 11:25	06/10/25 13:51	20mL/20mL	20mL/20mL	1.00
A5F1150-05	Water	EPA 1631E-LL (Diss)	06/09/25 13:00	06/10/25 13:51	20mL/20mL	20mL/20mL	1.00

Total Metals by EPA 200.8 (ICPMS)

Prep: EPA 3015A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 25F0357</u>							
A5F1150-01	Water	EPA 200.8	06/09/25 09:10	06/11/25 08:00	45mL/50mL	45mL/50mL	1.00
A5F1150-03	Water	EPA 200.8	06/09/25 10:30	06/11/25 08:00	45mL/50mL	45mL/50mL	1.00

Dissolved Metals by EPA 200.8 (ICPMS)

Prep: EPA 3015A - Dissolved

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 25F0339</u>							
A5F1150-02	Water	EPA 200.8 (Diss)	06/09/25 11:20	06/11/25 12:00	45mL/50mL	45mL/50mL	1.00
A5F1150-02RE1	Water	EPA 200.8 (Diss)	06/09/25 11:20	06/11/25 12:00	45mL/50mL	45mL/50mL	1.00
A5F1150-04	Water	EPA 200.8 (Diss)	06/09/25 11:25	06/11/25 12:00	45mL/50mL	45mL/50mL	1.00
A5F1150-04RE1	Water	EPA 200.8 (Diss)	06/09/25 11:25	06/11/25 12:00	45mL/50mL	45mL/50mL	1.00

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SAMPLE PREPARATION INFORMATION

Dissolved Metals by EPA 200.8 (ICPMS)

<u>Prep: EPA 3015A - Dissolved</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
A5F1150-05	Water	EPA 200.8 (Diss)	06/09/25 13:00	06/11/25 12:00	45mL/50mL	45mL/50mL	1.00

Solid and Moisture Determinations

<u>Prep: Total Suspended Solids - 2022</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 25F0325</u>							
A5F1150-01	Water	SM 2540 D	06/09/25 09:10	06/11/25 11:43	100mL	100mL	1.00
A5F1150-03	Water	SM 2540 D	06/09/25 10:30	06/11/25 11:43	100mL	100mL	1.00

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Philip Nerenberg, Lab Director

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Project: Starlink Uplands Support
Project Number: US0025871.2251
Project Manager: Ted Norton
Report ID: A5F1150 - 07 22 25 1700

Weck Laboratories, Inc.

SAMPLE PREPARATION INFORMATION

Hexavalent Chromium by IC

Prep: NONE (LC)

Table with 8 columns: Lab Number, Matrix, Method, Sampled, Prepared, Sample Initial/Final, Default Initial/Final, RL Prep Factor. Rows include lab numbers A5F1150-01 through A5F1150-05.

Apex Laboratories

Philip Nerenberg (signature)

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QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

- A-01** High level sample container used instead of low level container. - BSC 6/12/25
- B-02** Analyte detected in an associated blank at a level between one-half the MRL and the MRL. (See Notes and Conventions below.)
- DCNT** Sample decanted due to the presence of sediment in water samples, or water in sediment or soil samples. (Note: Decanted aqueous sample bottles are not solvent rinsed.)
- J** Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified DL.
- Q-01** Spike recovery and/or RPD is outside acceptance limits.
- Q-02** Spike recovery is outside of established control limits due to matrix interference.
- Q-05** Analyses are not controlled on RPD values from sample and duplicate concentrations that are below 5 times the reporting level.
- Q-16** Reanalysis of an original Batch QC sample.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- Q-31** Estimated Results. Recovery of Continuing Calibration Verification sample below lower control limit for this analyte. Results are likely biased low.
- Q-41** Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
- Q-42** Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or RPD for this analyte is outside laboratory control limits. (Refer to the QC Section of Analytical Report.)
- Q-52** Due to known erratic recoveries, the result and reporting levels for this analyte are reported as Estimated Values. This analyte may not have passed all QC requirements for this method.
- Q-54** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in the associated EPA method by +1%. The results are reported as Estimated Values.
- Q-54a** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in the associated EPA method by +11%. The results are reported as Estimated Values.
- Q-54b** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in the associated EPA method by +17%. The results are reported as Estimated Values.
- Q-54c** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in the associated EPA method by +41%. The results are reported as Estimated Values.
- Q-54d** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in the associated EPA method by +46%. The results are reported as Estimated Values.
- Q-54e** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in the associated EPA method by +5%. The results are reported as Estimated Values.
- Q-54f** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in the associated EPA method by +8%. The results are reported as Estimated Values.

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- Q-54g** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in the associated EPA method by -1%. The results are reported as Estimated Values.
- Q-54h** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in the associated EPA method by -2%. The results are reported as Estimated Values.
- Q-55** Daily CCV/LCS recovery for this analyte was below the +/-20% criteria listed in EPA method 8260, however there is adequate sensitivity to ensure detection at the reporting level.
- Q-56** Daily CCV/LCS recovery for this analyte was above the +/-20% criteria listed in EPA 8260. Samples that are ND (Non-Detect) are not impacted.
- TSS** Dried residue was less than 2.5mg as specified in the method. Results meet regulatory requirements.

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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported
- RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Validated Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting and Detection Limits: Default Limits

Default Reporting and Detection Limits are based on 100% dry weight with the minimum dilution for the analysis. Reporting and Detection Limits are raised due to moisture content, additional dilutions required for analysis, matrix interferences and in other cases, as necessary.

Reporting Conventions:

- Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as "dry", "wet", or " " (blank) designation.
- " dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
 - " wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
 - " " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.
- Results for Volatiles analyses on soils and sediments that are reported on a "dry weight" basis include the water miscible solvent (WMS) correction referenced in the EPA 8000 Method guidance documents. Solid and Liquid samples reported on an "As Received" basis do not have the WMS correction applied, as dry weight was not performed.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.
Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) may not be included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

- " --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- " *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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WSP USA Inc. 15862 SW 72nd Ave. Suite 150 Portland, OR 97224	Project: Starlink Uplands Support Project Number: US0025871.2251 Project Manager: Ted Norton	Report ID: A5F1150 - 07 22 25 1700
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REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to one half of the Reporting Limit (RL). Blank results for gravimetric analyses are evaluated to the Reporting Level, not to half of the Reporting Level.

- For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
- For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.

For further details, please request a copy of this document.

- Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level, if results are not reported to the MDL.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

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Philip Nerenberg, Lab Director



ANALYTICAL REPORT

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6700 S.W. Sandburg Street
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503-718-2323
ORELAP ID: OR100062

Table with 3 columns: Client (WSP USA Inc.), Project (Starlink Uplands Support), and Report ID (A5F1150 - 07 22 25 1700).

Decanted Samples:

Soils/Sediments:

Unless TCLP analysis is required or there is notification otherwise for a specific project, all Soil and Sediments containing excess water are decanted prior to analysis in order to provide the most representative sample for analysis.

Water Samples:

Water samples containing solids and sediment may need to be decanted in order to eliminate these particulates from the water extractions. In the case of organics extractions, a solvent rinse of the container will not be performed.

Volatiles Soils (5035s)

Samples that are field preserved by 5035 for volatiles are dry weight corrected using the same dry weight correction as for normal analyses. In the case of decanted samples, the dry weight may be performed on a decanted sample, while the aliquot for 5035 may not have been treated the same way. If this is a concern, please submit separate containers for dry weight analysis for volatiles can be provided.

All samples decanted in the laboratory are noted in this report with the DCNT qualifier indicating the sample was decanted.

Apex Laboratories

Philip Nerenberg (signature)

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Table with 3 columns: Client (WSP USA Inc.), Project (Starlink Uplands Support), and Report ID (A5F1150 - 07 22 25 1700).

LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation) -
EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Table header with columns: Matrix, Analysis, TNI_ID, Analyte, TNI_ID, Accreditation

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation. Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

Handwritten signature of Philip Nerenberg

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Philip Nerenberg, Lab Director



ANALYTICAL REPORT

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ORELAP ID: OR100062

WSP USA Inc. Project: **Starlink Uplands Support**
15862 SW 72nd Ave. Suite 150 Project Number: **US0025871.2251**
Portland, OR 97224 Project Manager: **Ted Norton** **Report ID:**
A5F1150 - 07 22 25 1700

WSP
15862 SW 72nd Ave Suite 150
Portland, OR 97224
(503) 658-3400

WSP USA Inc.
15862 SW 72nd Ave. Suite 150
Portland, OR 97224

CHAIN OF CUSTODY

Project Name: **Outfall 22B IRAM Performance Monitoring**
Project Number: **US0025871.2251**
Project Manager: **Ted Norton**

SHIP TO:
Apex Laboratories
6700 SW Sandburg St
Tigard, OR 97223
Attn: Philip Nerenberg
Lab Phone: (503) 718-2323

DATE: 09/22/25
COC #: 0722B1
PAGE: 1 OF 1

Project Contact: **Gene Hoopes**
Phone Number: **503-754-7064**
Project Phase: **510 (822B Perf. Mon.)**

Lab To: **WSP**
PO Number: **22B-254-7064**
Reports to: **RB Norton@wsp.com, Gene Hoopes**
Shipment Method: **N/A**
Waybill Number: **N/A**

No.	Sample ID	Date & Time Sampled	Sampler's Initials	Matrix	Sample Type	MS/MSD
1	22B-U-S-20250609	6/15/25 09:10	CT/DD	W	6	Y
2	22B-F-S-20250609	6/15/25 11:00	CT/DD	W	6	Y
3	22B-U-D-20250609	6/15/25 11:00	CT/DD	W	6	Y
4	22B-F-D-20250609	6/15/25 12:5	CT/DD	W	6	Y
5	22B-RB-20250609	6/15/25 13:00	CT/DD	W	6	Y
6	22B-TB-20250609	6/15/25	CT/DD	W	6	Y
7						
8						
9						
10						
11						
12						

Sampler's Signature: *[Signature]* Date: 6/15/25 Time: 1330

Relinquished By/Affiliation: *[Signature]* WSP Date: 6/19/25 Time: 1500

Received By: *[Signature]* Date: 6/19/25 Time: 1500

Relinquished By/Affiliation: *[Signature]* Date: Date: Time: Time:

Received By: Date: Date: Time: Time:

Relinquished By/Affiliation: Date: Date: Time: Time:

Received By (LUB): Date: Date: Time: Time:

Fac Lab Use: Do not use for COC match samples. Y or N

Broken container. Y or N

COC seal intact. Y or N

Other problems. Y or N

WSDOT contacted. Y or N

Date contacted: _____

Cooler Temperature at receipt: _____ °C

Number of Coolers Sent: **4**

Comments: **MS/MSD = 22B-U-S-20250609**
22B-F-S-20250609

Methods for Analysis:

Method	1	2	3	4	5	6	7	8	9	10	11	12
Dioxins by EPA 1631B	X	X	X	X	X	X	X	X	X	X	X	X
OC Pesticides by EPA 1699	X	X	X	X	X	X	X	X	X	X	X	X
PCBs by EPA 1668	X	X	X	X	X	X	X	X	X	X	X	X
TS5	X	X	X	X	X	X	X	X	X	X	X	X
VOCs by EPA 8260/NW/TH-6x	X	X	X	X	X	X	X	X	X	X	X	X
Total Cr6 by EPA 7195/7196A	X	X	X	X	X	X	X	X	X	X	X	X
Dissolved Cr6 by EPA 7195/7196A	X	X	X	X	X	X	X	X	X	X	X	X
Dissolved Mn6 by EPA 200.7/200.8	X	X	X	X	X	X	X	X	X	X	X	X
Classified Mn6 by EPA 200.7/200.8	X	X	X	X	X	X	X	X	X	X	X	X
NW/TH-DX/NW/TH-HCID	X	X	X	X	X	X	X	X	X	X	X	X
Total Hg by EPA 1631E	X	X	X	X	X	X	X	X	X	X	X	X
Dissolved Hg by EPA 1631E	X	X	X	X	X	X	X	X	X	X	X	X

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Philip Nerenberg

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Project: Starlink Uplands Support
Project Number: US0025871.2251
Project Manager: Ted Norton
Report ID: A5F1150 - 07 22 25 1700

APEX LABS COOLER RECEIPT FORM

Client: WSP Element WO#: A5F1150

Project/Project #: outfall ZZB IBAM Performance Monitoring
US0025871.2251

Delivery Info:
Date/time received: 6/14/25 @ 1500 By: EST

Delivered by: Apex Client XESS FedEx UPS Radio Morgan SDS Evergreen Other

From USDA Regulated Origin? Yes No X

Cooler Inspection Date/time inspected: 6/14/25 @ 1508 By: EST

Chain of Custody included? Yes X No

Signed/dated by client? Yes X No

Contains USDA Reg. Soils? Yes No X Unsure (email RegSoils)

Table with 7 columns: Cooler #1 to Cooler #7. Rows include Temperature (°C), Custody seals? (Y/N), Received on ice? (Y/N), Temp. blanks? (Y/N), Ice type: (Gel/Real/Other), Condition (In/Out).

Cooler out of temp? (Y/N) Possible reason why:

Green dots applied to out of temperature samples? Yes/No

Out of temperature samples form initiated? Yes/No

Sample Inspection: Date/time inspected: 6/19/25 @ 1536 By: KN

All samples intact? Yes X No Comments:

Bottle labels/COCs agree? Yes X No Comments: 2/14 113 TND blank VOAs has ID, other 2 are blank; NO T on 112 HCl ampoules for 22B-U-S-20250609

COC/container discrepancies form initiated? Yes X No *see discrepancy form.

Containers/volumes received appropriate for analysis? Yes X No Comments:

Do VOA vials have visible headspace? Yes No X NA

Comments:

Water samples: pH checked: Yes X No NA pH appropriate? Yes X No NA pH ID: A231172

Comments:

Labeled by: KN Witness: KN Cooler Inspected by: KN

Form Y-003 R-02

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6700 SW Sandburg St
Tigard, OR 97223

Report Number: P250675
Report Date: June 24, 2025
Client Project ID: A5F1150

Analytical Report

Client Sample ID: 22B-U-S-20250609
Matrix: water

PAL Sample ID: P250675-01
Sample Date: 6/9/25
Received Date: 6/10/25

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
Method: Modified EPA 8151A (GC-MS/MS)					
6/11/25	6/16/25	2,4,5-T	0.11 ug/L	0.080 ug/L	
6/11/25	6/16/25	2,4,5-TP	ND	0.080 ug/L	
6/11/25	6/16/25	2,4-D	ND	0.080 ug/L	
6/11/25	6/16/25	2,4-DB	ND	0.080 ug/L	
6/11/25	6/16/25	Acifluorfen	ND	0.080 ug/L	
6/11/25	6/16/25	Bentazon	ND	0.080 ug/L	
6/11/25	6/16/25	Clopyralid	ND	0.080 ug/L	
6/11/25	6/16/25	Dicamba	ND	0.080 ug/L	
6/11/25	6/16/25	Dichlorprop	ND	0.080 ug/L	
6/11/25	6/16/25	Dinoseb	ND	0.080 ug/L	
6/11/25	6/16/25	MCPA	ND	0.080 ug/L	
6/11/25	6/16/25	MCPP	ND	0.080 ug/L	
6/11/25	6/16/25	Picloram	ND	0.080 ug/L	
6/11/25	6/16/25	Quinclorac	ND	0.080 ug/L	
6/11/25	6/16/25	Triclopyr	ND	0.080 ug/L	

Surrogate Recovery: 67 %
Surrogate Recovery Range: 25-130
(DCPAA used as Surrogate)

This analytical report complies with the ISO/IEC 17025:2017
Quality Standard.

Kara Greer, Project Manager



Apex Laboratories
6700 SW Sandburg St
Tigard, OR 97223

Report Number: P250675
Report Date: June 24, 2025
Client Project ID: A5F1150

Analytical Report

Client Sample ID: 22B-U-D-20250609
Matrix: water

PAL Sample ID: P250675-02
Sample Date: 6/9/25
Received Date: 6/10/25

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
Method: Modified EPA 8151A (GC-MS/MS)					
6/11/25	6/16/25	2,4,5-T	0.15 ug/L	0.080 ug/L	
6/11/25	6/16/25	2,4,5-TP	ND	0.080 ug/L	
6/11/25	6/16/25	2,4-D	ND	0.080 ug/L	
6/11/25	6/16/25	2,4-DB	ND	0.080 ug/L	
6/11/25	6/16/25	Acifluorfen	ND	0.080 ug/L	
6/11/25	6/16/25	Bentazon	ND	0.080 ug/L	
6/11/25	6/16/25	Clopyralid	ND	0.080 ug/L	
6/11/25	6/16/25	Dicamba	ND	0.080 ug/L	
6/11/25	6/16/25	Dichlorprop	ND	0.080 ug/L	
6/11/25	6/16/25	Dinoseb	ND	0.080 ug/L	
6/11/25	6/16/25	MCPA	ND	0.080 ug/L	
6/11/25	6/16/25	MCPP	ND	0.080 ug/L	
6/11/25	6/16/25	Picloram	ND	0.080 ug/L	
6/11/25	6/16/25	Quinclorac	ND	0.080 ug/L	
6/11/25	6/16/25	Triclopyr	ND	0.080 ug/L	

Surrogate Recovery: 97 %
Surrogate Recovery Range: 25-130
(DCPAA used as Surrogate)

This analytical report complies with the ISO/IEC 17025:2017 Quality Standard.

Kara Greer, Project Manager

Apex Laboratories
6700 SW Sandburg St
Tigard, OR 97223

Report Number: P250675
Report Date: June 24, 2025
Client Project ID: A5F1150

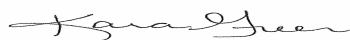
Quality Assurance

Method Blank Data Matrix: water

Extraction Date	Analyses	Batch QC Sample #	Analyte	% Recovery	Expected % Recovery	Notes
6/11/25	6/16/25	25F1107-BLK1	2,4,5-T	Not Detected	< 0.080 ug/L	
6/11/25	6/16/25	25F1107-BLK1	2,4,5-TP	Not Detected	< 0.080 ug/L	
6/11/25	6/16/25	25F1107-BLK1	2,4-D	Not Detected	< 0.080 ug/L	
6/11/25	6/16/25	25F1107-BLK1	2,4-DB	Not Detected	< 0.080 ug/L	
6/11/25	6/16/25	25F1107-BLK1	Acifluorfen	Not Detected	< 0.080 ug/L	
6/11/25	6/16/25	25F1107-BLK1	Bentazon	Not Detected	< 0.080 ug/L	
6/11/25	6/16/25	25F1107-BLK1	Clopyralid	Not Detected	< 0.080 ug/L	
6/11/25	6/16/25	25F1107-BLK1	Dicamba	Not Detected	< 0.080 ug/L	
6/11/25	6/16/25	25F1107-BLK1	Dichlorprop	Not Detected	< 0.080 ug/L	
6/11/25	6/16/25	25F1107-BLK1	Dinoseb	Not Detected	< 0.080 ug/L	
6/11/25	6/16/25	25F1107-BLK1	MCPA	Not Detected	< 0.080 ug/L	
6/11/25	6/16/25	25F1107-BLK1	MCPP	Not Detected	< 0.080 ug/L	
6/11/25	6/16/25	25F1107-BLK1	Picloram	Not Detected	< 0.080 ug/L	
6/11/25	6/16/25	25F1107-BLK1	Quinclorac	Not Detected	< 0.080 ug/L	
6/11/25	6/16/25	25F1107-BLK1	Triclopyr	Not Detected	< 0.080 ug/L	

Blank Spike Data Matrix: water

Extraction Date	Analyses	Batch QC Sample #	Analyte	% Recovery	Expected % Recovery	Notes
6/11/25	6/16/25	25F1107-BS1	2,4-D	98	51-141	
6/11/25	6/16/25	25F1107-BSD1	2,4-D	92	51-141	
6/11/25	6/16/25	25F1107-BS1	Dicamba	109	40-122	
6/11/25	6/16/25	25F1107-BSD1	Dicamba	105	40-122	
6/11/25	6/16/25	25F1107-BS1	Triclopyr	95	53-127	
6/11/25	6/16/25	25F1107-BSD1	Triclopyr	94	53-127	



Kara Greer, Project Manager

This analytical report complies with the ISO/IEC 17025:2017 Quality Standard.

APPENDIX D

Laboratory Data Validation Report

QA LEVEL 2A - DATA VERIFICATION/DATA VALIDATION CHECKLIST

Project Name: Starlink / Uplands Support

Project Number/Phase/Task: US0025871.2251

Reviewing Company: WSP

Project Manager: Ted Norton

Data Evaluator: Michael Salema

Data Evaluation Date: July 31, 2025

Checked by: Julie Lehrman

Review Date: August 1, 2025

Laboratory: Apex, Enthalpy Analytical, Matrix

Lab SDG #: A5F1150, P250675, 2506190

Matrix: Aqueous Soil Sediment Waste Air Other:

Analytical Methods: See Table 1

Sample Information: See Table 1

Data qualification: See Table 2

Work Plan or QAPP: Final Outfall 22B IRAM Performance Monitoring, Sampling and Analysis Plan, Former Rhone-Poulenc Portland Site, Oregon Department of Environmental Quality, February 2015; Quality Assurance Project Plan Update, RP – Portland Site, AMEC Earth & Environmental, Inc. September 2009.

Data Validation Guidance: National Functional Guidelines for Superfund Organic/Inorganic Methods Data (EPA 2020); National Functional Guidelines for High Resolution Superfund Methods Data Review (EPA 2020).

COC and Sample Receipt	YES	NO	NA	COMMENT
a) COC complete and correct?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
b) COC documents release of custody (signed and dated)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
c) Field QC types provided (note types)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MS/MSD, FD, RB, TB
d) Did the cooler contents match the COC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
e) Were samples received in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		See Note 1
f) Were cooler temperatures within control limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

Data Package Information	YES	NO	NA	COMMENT
a) Laboratory name and location documented?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
b) All samples on COC reported in data package?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
c) Requested analytical methods used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
d) Requested sample preparation methods used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
e) Requested analyte list reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
f) Requested units reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
g) Did the laboratory define the qualifiers used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
h) Data package contains all information necessary to complete the data quality review?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

Analytical Assessment	YES	NO	NA	COMMENT
a) Solid samples reported on a dry-weight basis?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b) Were solid samples percent moisture criteria acceptable?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
c) Were sample dilutions noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		See Note 2
d) Were detected concentrations less than the QL qualified by the laboratory?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

Analytical Assessment	YES	NO	NA	COMMENT
e) Were detected concentrations above the calibration range reported by the laboratory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
f) Did the laboratory satisfy the requested sensitivity requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Laboratory Case Narrative	YES	NO	NA	COMMENT
a) Do the laboratory narrative or laboratory qualifiers indicate deficiencies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Addressed in sections below
b) Were all deficiencies noted in the laboratory qualifiers or narrative?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sample Preservation and Holding Time	YES	NO	NA	COMMENT
a) Were samples properly preserved?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
b) Were holding times met for sample preparation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
c) Were holding times met for sample analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Blanks	YES	NO	NA	COMMENTS
a) Were blanks analyzed at the appropriate frequency?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
b) Were any analytes detected in the associated preparation/method blank?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		See Notes 3 & 4 and Tables 3 & 4
c) Were any analytes detected in the associated trip blanks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
d) Were any analytes detected in the associated field or equipment/rinsate blanks?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Note 5 and Table 4
e) Were any analytes detected in the associated storage blanks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Only required for CLP methods
Surrogates or Deuterated Monitoring Compounds	YES	NO	NA	COMMENTS
a) Were the correct surrogate compounds added to each sample?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
b) Were surrogate recoveries within control limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
c) If not, were samples analyzed at dilution factors 20x or greater?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Isotope Dilution Standards	YES	NO	NA	COMMENTS
a) Were the correct isotope dilution standards added to each sample?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
b) Were isotope dilution standard recoveries within control limits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Note 6 and Table 5
LCS/LCSD/OPR	YES	NO	NA	COMMENTS
a) Were LCS/LCSD or OPR reported at the appropriate frequency?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
b) Were proper analytes included in the LCS/LCSD or OPR?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
c) Were LCS/LCSD or OPR recoveries within control limits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		See Note 7 and Table 6
d) Were RPD values within control limits (if LCSD or OPRD was analyzed)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

MS/MSDs	YES	NO	NA	COMMENTS
a) Were project-specific MS (and MSD) reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		MS/MSD not required for Methods 1613B, 1668C and 1699
b) Were proper analytes reported in the MS/MSD?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
c) Were project-specific MS/MSD recoveries within control limits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Note 8 and Table 7
d) If not, were sample concentrations greater than the spiking concentration?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Note 8 and Table 7
e) Was the RPD or absolute difference within control limits (if project-specific MSD analyzed)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Note 8 and Table 7
f) Were project-specific post-digestion spikes analyzed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
g) Were project-specific post-digestion spike recoveries within control limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Duplicates	YES	NO	NA	COMMENTS
a) Were project-specific laboratory duplicates reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	22B-U-D-20250609
b) Was laboratory duplicate RPD or absolute difference criteria acceptable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
c) Were field duplicates reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	22B-U-S-20250609 / 22B-U-D-20250609 22B-F-S-20250609 / 22B-F-D-20250609
d) Was field duplicate RPD or absolute difference criteria acceptable (30%)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Note 8 and Table 10

ICP Serial Dilution (SD)	YES	NO	NA	COMMENTS
a) Was project-specific ICP SD data provided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
b) Were project-specific ICP SD within acceptable criteria?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Overall Evaluation	YES	NO	NA	COMMENTS
a) Were there any other technical problems not previously addressed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		See Notes 12, 13 and 14
b) Were data acceptable and usable, except where noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

Comments/Notes:

1. Sample receipt document states that the two of the four total trip blank VOA vials were received with IDs on the label. The other two did not have IDs on the label. Sample receipt also states that a time was not recorded on one of the two HCl sample containers for sample 22B-U-S-20250609. Relevant information was obtained from the chain of custody, there is no other action than note.
2. Select samples were analyzed at dilutions to bring sample concentrations within the instrument calibration range. Reporting limits were elevated proportional to the dilution when undiluted results were not provided by the laboratory. The laboratory also flagged (TSS' qualifier) total suspended solid results that were estimated due to minimum residue not being met for method SM2540D. The reporting level was adjusted to reflect the increased uncertainty in the result. The Guidelines do not require qualification based on dilution, but the end user is alerted that the sensitivity of non-detect results should be considered as part of determining data usability.
3. Detections in the method blanks for high resolution Methods 1668 and 1699, including results identified as Estimated Maximum Potential Concentrations (EMPC), are summarized in Table 3, attached. See the table below for the blank qualifications applied to the samples using professional judgement informed by the High-Resolution Superfund Methods (HRSM) Guidelines.

Blank Results	Sample Result	Action
All analytes except OCDD/OCDF* ≥ MDL or EDL and < 1/2 QL (OCDD/OCDF <QL)	Non-detect	No qualification necessary
	≥ MDL or EDL but < QL	Report at QL, raise MDL to sample result, and qualify as non-detect (U)
	≥ QL	Per professional judgment no qualification necessary
All analytes except OCDD/OCDF* ≥ 1/2x QL (OCDD/OCDF <3xQL)	Non-detect	No qualification necessary
	< QL	Report at QL, raise MDL to sample result, and qualify as non-detect (U)
	≥ QL and < Blank Result	Raise MDL and QL to sample result and qualify as non-detect (U)
	≥ QL and ≥ Blank Result	Qualify J+ if sample result is < 10x Blank Result.
Estimated Maximum Possible Concentration (EMPC)	EMPC	Qualify EMPC results for same analyte using actions above.
	non-EMPC	No qualification necessary
Gross Contamination (>3xQL)	All	Qualify R/UR

4. Analytes were detected in the method and rinsate blanks for non-high-resolution analyses, as noted in Table 4. Following Inorganic Guidelines and using professional judgement, when the blank concentration was below the RL, associated detected sample results detected above the RL did not require qualification. Following Inorganic Guidelines and using professional judgement, when the blank concentration was below the RL, associated detected sample results detected below RL were qualified as non-detect (U) and the MDL raised to sample result.
5. Internal standard recoveries were outside control limits in project and QC samples as summarized in Table 5 Using professional judgement, no qualification was applied to lab QC samples and the deficiency identified by the laboratory is noted here for completeness. Following guidelines, when a project sample recovery was below the QC criteria, associated detected sample results were qualified as estimated, biased low (J-).
6. LCS and LCSD recoveries were outside control limits as summarized in Table 6. Following the QAPP and historical project practice, when the LCS recovery was above the upper acceptance limit, associated non-detect sample results did not require qualification. When the LCS recovery was below the lower acceptance limit, associated non-detect sample results were qualified estimated non-detects (UJ). No direction of bias was applied to sample results below the RL.
7. MS/MSD recoveries were outside of acceptance criteria for select analytes, as shown in Table 7. Only MS/MSD samples associated with project-specific samples reported in these SDGs were evaluated. Qualifications for MS/MSD deficiencies were applied to both the parent sample and field duplicate. Using professional judgment, samples are only qualified when two indicators are outside criteria. In accordance with the QAPP, organic samples are only qualified when the spiking concentration is greater than the sample concentration. Following Guidelines, inorganic samples are only qualified when the spiking concentration is greater than 4x the sample concentration.

Following Organic Guidelines, when MS/MSD recoveries are below recovery criteria and greater than 10%, associated detects were qualified estimated, biased low (J-) and non-detects are qualified as estimated (UJ). when MS/MSD recoveries are above recovery criteria, associated detects were qualified estimated (J) and non-detects samples did not require qualification. When MS/MSD recoveries were below 10%, associated detects were qualified estimated, biased low (J-) and non-detect sample results were rejected (UR).

8. Field duplicate RPDs were above the QC criteria established in the QAPP (30%). Sample results not meeting the applicable field duplicate criteria are shown in Tables 8, 9, and 10. Following Guidelines established by the QAPP, when both the primary and field duplicate results were greater than 5x the RL and the RPD was outside

QC criteria, the associated results were qualified as estimated (J). When either the sample result or field duplicate result was below 5x the RL and the absolute difference between the results was greater than the RL, associated results were qualified as estimated (J/UJ). When the absolute difference between the results was less than the RL, no qualifications were necessary.

9. Following historical precedent for this project, results that are reported as estimated maximum possible concentrations (EMPC) in the report are reported as non-detects and qualified "EMPC, U" in the EDD. This designation has been retained in the data tables.

10. Apex applied other flags to the data to identify potential deviations. WSP reviewed these items, to the extent that supporting data was provided, and determined that no rejection of data was necessary. These flags are defined by the laboratory below.
 - a. DCNT Samples for NWTPH-HCID and NWTPH-DX decanted due to the presence of sediment in water samples, or water in sediment or soil samples (Note: Decanted aqueous sample bottles are not solvent rinsed).
 - b. Q-16 Reanalysis of an original Batch QC sample.
 - c. Q-19 Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
 - d. Q-31 Estimated Results. Recovery of Continuing Calibration Verification sample below lower control limit for this analyte. Results are likely biased low.
 - e. Q-41 Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
 - f. Q-52 Due to known erratic recoveries, the result and reporting levels for this analyte are reported as Estimated Values. This analyte may not have passed all QC requirements for this method.
 - g. Q-54 Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in the associated EPA method by +1%. The results are reported as Estimated Values.
 - h. Q-54a Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in the associated EPA method by +11%. The results are reported as Estimated Values.
 - i. Q-54b Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in the associated EPA method by +17%. The results are reported as Estimated Values.
 - j. Q-54c Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in the associated EPA method by +41%. The results are reported as Estimated Values.
 - k. Q-54d Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in the associated EPA method by +46%. The results are reported as Estimated Values.
 - l. Q-54e Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in the associated EPA method by +5%. The results are reported as Estimated Values.
 - m. Q-54f Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in the associated EPA method by +8%. The results are reported as Estimated Values.
 - n. Q-54g Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in the associated EPA method by -1%. The results are reported as Estimated Values.
 - o. Q-54h Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in the associated EPA method by -2%. The results are reported as Estimated Values.
 - p. Q-55 Daily CCV/LCS recovery for this analyte was below the +/-20% criteria listed in EPA method 8260, however there is adequate sensitivity to ensure detection at the reporting level.

- q. Q-56 Daily CCV/LCS recovery for this analyte was above the +/-20% criteria listed in EPA 8260. Samples that are ND (Non-Detect) are not impacted.
- r. TSS Dried residue was less than 2.5mg as specified in the method. Results meet regulatory requirements.

Definitions:

%D:	Percent Difference / Drift	QAPP:	Quality Assurance Project Plan
%R:	Percent Recovery	QC:	Quality Control
CCB:	Continuing Calibration Blank	QL:	Quantitation Limit
CCV:	Continuing Calibration Verification	RB:	Rinsate Blank
COC:	Chain of Custody	RDL:	Reported Detection Limit
CRQL:	Contract Required Quantitation Limit	RL:	Reporting Limit
DMC:	Deuterated Monitoring Compound	RPD:	Relative Percent Deviation
DRO:	Diesel Range Organics	RRF:	Relative Response Factor
EB:	Equipment Blank	RSD:	Relative Standard Deviation
FB:	Field Blank	SD:	Serial Dilution
GRO:	Gasoline Range Organics	SDG:	Sample Delivery Group
HT:	Holding Time	SPLP:	Synthetic Precipitate Leachate Procedure
ICB:	Initial Calibration Blank	SVOC:	Semivolatile Organic Compound
ICV:	Initial Calibration Verification	TAL:	Target Analyte List
IS:	Internal Standard	TAT:	Turn Around Time
LCS:	Laboratory Control Sample	TB:	Trip Blank
LCSD:	Laboratory Control Sample Duplicate	TCL:	Target Compound List
MB:	Method Blank	TCLP:	Toxicity Characteristic Leachate Procedure
MDL:	Method Detection Limit	TDS:	Total Dissolved Solids
MS:	Matrix Spike	TOC:	Total Organic Carbon
MSD:	Matrix Spike Duplicate	TPH:	Total Petroleum Hydrocarbons
PCB:	Polychlorinated Biphenyl	TSS:	Total Suspended Solids
PQL:	Practical Quantitation Limit	VOC:	Volatile Organic Compound
		ZHE:	Zero Headspace Extraction

**Table 1
Sample Collection and Analysis Summary
Starlink / Uplands Support
Outfall 22B 2025 Monitoring**

SDG	Field Identification	Collection Date	Location	Lab Identification	Matrix	QC Samples	Parameters / Analytical Methods / Laboratories															
							Apex							Weck				Matrix	Enthalpy Analytical			
							Hydrocarbon Identification by NWTPH-HCID	Diesel/Oil Hydrocarbons by NWTPH-Dx/SG	GRO by NWTPH-Gx	VOCs by 8260D	SVOCs by 8270E	Total Metals by E200.8 (ICPMS)	Dissolved Metals by E200.8 (ICPMS)	TSS by SM2540D	Total Hexavalent Chromium by E218.6	Dissolved Hexavalent Chromium by E218.6	Total Mercury by 1631E low level	Dissolved Mercury by 1631E low level	Herbicides by 8151A Mod	Dioxins / Furans by 1613B	PCBs by 1668C	Pesticides by 1699
A5F1150	22B-F-RB-20250609	6/9/2025	-	A5F1150-05	WQ	RB	-	-	-	-	-	-	X	-	-	X	-	X	-	-	-	-
	22B-F-D-20250609	6/9/2025	Outfall 22B	A5F1150-04	GW	FD (22B-F-S-20250609)	-	-	-	-	-	-	X	-	-	X	-	X	-	-	-	-
	22B-F-S-20250609	6/9/2025	Outfall 22B	A5F1150-02	GW	MS/MSD	-	-	-	-	-	-	X	-	-	X	-	X	-	-	-	-
	22B-U-D-20250609	6/9/2025	Outfall 22B	A5F1150-03	GW	FD (22B-U-S-20250609)	X	X	X	X	X	X	-	-	X	-	X	-	-	-	-	-
	22B-U-S-20250609	6/9/2025	Outfall 22B	A5F1150-01	GW	-	X	X	X	X	X	X	-	X	X	-	X	-	-	-	-	-
	22B-TB-20250609	6/9/2025	-	A5F1150-06	WQ	TB	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
P250675	22B-U-D-20250609	6/9/2025	Outfall 22B	P250675-01	GW	FD (22B-U-S-20250609)	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
	22B-U-S-20250609	6/9/2025	Outfall 22B	P250675-02	GW	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
2506190	22B-U-D-20250609	6/9/2025	Outfall 22B	2506190-01	GW	FD (22B-U-S-20250609)	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X
	22B-U-S-20250609	6/9/2025	Outfall 22B	2506190-02	GW	MS/MSD	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X

Notes:

- 1) Analyses performed by Apex, Vista Analytical, Enthalpy Analytical, and/or Matrix Sciences Pacific Agricultural Laboratories, detailed above.
- 2) Samples designated with "F" in the Field ID were field filtered. Samples designated with "U" in the Field ID were unfiltered.
- 3) One primary sample designated with "S" and one field duplicate samples designated with "D" was submitted to the laboratories

Abbreviations:

- FD: Field Duplicate
- GRO: Gasoline Range Organics
- GW: Groundwater
- MS/MSD: Matrix Spike / Matrix Spike Duplicate
- QC: Quality Control
- RB: Rinsate Blank
- SDG: Sample Delivery Group
- SVOCs: Semivolatile Organic Compounds
- TB: Trip Blank
- VOCs: Volatile Organic Compounds
- WQ: Quality Control Water



Table 2
Qualifier Summary Table
Starlink / Uplands Support
Outfall 22B 2025 Monitoring

Sample Name	Analysis	CAS RN	Constituent	New Result	New MDL	New RL	Qualifier	Reason
All samples	All analyses	--	--	--	--	--	--	Laboratory applied U-qualifiers indicating non-detect results and J-qualifiers indicating results below the reporting limit are retained unless other qualifications are indicated in this table. All other laboratory qualifiers are removed.
22B-U-D-20250609	1699	1024-57-3	Heptachlor Epoxide	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1699	1024-57-3	Heptachlor Epoxide	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	SW8260D	107-02-8	Acrolein	-	-	-	UJ	MS/MSD recovery below QC criteria
22B-U-D-20250609	SW8260D	107-02-8	Acrolein	-	-	-	UJ	MS/MSD recovery below QC criteria
22B-U-S-20250609	SW8260D	110-75-8	2-Chloroethylvinyl ether	-	-	-	UJ	LCS recovery below QC criteria
22B-U-D-20250609	SW8260D	110-75-8	2-Chloroethylvinyl ether	-	-	-	UJ	LCS recovery below QC criteria
22B-U-S-20250609	1699	118-74-1	Hexachlorobenzene	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1699	118-74-1	Hexachlorobenzene	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1668C	1336-36-3	Polychlorinated Biphenyls	-	-	-	J	Field duplicate RPD outside criteria
22B-U-D-20250609	1668C	1336-36-3	Polychlorinated Biphenyls	-	-	-	J	Field duplicate RPD outside criteria
22B-F-D-20250609	218.6	18540-29-9	Hexavalent Chromium, Dissolved	-	0.051	-	U	Rinsate blank contamination
22B-F-S-20250609	218.6	18540-29-9	Hexavalent Chromium, Dissolved	-	0.052	-	U	Rinsate blank contamination
22B-U-S-20250609	1668C	2050-67-1	3,3'-Dichlorobiphenyl	-	-	-	J+	Method blank contamination
22B-U-D-20250609	1668C	2050-67-1	3,3'-Dichlorobiphenyl	-	-	-	J+	Method blank contamination
22B-U-S-20250609	1668C	25512-42-9	Dichlorobiphenyl, Total	-	-	-	J+	Method blank contamination
22B-U-D-20250609	1668C	25512-42-9	Dichlorobiphenyl, Total	-	-	-	J+	Method blank contamination
22B-U-S-20250609	1699	28044-83-9	trans-Heptachlor Epoxide	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1699	28044-83-9	trans-Heptachlor Epoxide	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1699	309-00-2	Aldrin	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1699	309-00-2	Aldrin	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1668C	32598-14-4	2,3,3',4,4'-Pentachlorobiphenyl	-	-	-	J	Field duplicate RPD outside criteria
22B-U-D-20250609	1668C	32598-14-4	2,3,3',4,4'-Pentachlorobiphenyl	-	-	-	J	Field duplicate RPD outside criteria
22B-U-D-20250609	1613	3268-87-9	Octachlorodibenzo-p-dioxin	-	9.31	-	U	Method blank contamination
22B-U-S-20250609	1699	3424-82-6	o,p'-DDE	-	-	-	J	Internal standard recovery below QC criteria
22B-U-D-20250609	1699	3424-82-6	o,p'-DDE	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1613	34465-46-8	Hexachlorinated Dibenzo-p-dioxins, Total	-	11.7	-	U	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1613	34465-46-8	Hexachlorinated Dibenzo-p-dioxins, Total	-	15.0	-	U	Method blank contamination
22B-U-S-20250609	1668C	35065-27-1	2,2',4,4',5,5'-Hexachlorobiphenyl (PCB 153)	-	-	-	J	Method blank contamination
22B-U-D-20250609	1668C	35065-27-1	2,2',4,4',5,5'-Hexachlorobiphenyl (PCB 153)	-	-	-	J	Field duplicate RPD outside criteria
22B-U-S-20250609	1668C	35065-29-3	2,2',3,4,4',5,5'-Heptachlorobiphenyl (PCB 180)	-	-	-	J	Field duplicate RPD outside criteria
22B-U-D-20250609	1668C	35065-29-3	2,2',3,4,4',5,5'-Heptachlorobiphenyl (PCB 180)	-	-	-	J	Field duplicate RPD outside criteria
22B-U-S-20250609	1668C	35065-30-6	2,2',3,3',4,4',5-Heptachlorobiphenyl(PCB 170)	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1668C	35065-30-6	2,2',3,3',4,4',5-Heptachlorobiphenyl(PCB 170)	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1613	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	5.31	-	-	U	Method blank contamination
22B-U-S-20250609	1613	37871-00-4	Heptachlorinated Dibenzo-p-dioxins, Total	5.31	-	-	U	Method blank contamination
22B-U-S-20250609	1668C	38380-03-9	2,3,3',4,6-Pentachlorobiphenyl	-	-	-	J	Field duplicate RPD outside criteria
22B-U-D-20250609	1668C	38380-03-9	2,3,3',4,6-Pentachlorobiphenyl	-	-	-	J	Field duplicate RPD outside criteria
22B-U-S-20250609	1668C	38380-08-4	2,3,3',4,4',5-Hexachlorobiphenyl	-	-	-	J	Field duplicate RPD outside criteria
22B-U-D-20250609	1668C	38380-08-4	2,3,3',4,4',5-Hexachlorobiphenyl	-	-	-	J	Field duplicate RPD outside criteria
22B-U-S-20250609	1668C	38411-22-2	2,2',3,3',6,6'-Hexachlorobiphenyl	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1668C	38411-22-2	2,2',3,3',6,6'-Hexachlorobiphenyl	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1668C	38411-25-5	2,2',3,3',4,5,6'-Heptachlorobiphenyl	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1668C	38411-25-5	2,2',3,3',4,5,6'-Heptachlorobiphenyl	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1699	39765-80-5	trans-Nonachlor	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1699	39765-80-5	trans-Nonachlor	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1668C	41464-51-1	2,2',3,4',5'-Pentachlorobiphenyl	-	-	-	J	Field duplicate RPD outside criteria
22B-U-D-20250609	1668C	41464-51-1	2,2',3,4',5'-Pentachlorobiphenyl	-	-	-	J	Field duplicate RPD outside criteria

Table 2
Qualifier Summary Table
Starlink / Uplands Support
Outfall 22B 2025 Monitoring

Sample Name	Analysis	CAS RN	Constituent	New Result	New MDL	New RL	Qualifier	Reason
22B-U-S-20250609	1699	50-29-3	4,4-DDT	-	-	-	J	MS/MSD recovery below 10% Field duplicate absolute difference outside criteria
22B-U-D-20250609	1699	50-29-3	4,4-DDT	-	-	-	J	MS/MSD recovery below 10% Field duplicate absolute difference outside criteria
22B-U-S-20250609	1699	5103-71-9	alpha-Chlordane	-	-	-	J	MS/MSD recovery below QC criteria Field duplicate absolute difference outside criteria
22B-U-D-20250609	1699	5103-71-9	alpha-Chlordane	-	-	-	J	MS/MSD recovery below QC criteria Field duplicate absolute difference outside criteria
22B-U-S-20250609	1699	5103-73-1	cis-Nonachlor	-	-	-	J	Internal standard recovery below QC criteria Field duplicate absolute difference outside criteria
22B-U-D-20250609	1699	5103-73-1	cis-Nonachlor	-	-	-	UJ	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1699	5103-74-2	trans-Chlordane	-	-	-	J	MS recovery below QC criteria, MSD recovery below 10%, RPD outside QC criteria, Field duplicate absolute difference outside criteria
22B-U-D-20250609	1699	5103-74-2	trans-Chlordane	-	-	-	J	MS recovery below QC criteria, MSD recovery below 10%, RPD outside QC criteria, Field duplicate absolute difference outside criteria
22B-U-S-20250609	1668C	52663-63-5	2,2',3,5,5',6-Hexachlorobiphenyl (PCB 151)	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1668C	52663-63-5	2,2',3,5,5',6-Hexachlorobiphenyl (PCB 151)	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1668C	52663-66-8	2,2',3,3',4,5'-Hexachlorobiphenyl	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1668C	52663-66-8	2,2',3,3',4,5'-Hexachlorobiphenyl	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1668C	52663-69-1	2,2',3,4,4',5',6-Heptachlorobiphenyl (PCB 183)	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1668C	52663-69-1	2,2',3,4,4',5',6-Heptachlorobiphenyl (PCB 183)	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1668C	52663-70-4	2,2',3,3',4,5',6'-Heptachlorobiphenyl	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1668C	52663-70-4	2,2',3,3',4,5',6'-Heptachlorobiphenyl	-	-	-	UJ	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1668C	52663-75-9	2,2',3,3',4,5,5',6'-Octachlorobiphenyl	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1668C	52663-75-9	2,2',3,3',4,5,5',6'-Octachlorobiphenyl	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1668C	52712-04-6	2,2',3,4,5,5'-Hexachlorobiphenyl (PCB 141)	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1668C	52712-04-6	2,2',3,4,5,5'-Hexachlorobiphenyl (PCB 141)	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1699	53-19-0	o,p'-DDD	-	-	-	J	MS/MSD recovery below 10% Field duplicate RPD outside criteria
22B-U-D-20250609	1699	53-19-0	o,p'-DDD	-	-	-	J	MS/MSD recovery below 10% Field duplicate RPD outside criteria
22B-U-S-20250609	1699	60-57-1	Dieldrin	-	-	-	J	Internal standard recovery below QC criteria Field duplicate RPD outside criteria
22B-U-D-20250609	1699	60-57-1	Dieldrin	-	-	-	J	Field duplicate RPD outside criteria
22B-U-S-20250609	SW8270E	65-85-0	Benzoic acid (Benzoic)	-	-	-	UR	MS/MSD recovery below 10%
22B-U-D-20250609	SW8270E	65-85-0	Benzoic acid (Benzoic)	-	-	-	UR	MS/MSD recovery below 10%
22B-U-S-20250609	1668C	69782-90-7	2,3,3',4,4',5'-Hexachlorobiphenyl	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1668C	69782-90-7	2,3,3',4,4',5'-Hexachlorobiphenyl	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1699	72-20-8	Endrin	-	-	-	J	Internal standard recovery below QC criteria Field duplicate RPD outside criteria
22B-U-D-20250609	1699	72-20-8	Endrin	-	-	-	J	Field duplicate RPD outside criteria
22B-U-S-20250609	1699	72-54-8	4,4-DDD	-	-	-	J	Field duplicate RPD outside criteria
22B-U-D-20250609	1699	72-54-8	4,4-DDD	-	-	-	J	Field duplicate RPD outside criteria
22B-U-S-20250609	1699	72-55-9	4,4-DDE	-	-	-	J	MS/MSD recovery below QC criteria Internal standard recovery below QC criteria Field duplicate absolute difference outside criteria
22B-U-D-20250609	1699	72-55-9	4,4-DDE	-	-	-	J	MS/MSD recovery below QC criteria Field duplicate absolute difference outside criteria
22B-U-S-20250609	200.8	7439-89-6	Total Iron	-	-	-	J	Field duplicate RPD outside criteria
22B-U-D-20250609	200.8	7439-89-6	Total Iron	-	-	-	J	Field duplicate RPD outside criteria

Table 2
Qualifier Summary Table
Starlink / Uplands Support
Outfall 22B 2025 Monitoring

Sample Name	Analysis	CAS RN	Constituent	New Result	New MDL	New RL	Qualifier	Reason
22B-U-S-20250609	200.8	7439-92-1	Total Lead	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	200.8	7439-92-1	Total Lead	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	200.8	7439-96-5	Total Manganese	-	-	-	J	Field duplicate RPD outside criteria
22B-U-D-20250609	200.8	7439-96-5	Total Manganese	-	-	-	J	Field duplicate RPD outside criteria
22B-U-S-20250609	200.8	7440-38-2	Total Arsenic	-	-	-	J	Field duplicate RPD outside criteria
22B-U-D-20250609	200.8	7440-38-2	Total Arsenic	-	-	-	J	Field duplicate RPD outside criteria
22B-U-S-20250609	200.8	7440-66-6	Total Zinc	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	200.8	7440-66-6	Total Zinc	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1699	789-02-6	o,p'-DDT	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1699	789-02-6	o,p'-DDT	-	-	-	UJ	Field duplicate absolute difference outside criteria
22B-U-S-20250609	SW8270E	91-94-1	3,3'-dichlorobenzidine	-	-	-	UR	MS/MSD recovery below 10%
22B-U-D-20250609	SW8270E	91-94-1	3,3'-dichlorobenzidine	-	-	-	UR	MS/MSD recovery below 10%
22B-U-S-20250609	SW8270E	95-95-4	2,4,5-Trichlorophenol	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	SW8270E	95-95-4	2,4,5-Trichlorophenol	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	SW8270E	99-09-2	3-Nitroaniline	-	-	-	UJ	MS/MSD recovery below QC criteria
22B-U-D-20250609	SW8270E	99-09-2	3-Nitroaniline	-	-	-	UJ	MS/MSD recovery below QC criteria
All Samples	All analyses	All 'EMPC' results	All 'EMPC' results	--	--	--	EMPC, U	Result qualified as EMPC in the PDF, final qualifiers are EMPC, U in the EDD and project database unless other qualifiers are indicated in this table.
All Samples	All analyses	All 'EMPC' results	All 'EMPC' results	--	varies	--	EMPC, U	Laboratory placed EMPC value in RDL field and reported EMPCs with numerical values above the MDL. MDL raised to the value of the EMPC if MDL was less than the EMPC value.
22B-U-S-20250609	1668C	PCB048 075	PCB-48/75	-	5.67	-	U	Method blank contamination
22B-U-D-20250609	1668C	PCB048 075	PCB-48/75	-	4.83	-	U	Method blank contamination
22B-U-S-20250609	1668C	PCB084 092	PCB-84/92	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1668C	PCB084 092	PCB-84/92	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1668C	PCB085 116	PCB-85/116	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1668C	PCB085 116	PCB-85/116	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1668C	PCB087 117 125	PCB-87/117/125	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1668C	PCB087 117 125	PCB-87/117/125	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1668C	PCB090 101	PCB-90/101	-	-	-	J	Field duplicate RPD outside criteria
22B-U-D-20250609	1668C	PCB090 101	PCB-90/101	-	-	-	J	Field duplicate RPD outside criteria
22B-U-S-20250609	1668C	PCB095 098 102	PCB-95/98/102	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1668C	PCB095 098 102	PCB-95/98/102	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1668C	PCB106 118	PCB-106/118	-	-	-	J	Field duplicate RPD outside criteria
22B-U-D-20250609	1668C	PCB106 118	PCB-106/118	-	-	-	J	Field duplicate RPD outside criteria
22B-U-S-20250609	1668C	PCB107 109	PCB-107/109	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1668C	PCB107 109	PCB-107/109	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1668C	PCB128 162	PCB-128/162	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1668C	PCB128 162	PCB-128/162	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1668C	PCB132 161	PCB-132/161	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1668C	PCB132 161	PCB-132/161	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1668C	PCB138 163 164	PCB-138/163/164	-	-	-	J	Field duplicate RPD outside criteria
22B-U-D-20250609	1668C	PCB138 163 164	PCB-138/163/164	-	-	-	J	Field duplicate RPD outside criteria
22B-U-S-20250609	1668C	PCB139 149	PCB-139/149	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1668C	PCB139 149	PCB-139/149	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-S-20250609	1668C	PCB182 187	PCB-182/187	-	-	-	J	Field duplicate absolute difference outside criteria
22B-U-D-20250609	1668C	PCB182 187	PCB-182/187	-	-	-	J	Field duplicate absolute difference outside criteria

Table 3
High Resolution Blanks Summary Table
Starlink / Uplands Support
Outfall 22B 2025 Monitoring

Blank Type	Sample ID	Method	CAS RN	EDD Analyte Name	Laboratory Analyte Name	Blank Result	Quantitation Limit	Units	Lab Qualifier	Notes
MB	B25F186-BLK1	1699	118-74-1	Hexachlorobenzene	Hexachlorobenzene	6.05	40.0	pg/L	J	MB<1/2QL, smpls >QL, no qual
MB	B25F216-BLK1	1613	3268-87-9	Octachlorodibenzo-p-dioxin	OCDD	5.36	50.0	pg/L	J	MB<1/2QL, smpls <QL, qual
MB	B25F216-BLK1	1613	34465-46-8	Hexachlorinated Dibenzo-p-dioxins, Total	Total HxCDD	3.57	25.0	pg/L	J	MB<1/2QL, smpls <QL, qual
MB	B25G002-BLK1	1668C	2050-67-1	3,3'-Dichlorobiphenyl	PCB-11	4.48	5.00	pg/L	J	MB>1/2QL, smpls >QL <10xblank, qual
MB	B25G002-BLK1	1668C	PCB016_032	PCB-16/32	PCB-16/32	1.13	10.0	pg/L	J	MB<1/2QL, smpls >QL, no qual
MB	B25G002-BLK1	1668C	37680-66-3	2,2',4'-Trichlorobiphenyl	PCB-17	0.608	5.00	pg/L	J	MB<1/2QL, smpls >QL, no qual
MB	B25G002-BLK1	1668C	37680-65-2	2,2',5'-Trichlorobiphenyl	PCB-18	1.03	5.00	pg/L	J	MB<1/2QL, smpls >QL, no qual
MB	B25G002-BLK1	1668C	7012-37-5	2,4,4'-Trichlorobiphenyl	PCB-28	0.782	5.00	pg/L	J	MB<1/2QL, smpls >QL, no qual
MB	B25G002-BLK1	1668C	16606-02-3	2,4',5'-Trichlorobiphenyl (PCB 31)	PCB-31	1.08	5.00	pg/L	J	MB<1/2QL, smpls >QL, no qual
MB	B25G002-BLK1	1668C	PCB042_059	PCB-42/59	PCB-42/59	0.734	10.0	pg/L	J	MB<1/2QL, smpls >QL, no qual
MB	B25G002-BLK1	1668C	PCB043_049	PCB-43/49	PCB-43/49	1.56	10.0	pg/L	J	MB<1/2QL, smpls >QL, no qual
MB	B25G002-BLK1	1668C	PCB048_075	PCB-48/75	PCB-48/75	0.346	10.0	pg/L	J	MB<1/2QL, smpls<QL, qual U, raise MDL/RDL to spl result
MB	B25G002-BLK1	1668C	PCB052_069	PCB-52/69	PCB-52/69	1.73	10.0	pg/L	J	MB<1/2QL, smpls >QL, no qual
MB	B25G002-BLK1	1668C	PCB056_060	PCB-56/60	PCB-56/60	1.18	10.0	pg/L	J	MB<1/2QL, smpls >QL, no qual
MB	B25G002-BLK1	1668C	PCB061_070	PCB-61/70	PCB-61/70	1.03	10.0	pg/L	J	MB<1/2QL, smpls >QL, no qual
MB	B25G002-BLK1	1668C	PCB138_163_164	PCB-138/163/164	PCB-138/163/164	0.831	15.0	pg/L	J	MB<1/2QL, smpls >QL, no qual
MB	B25G002-BLK1	1668C	35694-08-7	2,2',3,3',4,4',5,5'-Octachlorobiphenyl (PCB 194)	PCB-194	0.450	5.00	pg/L	J	MB<1/2QL, smpls >QL, no qual
MB	B25G002-BLK1	1668C	25512-42-9	Dichlorobiphenyl, Total	Total diCB	4.48	5.00	pg/L		MB>1/2QL, smpls<10xMB, qual
MB	B25G002-BLK1	1668C	25323-68-6	Trichlorobiphenyl, Total	Total triCB	4.64	5.17	pg/L		MB>1/2 QL, smpls>10x blank, no qual
MB	B25G002-BLK1	1668C	26914-33-0	Tetrachlorobiphenyl, Total	Total tetraCB	6.57	11.6	pg/L		MB>1/2 QL, smpls>10x blank, no qual
MB	B25G002-BLK1	1668C	26601-64-9	Hexachlorobiphenyl, Total	Total hexaCB	0.831	5.00	pg/L		MB>1/2 QL, smpls>10x blank, no qual
MB	B25G002-BLK1	1668C	55722-26-4	Octachlorobiphenyl, Total	Total octaCB	0.450	5.00	pg/L		MB<1/2QL, spls >QL, no qual
MB	B25G002-BLK1	1668C	1336-36-3	Polychlorinated Biphenyls	Total PCB	17.0	5.00	pg/L		MB<1/2QL, spls >QL, no qual
MB	B25F216-BLK1	1613	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	1,2,3,4,6,7,8-HpCDD	5.53	25.0	pg/L	EMPC, U	MB EMPC, qual EMPC in spl
MB	B25F216-BLK1	1613	37871-00-4	Heptachlorinated Dibenzo-p-dioxins, Total	Total HpCDD	25	25.0	pg/L	EMPC, U	MB EMPC, qual EMPC in spl
MB	B25G002-BLK1	1668C	2051-62-9	4-Chlorobiphenyl	PCB-3	3.08	5.00	pg/L	EMPC, U	MB EMPC, smpls not EMPC, no qual
MB	B25G002-BLK1	1668C	PCB020_021_033	PCB-20/21/33	PCB-20/21/33	4.47	15.0	pg/L	EMPC, U	MB EMPC, sample ND, no qual
MB	B25G002-BLK1	1668C	38444-93-8	2,2',3,3'-Tetrachlorobiphenyl	PCB-40	2.26	5.00	pg/L	EMPC, U	MB EMPC, smpls>10x blank, no qual
MB	B25G002-BLK1	1668C	PCB41_64_71_72	PCB-41/64/71/72	PCB-41/64/71/72	4.25	20.0	pg/L	EMPC, U	MB EMPC, smpls not EMPC, no qual
MB	B25G002-BLK1	1668C	41464-39-5	2,2',3,5'-Tetrachlorobiphenyl (PCB 44)	PCB-44	13.2	5.00	pg/L	EMPC, U	MB EMPC, smpls not EMPC, no qual
MB	B25G002-BLK1	1668C	2437-79-8	2,2',4,4'-Tetrachlorobiphenyl	PCB-47	3.22	5.00	pg/L	EMPC, U	MB EMPC, smpls not EMPC, no qual
MB	B25G002-BLK1	1668C	41464-41-9	2,2',5,6'-Tetrachlorobiphenyl	PCB-53	1.58	5.00	pg/L	EMPC, U	MB EMPC, smpls not EMPC, no qual
MB	B25G002-BLK1	1668C	PCB066_076	PCB-66/76	PCB-66/76	2.66	10.0	pg/L	EMPC, U	MB EMPC, smpls not EMPC, no qual
MB	B25G002-BLK1	1668C	32690-93-0	2,4,4',5'-Tetrachlorobiphenyl	PCB-74	1.39	5.00	pg/L	EMPC, U	MB EMPC, smpls not EMPC, no qual
MB	B25G002-BLK1	1668C	PCB095_098_102	PCB-95/98/102	PCB-95/98/102	2.16	15.0	pg/L	EMPC, U	MB EMPC, smpls not EMPC, no qual
MB	B25G002-BLK1	1668C	PCB139_149	PCB-139/149	PCB-139/149	3.61	10.0	pg/L	EMPC, U	MB EMPC, smpls not EMPC, no qual
MB	B25G002-BLK1	1668C	35065-27-1	2,2',4,4',5,5'-Hexachlorobiphenyl (PCB 153)	PCB-153	2.20	5.00	pg/L	EMPC, U	MB EMPC, smpls not EMPC, no qual
MB	B25G002-BLK1	1668C	PCB182_187	PCB-182/187	PCB-182/187	2.33	10.0	pg/L	EMPC, U	MB EMPC, smpls not EMPC, no qual
MB	B25G002-BLK1	1668C	74472-53-0	2,3,3',4,4',5,5',6-Octachlorobiphenyl	PCB-205	1.56	5.00	pg/L	EMPC, U	MB EMPC, smpls not EMPC, no qual
MB	B25G002-BLK1	1668C	27323-18-8	Monochlorobiphenyl, Total	Total monoCB	0.308	5.00	pg/L	EMPC, U	MB EMPC, smpls not EMPC, no qual
MB	B25G002-BLK1	1668C	25429-29-2	Pentachlorobiphenyl, Total	Total pentaCB	1.43	5.00	pg/L	EMPC, U	Blank EMPC, spl either not EMPC, or >10X EMPC concentration, no qual
MB	B25G002-BLK1	1668C	28655-71-2	Heptachlorobiphenyl, Total	Total heptaCB	0.463	5.00	pg/L	EMPC, U	Blank EMPC, spl >10X EMPC concentration, no qual

Table 4
Field Blanks Table
Starlink / Uplands Support
Outfall 22B 2025 Monitoring

Sample ID	Method	Blank Type	CAS RN	Total or Diss	Analyte	Blank Result	Quantitation Limit	Units	Lab Qualifier	Notes
25F0357-BLK1	200.8	MB	7439-89-6	T	Iron	45.8	50.0	ug/L	B-02 J	blank < RL, samples > RL, no qualification
25F0357-BLK1	200.8	MB	7439-96-5	T	Manganese	0.723	1.00	ug/L	B-02 J	blank < RL, samples > RL, no qualification
22B-F-RB-20250609	218.6	Rinsate	18540-29-9	D	Hexavalent Chromium, Dissolved	0.059	0.020	ug/L		Samples <10x the blank results qualified

**Table 5
High Resolution Internal Standards Summary Table
Starlink / Uplands Support
Outfall 22B 2025 Monitoring**

Sample ID	Method	Laboratory Analyte Name	EDD Analyte Name	Result (%)	Criteria Range (%)	Note
22B-U-S-20250609	1699	13C12-2,4'-DDE	13C-O,P-DDE	42.8	47 - 160	Detects qual J-, ND qual UJ
22B-U-S-20250609	1699	13C12-4,4'-DDE	13C-P,P-DDE	41.5	47 - 160	Detects qual J-, ND qual UJ
22B-U-S-20250609	1699	13C12-Dieldrin	13C12-DIELDRIN	34.1	40 - 151	Detects qual J-, ND qual UJ
22B-U-S-20250609	1699	13C12-Endrin	13C12-ENDRIN	32.2	35 - 155	Detects qual J-, ND qual UJ
22B-U-S-20250609	1699	13C10-cis-Nonachlor	13C-C-NONACHLOR	28.9	36 - 139	Detects qual J-, ND qual UJ
B25F186-BS1	1699	13C12-2,4'-DDE	13C-O,P-DDE	45.8	47 - 160	No qual for QC samples
B25F186-BS1	1699	13C12-4,4'-DDE	13C-P,P-DDE	43.9	47 - 160	No qual for QC samples
B25F186-BS1	1699	13C12-Dieldrin	13C12-DIELDRIN	39.5	40 - 151	No qual for QC samples
B25F186-MS1	1699	13C12-2,4'-DDE	13C-O,P-DDE	41.6	47 - 160	No qual for QC samples
B25F186-MS1	1699	13C12-4,4'-DDE	13C-P,P-DDE	40.6	47 - 160	No qual for QC samples
B25F186-MS1	1699	13C12-Dieldrin	13C12-DIELDRIN	37.4	40 - 151	No qual for QC samples
B25F186-MS1	1699	13C12-Endrin	13C12-ENDRIN	32.3	35 - 155	No qual for QC samples
B25F186-MS1	1699	13C10-cis-Nonachlor	13C-C-NONACHLOR	34.6	36 - 139	No qual for QC samples
B25F186-MSD1	1699	13C12-2,4'-DDE	13C-O,P-DDE	46.5	47 - 160	No qual for QC samples
B25F186-MSD1	1699	13C12-4,4'-DDE	13C-P,P-DDE	45.9	47 - 160	No qual for QC samples

Table 6
LCS/LCSD Exceedances Summary Table
Starlink / Uplands Support
Outfall 22B 2025 Monitoring

Sample ID	Method	CAS RN	Analyte	LCS / LCSD Recovery (%)	RPD (%)	Recovery / RPD Criteria (%)	Notes
25F0352-BS1	SW8260D	110-75-8	2-Chloroethylvinyl ether	78	-	80 - 120	ND --> UJ
25F0352-BS1	SW8260D	56-23-5	Carbon tetrachloride	128	-	80 - 120	ND
25F0352-BS1	SW8260D	74-83-9	Bromomethane	161	-	80 - 120	ND
25F0352-BS1	SW8260D	75-00-3	Chloroethane	131	-	80 - 120	ND
25F0352-BS1	SW8260D	75-01-4	Vinyl chloride	121	-	80 - 120	ND
25F0352-BS1	SW8260D	75-27-4	Bromodichloromethane	125	-	80 - 120	ND
25F0352-BS1	SW8260D	75-69-4	Trichlorofluoromethane	166	-	80 - 120	ND

Table 7
MS/MSD Exceedances Summary Table
Starlink / Uplands Support
Outfall 22B 2025 Monitoring

Primary Sample ID	Method	CAS RN	Analyte	MS / MSD Recovery (%)	RPD (%)	Recovery / RPD Criteria (%)
22B-U-S-20250609	SW8260D	56-23-5	Carbon tetrachloride	144 / 148	3	72 - 136 / 30
22B-U-S-20250609	SW8260D	74-83-9	Bromomethane	163 / 166	1	53 - 141 / 30
22B-U-S-20250609	SW8260D	75-00-3	Chloroethane	135 / 140	3	60 - 138 / 30
22B-U-S-20250609	SW8260D	75-27-4	Bromodichloromethane	122 / 126	3	79 - 125 / 30
22B-U-S-20250609	SW8260D	75-69-4	Trichlorofluoromethane	176 / 177	0.7	65 - 141 / 30
22B-U-S-20250609	SW8260D	107-02-8	Acrolein	37 / 35	4	39 - 155 / 30
22B-U-S-20250609	SW8270E	106-47-8	4-Chloroaniline*	23 / 29	27	33 - 120 / 30
22B-U-S-20250609	SW8270E	99-09-2	3-Nitroaniline	30 / 32	8	41 - 128 / 30
22B-U-S-20250609	SW8270E	65-85-0	Benzoic acid (Benzoin)	0 / 0	200	10 - 120 / 30
22B-U-S-20250609	SW8270E	91-94-1	3,3'-dichlorobenzidine	0 / 0	NA	27 - 129 / 30
22B-U-S-20250609	1699	28044-83-9	Trans-heptachlor Epoxide	112 / 69.8	46.2	50 - 120 / 25
22B-U-S-20250609	1699	5103-74-2	trans-Chlordane	17.0 / 0.952	179	50 - 150 / 25
22B-U-S-20250609	1699	5103-71-9	alpha-Chlordane	34.5 / 43.3	22.5	50 - 150 / 25
22B-U-S-20250609	1699	72-55-9	4,4-DDE	18.0 / 18.5	2.72	50 - 150 / 25
22B-U-S-20250609	1699	60-57-1	Dieldrin*	-626 / -631	-0.716	50 - 150 / 25
22B-U-S-20250609	1699	53-19-0	o,p'-DDD	-38.5 / -34.2	-12	50 - 150 / 25
22B-U-S-20250609	1699	72-54-8	4,4-DDD*	-204 / -209	-2.5	50 - 150 / 25
22B-U-S-20250609	1699	50-29-3	4,4-DDT	-96.1 / -95.5	-0.716	50 - 150 / 25

* Sample concentration greater than the spiking concentration

** Sample concentration greater than 4x the spiking concentration

Table 8
Vista Duplicates Table
Starlink / Uplands Support
Outfall 22B 2025 Monitoring

RPD Value **30**

Method	CAS RN	Analyte	CB numbe	22B-U-S-20240626		22B-U-D-20240626		Abs Diff	RPD	Criteria	Qualifier
				Result	QL	Result	QL				
1699	1024-57-3	Heptachlor Epoxide		89.5	38.3	49.9	38.7	39.6	56.8	Abs Diff	J
1699	1031-07-8	Endosulfan Sulfate		192	191	129	194	63.0	39.3	Abs Diff	OK
1699	118-74-1	Hexachlorobenzene		129	38.3	46.6	38.7	82.4	93.8	Abs Diff	J
1668C	1336-36-3	Polychlorinated Biphenyls	0	3940	4.87	2800	4.95	1140.0	33.8	RPD	J
1668C	16606-02-3	2,4',5-Trichlorobiphenyl (PCB 31)	31	19.6	4.87	16.2	4.95	3.4	19.0	Abs Diff	OK
1668C	2050-67-1	3,3'-Dichlorobiphenyl	11	12.3	4.87	8.28	4.95	4.0	39.1	Abs Diff	OK
1668C	2050-68-2	4,4'-Dichlorobiphenyl	15	4.31	4.87	3.81	4.95	0.5	12.3	Abs Diff	OK
1668C	2051-24-3	Decachlorobiphenyl, Total	209	1.59	4.87	2.04	4.95	0.5	24.8	Abs Diff	OK
1668C	2051-61-8	3-Chlorobiphenyl	2	0.305	4.87	0.254	4.95	0.1	18.2	Abs Diff	OK
1668C	2136-99-4	2,2',3,3',5,5',6,6'-Octachlorobiphenyl (PCB 202)	202	4.87	4.87	1.36	4.95	3.5	112.7	Abs Diff	OK
1699	2385-85-5	Mirex		12.5	38.3	38.7	38.7	26.2	102.3	Abs Diff	OK
1668C	2437-79-8	2,2',4,4'-Tetrachlorobiphenyl	47	7.23	4.87	6.7	4.95	0.5	7.6	Abs Diff	OK
1668C	25323-68-6	Trichlorobiphenyl, Total	#N/A	115	4.87	98.5	4.95	16.5	15.5	RPD	OK
1668C	25429-29-2	Pentachlorobiphenyl, Total	#N/A	2040	4.87	1470	1470	570.0	32.5	Abs Diff	OK
1668C	25512-42-9	Dichlorobiphenyl, Total	#N/A	29.6	30.9	23.2	4.95	6.4	24.2	Abs Diff	OK
1668C	26601-64-9	Hexachlorobiphenyl, Total	#N/A	720	729	434	437	286.0	49.6	Abs Diff	OK
1668C	26914-33-0	Tetrachlorobiphenyl, Total	#N/A	781	789	643	651	138.0	19.4	Abs Diff	OK
1668C	27323-18-8	Monochlorobiphenyl, Total	#N/A	0.305	4.87	0.254	4.95	0.1	18.2	Abs Diff	OK
1699	28044-83-9	trans-Heptachlor Epoxide		187	38.3	349	38.7	162.0	60.4	Abs Diff	J
1668C	28655-71-2	Heptachlorobiphenyl, Total	#N/A	205	211	102	110	103.0	67.1	Abs Diff	OK
1613	30402-14-3	Total TCDF		4.8	4.8	1.25	4.77	3.6	117.4	Abs Diff	OK
1699	309-00-2	Aldrin		99.8	38.3	11.4	38.7	88.4	159.0	Abs Diff	J
1699	319-84-6	alpha-BHC		595	38.3	596	38.7	1.0	0.2	RPD	OK
1699	319-85-7	beta-BHC		1690	38.3	1560	38.7	130.0	8.0	RPD	OK
1699	319-86-8	delta-BHC		695	38.3	643	38.7	52.0	7.8	RPD	OK
1668C	32598-13-3	3,3',4,4'-Tetrachlorobiphenyl (PCB 77)	77	48.7	4.87	37.3	4.95	11.4	26.5	RPD	OK
1668C	32598-14-4	2,3,3',4,4'-Pentachlorobiphenyl	105	539	4.87	381	4.95	158.0	34.3	RPD	J
1613	3268-87-9	Octachlorodibenzo-p-dioxin		48	48	9.31	47.7	38.7	135.0	Abs Diff	OK
1668C	32690-93-0	2,4,4',5-Tetrachlorobiphenyl	74	54.7	4.87	47.9	4.95	6.8	13.3	RPD	OK
1668C	33091-17-7	2,2',3,3',4,4',6,6'-Octachlorobiphenyl	197	0.493	4.87	0.244	4.95	0.2	67.6	Abs Diff	OK
1699	33213-65-9	beta-Endosulfan		148	191	93.6	194	54.4	45.0	Abs Diff	OK
1699	3424-82-6	o,p'-DDE		76.3	38.3	12.5	38.7	63.8	143.7	Abs Diff	J
1613	34465-46-8	Hexachlorinated Dibenzo-p-dioxins, Total		15	24	11.7	23.9	3.3	24.7	Abs Diff	OK
1668C	35065-27-1	2,2',4,4',5,5'-Hexachlorobiphenyl (PCB 153)	153	111	4.87	64.7	4.95	46.3	52.7	RPD	J

Table 8
Vista Duplicates Table
Starlink / Uplands Support
Outfall 22B 2025 Monitoring

RPD Value **30**

Method	CAS RN	Analyte	CB numbe	22B-U-S-20240626		22B-U-D-20240626		Abs Diff	RPD	Criteria	Qualifier
				Result	QL	Result	QL				
1668C	35065-29-3	2,2',3,4,4',5,5'-Heptachlorobiphenyl (PCB 180)	180	58	4.87	31.2	4.95	26.8	60.1	RPD	J
1668C	35065-30-6	2,2',3,3',4,4',5-Heptachlorobiphenyl(PCB 170)	170	27.2	4.87	15.9	4.95	11.3	52.4	Abs Diff	J
1668C	35694-06-5	2,2',3,4,4',5-Hexachlorobiphenyl (PCB 137)	137	11.9	4.87	7.97	4.95	3.9	39.6	Abs Diff	OK
1668C	35694-08-7	2,2',3,3',4,4',5,5'-Octachlorobiphenyl (PCB 194)	194	7.91	4.87	5.39	4.95	2.5	37.9	Abs Diff	OK
1613	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin		24	24	2.77	23.9	21.2	158.6	Abs Diff	OK
1613	36088-22-9	Pentachlorinated Dibenzo-p-dioxins, Total		6.88	24	3.59	23.9	3.3	62.8	Abs Diff	OK
1668C	37680-65-2	2,2',5-Trichlorobiphenyl	18	22.7	4.87	20.8	4.95	1.9	8.7	Abs Diff	OK
1668C	37680-66-3	2,2',4-Trichlorobiphenyl	17	7.77	4.87	7.05	4.95	0.7	9.7	Abs Diff	OK
1668C	37680-69-6	3,3',4-Trichlorobiphenyl	35	0.442	4.87	0.5	4.95	0.1	12.3	Abs Diff	OK
1613	37871-00-4	Heptachlorinated Dibenzo-p-dioxins, Total		24	24	2.77	23.9	21.2	158.6	Abs Diff	OK
1668C	38380-01-7	2,2',4,4',5-Pentachlorobiphenyl	99	65.7	4.87	50.2	4.95	15.5	26.7	RPD	OK
1668C	38380-03-9	2,3,3',4',6-Pentachlorobiphenyl	110	303	4.87	210	4.95	93.0	36.3	RPD	J
1668C	38380-08-4	2,3,3',4,4',5-Hexachlorobiphenyl	156	54	4.87	33.6	4.95	20.4	46.6	RPD	J
1668C	38411-22-2	2,2',3,3',6,6'-Hexachlorobiphenyl	136	7.96	4.87	4.61	4.95	3.4	53.3	Abs Diff	J
1668C	38411-25-5	2,2',3,3',4,5,6'-Heptachlorobiphenyl	174	23.6	4.87	11.7	4.95	11.9	67.4	Abs Diff	J
1668C	38444-73-4	2,2',6-Trichlorobiphenyl	19	4.55	4.87	4.4	4.95	0.1	3.4	Abs Diff	OK
1668C	38444-81-4	2,3',5-Trichlorobiphenyl	26	2.43	4.87	2.39	4.95	0.0	1.7	Abs Diff	OK
1668C	38444-85-8	2,3,4'-Trichlorobiphenyl	22	6.34	4.87	4.23	4.95	2.1	39.9	Abs Diff	OK
1668C	38444-90-5	3,4,4'-Trichlorobiphenyl (PCB 37)	37	8.19	4.87	7.29	4.95	0.9	11.6	Abs Diff	OK
1668C	38444-93-8	2,2',3,3'-Tetrachlorobiphenyl	40	13.6	4.87	10.1	4.95	3.5	29.5	Abs Diff	OK
1668C	39635-31-9	2,3,3',4,4',5,5'-Heptachlorobiphenyl	189	1.51	4.87	0.978	4.95	0.5	42.8	Abs Diff	OK
1699	39765-80-5	trans-Nonachlor		567	38.3	58.2	38.7	508.8	162.8	Abs Diff	J
1668C	40186-71-8	2,2',3,3',4,5',6,6'-Octachlorobiphenyl (PCB 200)	201	1.71	4.87	4.95	4.95	3.2	97.3	Abs Diff	OK
1668C	40186-72-9	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl (PCB 206)	206	5.29	4.87	3.19	4.95	2.1	49.5	Abs Diff	OK
1668C	41411-64-7	2,3,3',4,4',5,6-Heptachlorobiphenyl	190	5.26	4.87	3.4	4.95	1.9	43.0	Abs Diff	OK
1668C	41464-39-5	2,2',3,5'-Tetrachlorobiphenyl (PCB 44)	44	46.9	4.87	37.7	4.95	9.2	21.7	RPD	OK
1668C	41464-41-9	2,2',5,6'-Tetrachlorobiphenyl	53	4.36	4.87	3.46	4.95	0.9	23.0	Abs Diff	OK
1668C	41464-47-5	2,2',3,6'-Tetrachlorobiphenyl	46	4.87	4.87	1.72	4.95	3.2	95.6	Abs Diff	OK
1668C	41464-48-6	3,3',4,5'-Tetrachlorobiphenyl	79	1.16	4.87	4.95	4.95	3.8	124.1	Abs Diff	OK
1668C	41464-51-1	2,2',3,4',5'-Pentachlorobiphenyl	97	72.5	4.87	51.1	4.95	21.4	34.6	RPD	J
1613	41903-57-5	Tetrachlorinated Dibenzo-p-dioxins, Total		5.43	7.32	5.73	5.73	0.3	5.4	Abs Diff	OK
1699	50-29-3	4,4-DDT		1980	38.3	47.7	38.7	1932.3	190.6	Abs Diff	J
1699	5103-71-9	alpha-Chlordane		768	38.3	120	38.7	648.0	145.9	Abs Diff	J
1699	5103-73-1	cis-Nonachlor		194	38.3	38.7	38.7	155.3	133.5	Abs Diff	J/UJ

Table 8
Vista Duplicates Table
Starlink / Uplands Support
Outfall 22B 2025 Monitoring

RPD Value **30**

Method	CAS RN	Analyte	CB numbe	22B-U-S-20240626		22B-U-D-20240626		Abs Diff	RPD	Criteria	Qualifier
				Result	QL	Result	QL				
1699	5103-74-2	trans-Chlordane		969	38.3	99.7	38.7	869.3	162.7	Abs Diff	J
1668C	52663-62-4	2,2',3,3',4-Pentachlorobiphenyl	82	65.7	4.87	51	4.95	14.7	25.2	RPD	OK
1668C	52663-63-5	2,2',3,5,5',6-Hexachlorobiphenyl (PCB 151)	151	16.4	4.87	9.47	4.95	6.9	53.6	Abs Diff	J
1668C	52663-64-6	2,2',3,3',5,6,6'-Heptachlorobiphenyl	179	8.58	4.87	3.96	4.95	4.6	73.7	Abs Diff	OK
1668C	52663-65-7	2,2',3,3',4,6,6'-Heptachlorobiphenyl	176	2.75	4.87	1.14	4.95	1.6	82.8	Abs Diff	OK
1668C	52663-66-8	2,2',3,3',4,5',5,5'-Hexachlorobiphenyl	130	13.9	4.87	8.23	4.95	5.7	51.2	Abs Diff	J
1668C	52663-67-9	2,2',3,3',5,5',6-Heptachlorobiphenyl	178	4.91	4.87	2.19	4.95	2.7	76.6	Abs Diff	OK
1668C	52663-69-1	2,2',3,4,4',5',6-Heptachlorobiphenyl (PCB 183)	183	13.5	4.87	6.83	4.95	6.7	65.6	Abs Diff	J
1668C	52663-70-4	2,2',3,3',4,5',6'-Heptachlorobiphenyl	177	12.7	4.87	5.84	5.84	6.9	74.0	Abs Diff	J/UJ
1668C	52663-71-5	2,2',3,3',4,4',6-Heptachlorobiphenyl (PCB 171)	171	6	4.87	3.04	4.95	3.0	65.5	Abs Diff	OK
1668C	52663-72-6	2,3',4,4',5,5'-Hexachlorobiphenyl (PCB 167)	167	12.8	4.87	8.28	4.95	4.5	42.9	Abs Diff	OK
1668C	52663-73-7	2,2',3,3',4,5,6,6'-Octachlorobiphenyl	200	1.61	4.87	4.95	4.95	3.3	101.8	Abs Diff	OK
1668C	52663-74-8	2,2',3,3',4,5,5'-Heptachlorobiphenyl	172	4.87	4.87	2.67	4.95	2.2	58.4	Abs Diff	OK
1668C	52663-75-9	2,2',3,3',4,5,5',6'-Octachlorobiphenyl	199	13.3	4.87	7.4	4.95	5.9	57.0	Abs Diff	J
1668C	52663-77-1	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl (PCB 208)	208	1.22	4.87	4.95	4.95	3.7	120.9	Abs Diff	OK
1668C	52663-78-2	2,2',3,3',4,4',5,6-Octachlorobiphenyl (PCB 195)	195	3.49	4.87	4.95	4.95	1.5	34.6	Abs Diff	OK
1668C	52712-04-6	2,2',3,4,5,5'-Hexachlorobiphenyl (PCB 141)	141	23.6	4.87	14	4.95	9.6	51.1	Abs Diff	J
1668C	52712-05-7	2,2',3,4,5,5',6-Heptachlorobiphenyl (PCB 185)	185	3.14	4.87	4.95	4.95	1.8	44.7	Abs Diff	OK
1668C	52744-13-5	2,2',3,3',5,6'-Hexachlorobiphenyl	135	9.66	4.87	4.92	4.95	4.7	65.0	Abs Diff	OK
1699	53-19-0	o,p'-DDD		1600	38.3	215	38.7	1385.0	152.6	RPD	J
1699	53494-70-5	Endrin Ketone		376	191	311	194	65.0	18.9	Abs Diff	OK
1668C	53742-07-7	Nonachlorobiphenyl, Total	#N/A	6.5	7.05	3.19	4.95	3.3	68.3	Abs Diff	OK
1668C	55215-17-3	2,2',3,4,6-Pentachlorobiphenyl (PCB 88)	88	15	4.87	11	4.95	4.0	30.8	Abs Diff	OK
1668C	55215-18-4	2,2',3,3',4,5-Hexachlorobiphenyl (PCB 129)	129	15	4.87	10.6	4.95	4.4	34.4	Abs Diff	OK
1668C	55312-69-1	2,2',3,4,5-Pentachlorobiphenyl (PCB 86)	86	2.02	4.87	1.65	4.95	0.4	20.2	Abs Diff	OK
1668C	55712-37-3	2,3',4-Trichlorobiphenyl	25	1.22	4.87	1.13	4.95	0.1	7.7	Abs Diff	OK
1668C	55722-26-4	Octachlorobiphenyl, Total	#N/A	42.7	45.4	22.6	25.8	20.1	61.6	Abs Diff	OK
1668C	56558-17-9	2,3',4,4',6-Pentachlorobiphenyl	119	2.75	4.87	2.15	4.95	0.6	24.5	Abs Diff	OK
1668C	57465-28-8	3,3',4,4',5-Pentachlorobiphenyl (PCB 126)	126	4.4	4.87	4.95	4.95	0.6	11.8	Abs Diff	OK
1699	58-89-9	gamma-BHC		149	38.3	155	38.7	6.0	3.9	Abs Diff	OK
1668C	60145-22-4	2,2',4,4',5,6'-Hexachlorobiphenyl (PCB 154)	154	0.839	4.87	4.95	4.95	4.1	142.0	Abs Diff	OK
1699	60-57-1	Dieldrin		11100	38.3	4080	38.7	7020.0	92.5	RPD	J
1668C	65510-44-3	2,3',4,4',5'-Pentachlorobiphenyl (PCB 123)	123	10.2	4.87	7.68	4.95	2.5	28.2	Abs Diff	OK
1668C	68194-04-7	2,2',4,6'-Tetrachlorobiphenyl	51	1.62	4.87	4.95	4.95	3.3	101.4	Abs Diff	OK

Table 8
Vista Duplicates Table
Starlink / Uplands Support
Outfall 22B 2025 Monitoring

RPD Value **30**

Method	CAS RN	Analyte	CB numbe	22B-U-S-20240626		22B-U-D-20240626		Abs Diff	RPD	Criteria	Qualifier
				Result	QL	Result	QL				
1668C	68194-09-2	2,2',3,5,6,6'-Hexachlorobiphenyl	152	0.173	4.87	4.95	4.95	4.8	186.5	Abs Diff	OK
1668C	68194-13-8	2,2',3,4',5,6-Hexachlorobiphenyl	147	2.04	4.87	4.95	4.95	2.9	83.3	Abs Diff	OK
1668C	68194-14-9	2,2',3,4,5',6-Hexachlorobiphenyl	144	4.87	4.87	2.43	4.95	2.4	66.8	Abs Diff	OK
1668C	68194-17-2	2,2',3,3',4,5,5',6-Octachlorobiphenyl	198	4.87	4.87	0.348	4.95	4.5	173.3	Abs Diff	OK
1668C	69782-90-7	2,3,3',4,4',5'-Hexachlorobiphenyl	157	14.1	4.87	8.98	4.95	5.1	44.4	Abs Diff	J
1668C	69782-91-8	2,3,3',4',5,5',6-Heptachlorobiphenyl	193	2.26	4.87	1.33	4.95	0.9	51.8	Abs Diff	OK
1668C	7012-37-5	2,4,4'-Trichlorobiphenyl	28	18.3	4.87	14.3	4.95	4.0	24.5	Abs Diff	OK
1668C	70362-50-4	3,4,4',5-Tetrachlorobiphenyl (PCB 81)	81	4.87	4.87	1.11	4.95	3.8	125.8	Abs Diff	OK
1668C	70424-67-8	2,3,3',5-Tetrachlorobiphenyl	57	0.329	4.87	4.95	4.95	4.6	175.1	Abs Diff	OK
1668C	70424-70-3	2,3',4',5,5'-Pentachlorobiphenyl	124	11.1	4.87	7.69	4.95	3.4	36.3	Abs Diff	OK
1699	72-20-8	Endrin		532	38.3	267	38.7	265.0	66.3	RPD	J
1699	72-43-5	Methoxychlor		112	191	30.2	194	81.8	115.0	Abs Diff	OK
1699	72-54-8	4,4-DDD		3480	38.3	519	38.7	2961.0	148.1	RPD	J
1699	72-55-9	4,4-DDE		894	38.3	86.7	38.7	807.3	164.6	Abs Diff	J
1668C	73575-52-7	2,3',4,5'-Tetrachlorobiphenyl	68	0.54	4.87	4.95	4.95	4.4	160.7	Abs Diff	OK
1668C	73575-53-8	2,3',4,5-Tetrachlorobiphenyl	67	1.72	4.87	1.36	4.95	0.4	23.4	Abs Diff	OK
1668C	73575-54-9	2,2',3,6,6'-Pentachlorobiphenyl	96	4.87	4.87	0.516	4.95	4.4	161.7	Abs Diff	OK
1668C	73575-56-1	2,2',3,5,6-Pentachlorobiphenyl	93	2.97	4.87	2.22	4.95	0.8	28.9	Abs Diff	OK
1668C	73575-57-2	2,2',3,4,6'-Pentachlorobiphenyl	89	2.17	4.87	1.79	4.95	0.4	19.2	Abs Diff	OK
1668C	74338-24-2	2,3,3',4-Tetrachlorobiphenyl	55	1.29	4.87	4.95	4.95	3.7	117.3	Abs Diff	OK
1668C	74472-34-7	2,3,4',5-Tetrachlorobiphenyl	63	3.43	4.87	4.95	4.95	1.5	36.3	Abs Diff	OK
1668C	74472-37-0	2,3,4,4',5-Pentachlorobiphenyl (PCB 114)	114	15.3	4.87	11.8	4.95	3.5	25.8	Abs Diff	OK
1668C	74472-50-7	2,3,3',4,4',5',6-Heptachlorobiphenyl	191	1.02	4.87	0.498	4.95	0.5	68.8	Abs Diff	OK
1668C	74472-53-0	2,3,3',4,4',5,5',6-Octachlorobiphenyl	205	0.606	4.87	4.95	4.95	4.3	156.4	Abs Diff	OK
1668C	76842-07-4	2,3,3',4',5'-Pentachlorobiphenyl	122	8.25	4.87	5.97	4.95	2.3	32.1	Abs Diff	OK
1699	789-02-6	o,p'-DDT		127	38.3	38.7	38.7	88.3	106.6	Abs Diff	J/UJ
1699	959-98-8	alpha-Endosulfan		87.7	191	194	194	106.3	75.5	Abs Diff	OK
1668C	PCB004_010	PCB-4/10	#N/A	10.1	9.75	9.66	9.9	0.4	4.5	Abs Diff	OK
1668C	PCB005_008	PCB-5/8	#N/A	2.87	9.75	1.47	9.9	1.4	64.5	Abs Diff	OK
1668C	PCB016_032	PCB-16/32	#N/A	15.6	9.75	14.5	9.9	1.1	7.3	Abs Diff	OK
1668C	PCB020_021_033	PCB-20/21/33	#N/A	5.79	14.6	3.68	14.9	2.1	44.6	Abs Diff	OK
1668C	PCB024_027	PCB-24/27	#N/A	2.35	9.75	2.02	9.9	0.3	15.1	Abs Diff	OK

Table 8
Vista Duplicates Table
Starlink / Uplands Support
Outfall 22B 2025 Monitoring

RPD Value **30**

Method	CAS RN	Analyte	CB numbe	22B-U-S-20240626		22B-U-D-20240626		Abs Diff	RPD	Criteria	Qualifier
				Result	QL	Result	QL				
1668C	PCB042_059	PCB-42/59	#N/A	12.4	9.75	10.5	9.9	1.9	16.6	Abs Diff	OK
1668C	PCB043_049	PCB-43/49	#N/A	24.1	9.75	20.7	9.9	3.4	15.2	Abs Diff	OK
1668C	PCB048_075	PCB-48/75	#N/A	5.67	9.75	4.83	9.9	0.8	16.0	Abs Diff	OK
1668C	PCB052_069	PCB-52/69	#N/A	43	9.75	35.4	9.9	7.6	19.4	Abs Diff	OK
1668C	PCB056_060	PCB-56/60	#N/A	161	9.75	133	9.9	28.0	19.0	RPD	OK
1668C	PCB061_070	PCB-61/70	#N/A	175	9.75	144	9.9	31.0	19.4	RPD	OK
1668C	PCB066_076	PCB-66/76	#N/A	126	9.75	108	9.9	18.0	15.4	RPD	OK
1668C	PCB084_092	PCB-84/92	#N/A	50.8	9.75	35.8	9.9	15.0	34.6	Abs Diff	J
1668C	PCB085_116	PCB-85/116	#N/A	59.8	9.75	44.8	9.9	15.0	28.7	Abs Diff	J
1668C	PCB087_117_125	PCB-87/117/125	#N/A	89.2	14.6	65.2	14.9	24.0	31.1	Abs Diff	J
1668C	PCB090_101	PCB-90/101	#N/A	138	9.75	99.5	9.9	38.5	32.4	RPD	J
1668C	PCB095_098_102	PCB-95/98/102	#N/A	61.7	14.6	44.7	14.9	17.0	32.0	Abs Diff	J
1668C	PCB106_118	PCB-106/118	#N/A	483	9.75	352	9.9	131.0	31.4	RPD	J
1668C	PCB107_109	PCB-107/109	#N/A	25.9	9.75	18.8	9.9	7.1	31.8	Abs Diff	J
1668C	PCB108_112	PCB-108/112	#N/A	8.23	9.75	6.33	9.9	1.9	26.1	Abs Diff	OK
1668C	PCB111_115	PCB-111/115	#N/A	5.93	9.75	4.65	9.9	1.3	24.2	Abs Diff	OK
1668C	PCB128_162	PCB-128/162	#N/A	56.1	9.75	35.4	9.9	20.7	45.2	Abs Diff	J
1668C	PCB131_133	PCB-131/133	#N/A	2.82	9.75	1.69	9.9	1.1	50.1	Abs Diff	OK
1668C	PCB132_161	PCB-132/161	#N/A	37.1	9.75	20.8	9.9	16.3	56.3	Abs Diff	J
1668C	PCB134_143	PCB-134/143	#N/A	9.75	9.75	3.06	9.9	6.7	104.4	Abs Diff	OK
1668C	PCB138_163_164	PCB-138/163/164	#N/A	219	14.6	131	14.9	88.0	50.3	RPD	J
1668C	PCB139_149	PCB-139/149	#N/A	74.4	9.75	41.7	9.9	32.7	56.3	Abs Diff	J
1668C	PCB146_165	PCB-146/165	#N/A	13.4	9.75	8.52	9.9	4.9	44.5	Abs Diff	OK
1668C	PCB158_160	PCB-158/160	#N/A	23.2	9.75	14.3	9.9	8.9	47.5	Abs Diff	OK
1668C	PCB182_187	PCB-182/187	#N/A	34.8	9.75	17	9.9	17.8	68.7	Abs Diff	J
1668C	PCB196_203	PCB-196/203	#N/A	13.5	9.75	7.82	9.9	5.7	53.3	Abs Diff	OK
1668C	PCB41_64_71_72	PCB-41/64/71/72	#N/A	48.6	19.5	38.5	19.8	10.1	23.2	Abs Diff	OK

Table 9
Apex Duplicates Table
Starlink / Uplands Support
Outfall 22B 2025 Monitoring

RPD Value **30**

Method	Fraction	CAS RN	Analyte	22B-U-S-20250609		22B-U-D-20250609		Abs Diff	RPD	Criteria	Qualifier
				Result	RL	Result	RL				
200.8	T	7439-89-6	Iron	973	50	2290	50	1317	80.72	RPD	J
200.8	T	7439-92-1	Lead	0.435	0.2	1.73	0.2	1.295	119.63	Abs Diff	J/UJ
200.8	T	7439-95-4	Magnesium	11600	150	11500	150	100	0.87	RPD	OK
200.8	T	7439-96-5	Manganese	65.5	1	108	1	43	48.99	RPD	J
200.8	T	7440-02-0	Nickel	1.43	2	1.73	2	0.3	18.99	Abs Diff	OK
200.8	T	7440-38-2	Arsenic	5.76	1	9.16	1	3.4	45.58	RPD	J
200.8	T	7440-39-3	Barium	27.9	2	34.4	2	6.5	20.87	RPD	OK
200.8	T	7440-43-9	Cadmium	0.2	0.2	0.102	0.2	0.1	64.90	Abs Diff	OK
200.8	T	7440-50-8	Copper	1.15	2	3.08	2	1.93	91.25	Abs Diff	OK
200.8	T	7440-66-6	Zinc	4.01	4	12.5	4	8	102.85	Abs Diff	J/UJ
200.8	T	7440-70-2	Calcium	36900	600	37100	600	200.0	0.54	RPD	OK

Method	Fraction	CAS RN	Analyte	22B-U-S-20250609		22B-U-D-20250609		Abs Diff	RPD	Criteria	Qualifier
				Result	RL	Result	RL				
1631	T	7439-97-6	Hexavalent Chromium	0.041	0.02	0.043	0.02	0	4.76	Abs Diff	OK
218.6	T	18540-29-9	Mercury	1.17	0.5	1.33	0.5	0.16	12.80	Abs Diff	OK

Method	Fraction	CAS RN	Analyte	22B-U-S-20250609		22B-U-D-20250609		Abs Diff	RPD	Criteria	Qualifier
				Result	RL	Result	RL				
SW8270E	N	120-83-2	2,4-Dichlorophenol	0.53	0.0952	0.514	0.385	0.016	3.07	Abs Diff	OK
SW8270E	N	58-90-2	2,3,4,6-Tetrachlorophenol	0.0952	0.0952	0.0548	0.0962	0.040	53.87	Abs Diff	OK
SW8270E	N	83-32-9	Acenaphthene	0.0114	0.019	0.01	0.0192	0.001	13.08	Abs Diff	OK
SW8270E	N	85-01-8	Phenanthrene	0.0104	0.019	0.0118	0.0192	0.001	12.61	Abs Diff	OK
SW8270E	N	87-86-5	Pentachlorophenol	0.129	0.19	0.132	0.192	0.003	2.30	Abs Diff	OK
SW8270E	N	88-06-2	2,4,6-Trichlorophenol	0.143	0.0952	0.174	0.0962	0.031	19.56	Abs Diff	OK
SW8270E	N	935-95-5	2,3,5,6-Tetrachlorophenol	0.0952	0.0952	0.0484	0.0962	0.047	65.18	Abs Diff	OK
SW8270E	N	95-48-7	2-Methylphenol	0.0431	0.0476	0.0556	0.0481	0.013	25.33	Abs Diff	OK
SW8270E	N	95-95-4	2,4,5-Trichlorophenol	0.175	0.0952	0.293	0.0962	0.118	50.43	Abs Diff	J/UJ
EPA 8151A	N	93-76-5	2,4,5-Trichlorophenoxyacetic acid	0.11	0.08	0.15	0.08	0.040	30.77	Abs Diff	OK

Table 10
Apex Duplicates Table
Starlink / Uplands Support
Outfall 22B 2025 Monitoring

RPD Value **30**

Method	Fraction	CAS RN	Analyte	22B-F-S-20240626		22B-F-D-20240626		Abs Diff	RPD	Criteria	Qualifier
				Result	RL	Result	RL				
200.8	D	7439-89-6	Iron	47.4	50	76.1	50	28.7	46.48	Abs Diff	OK
200.8	D	7439-95-4	Magnesium	11600	150	11800	150	200.0	1.71	RPD	OK
200.8	D	7439-96-5	Manganese	41.9	1	41.5	1	0.40	0.96	RPD	OK
200.8	D	7440-02-0	Nickel	1.24	2	1.4	2	0.2	12.12	Abs Diff	OK
200.8	D	7440-38-2	Arsenic	3.27	1	3.28	1	0.0	0.31	Abs Diff	OK
200.8	D	7440-39-3	Barium	23.3	1	23.8	1	0.5	2.12	RPD	OK
200.8	D	7440-50-8	Copper	1.12	2	2	2	0.9	56.41	Abs Diff	OK
200.8	D	7440-70-2	Calcium	36000	600	36900	600	900	2.47	RPD	OK

Method	Fraction	CAS RN	Analyte	22B-F-S-20240626		22B-F-D-20240626		Abs Diff	RPD	Criteria	Qualifier
				Result	RL	Result	RL				
218.6	D	18540-29-9	Hexavalent Chromium, Dissolved	0.052	0.02	0.051	0.02	0.0	1.94	Abs Diff	OK
1631E	D	7439-97-6	Mercury	0.564	0.5	0.519	0.5	0.0	8.31	Abs Diff	OK

APPENDIX E

Temporal Data Plots

Figure E-1
Appendix E - Temporal Data Plots
Outfall 22B IRAM Annual 2025 Report

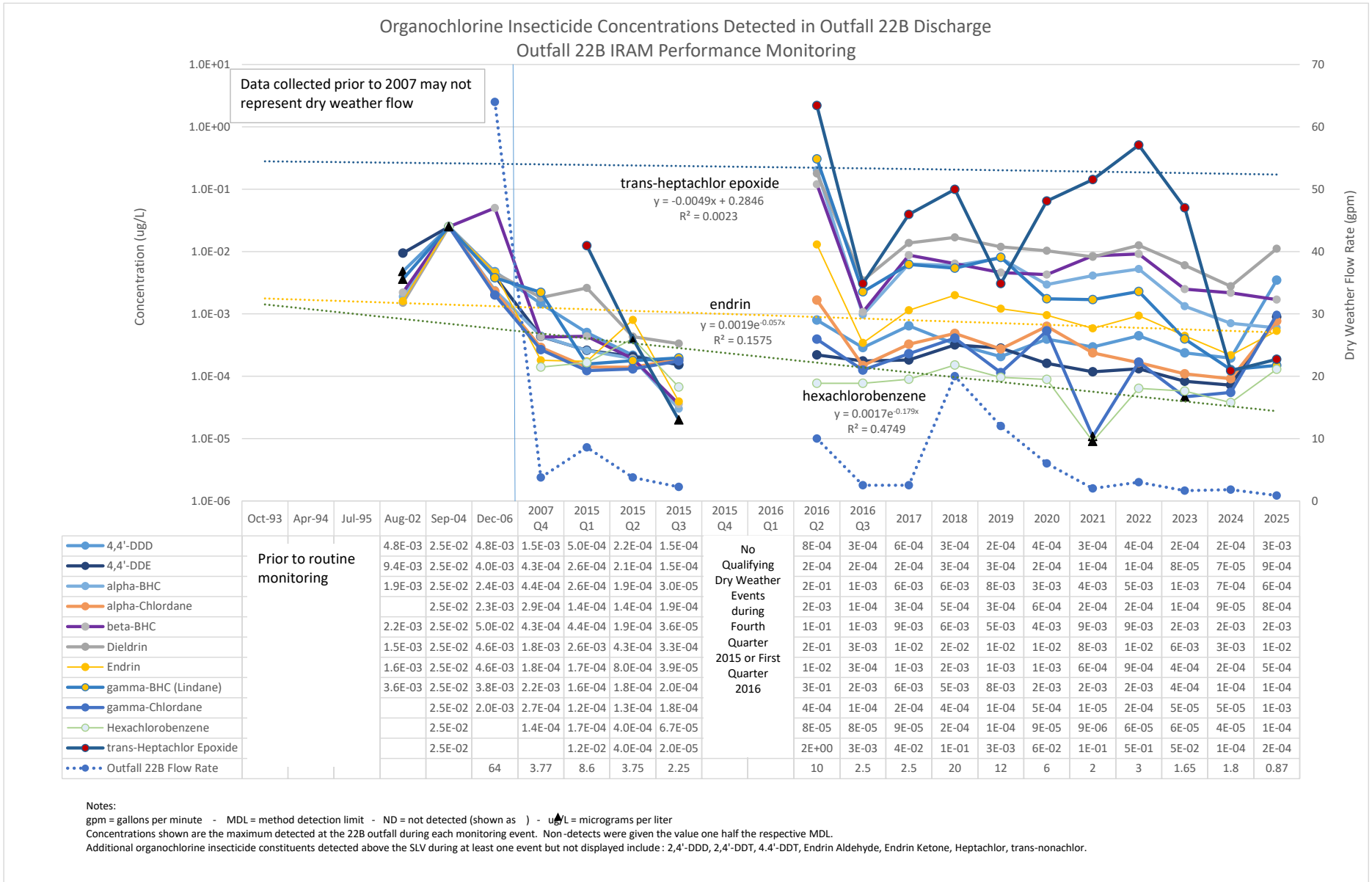


Figure E-2
Appendix E - Temporal Data Plots
Outfall 22B IRAM Annual 2025 Report

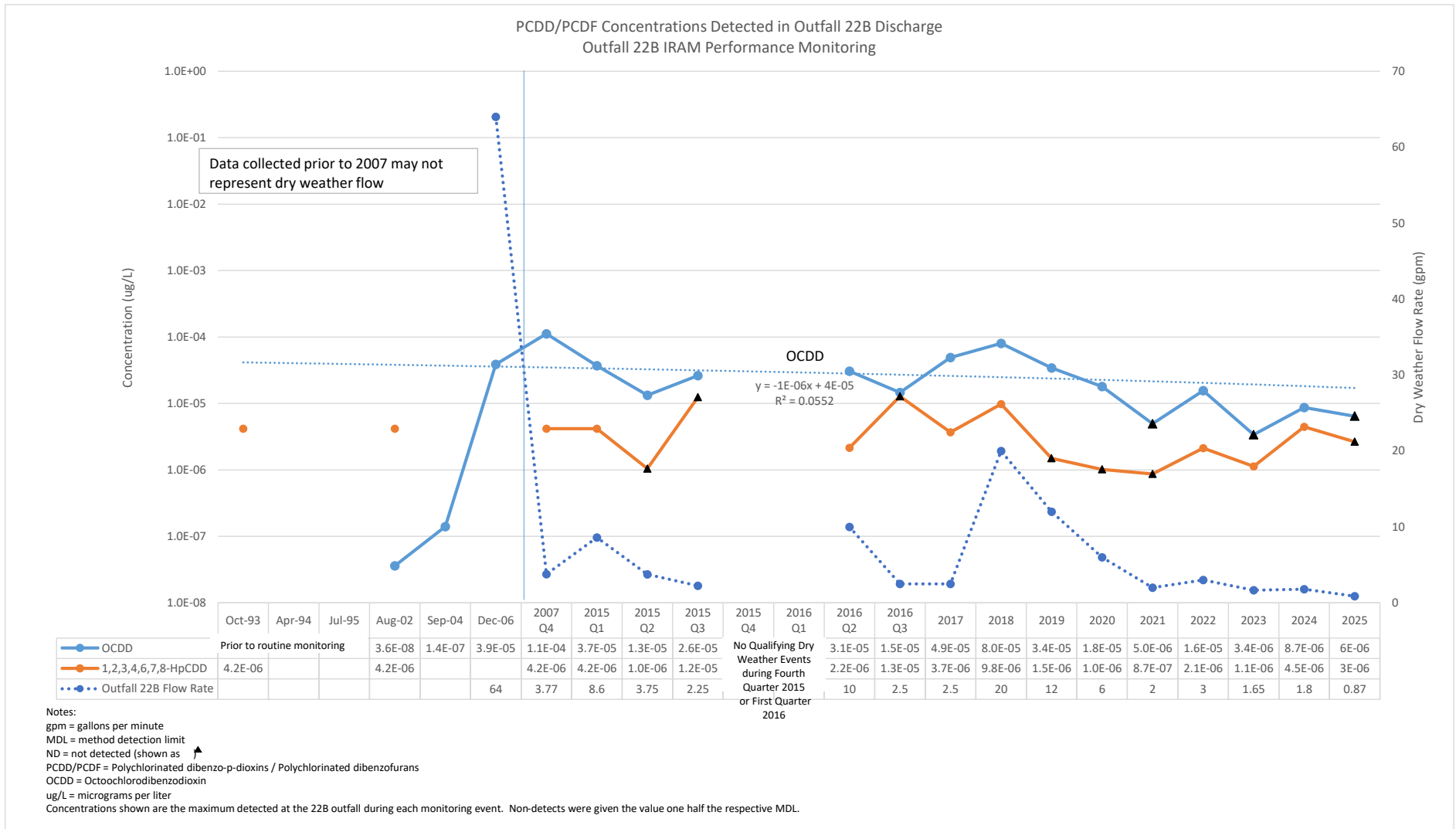


Figure E-3
Appendix E - Temporal Data Plots
Outfall 22B IRAM Annual 2025 Report

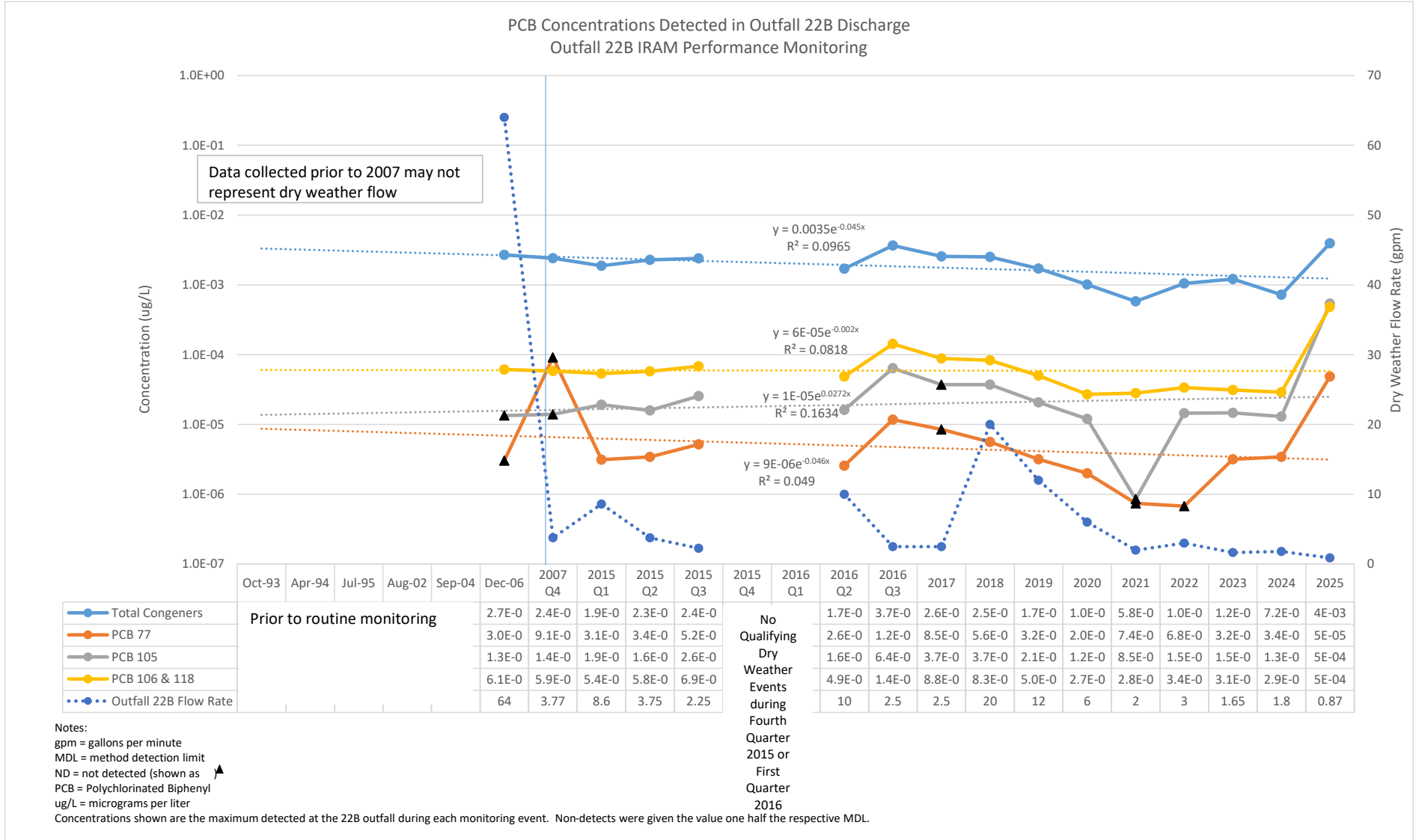
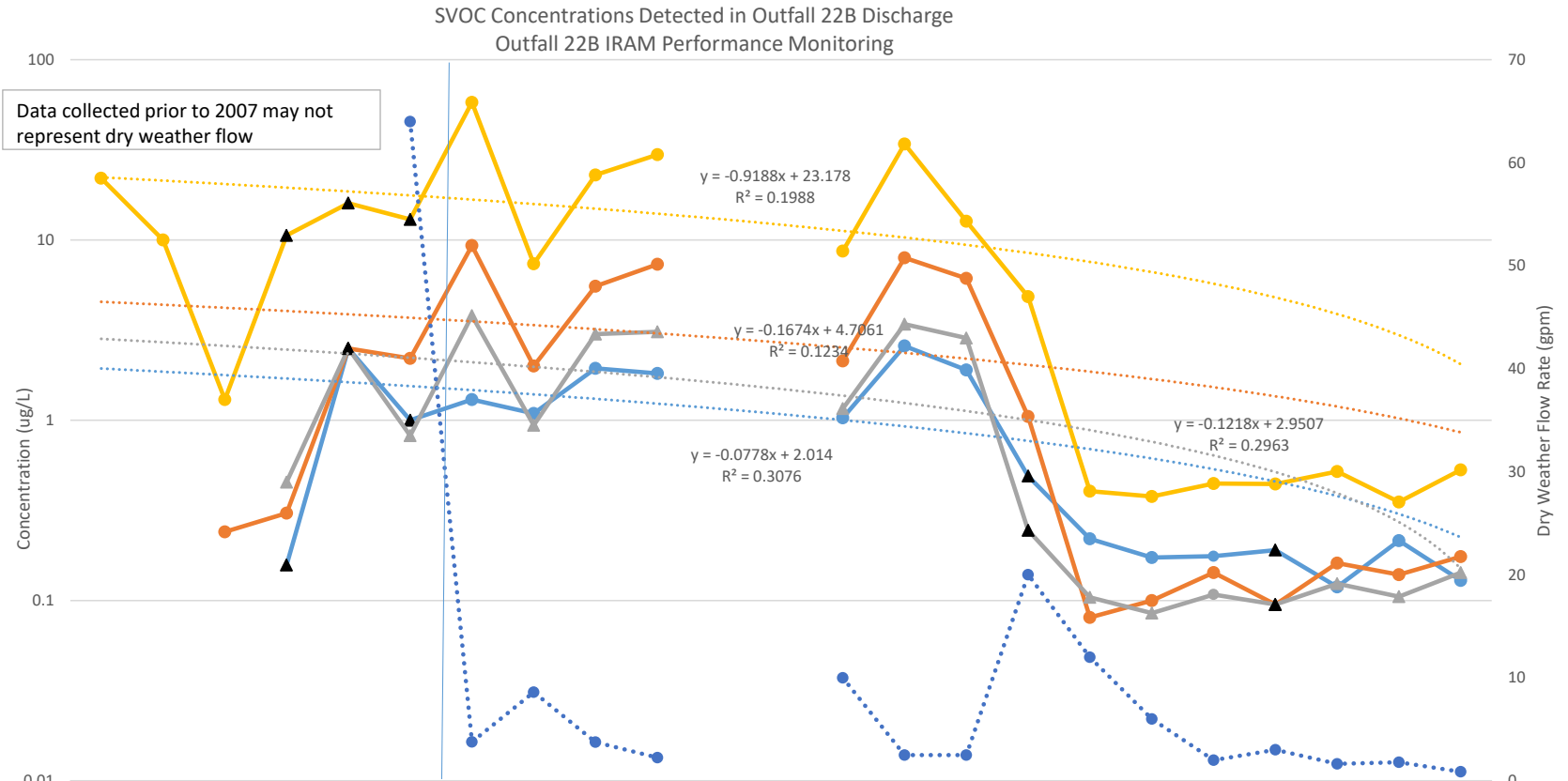


Figure E-4
Appendix E - Temporal Data Plots
Outfall 22B IRAM Annual 2025 Report



	Oct-93	Apr-94	Jul-95	Aug-02	Sep-04	Dec-06	2007 Q4	2015 Q1	2015 Q2	2015 Q3	2015 Q4	2016 Q1	2016 Q2	2016 Q3	2017	2018	2019	2020	2021	2022	2023	2024	2025
Pentachlorophenol				0.157	2.5	1	1.3	1.09	1.94	1.82	No Qualifying Dry Weather Events during Fourth Quarter 2015 or First Quarter 2016		1.03	2.58	1.9	0.49	0.22	0.173	0.176	0.1905	0.119	0.215	1E-01
2,4,5-Trichlorophenol			0.24	0.305	2.5	2.2	9.3	2	5.54	7.32			2.13	7.96	6.13	1.05	0.0805	0.1	0.143	0.095	0.161	0.139	2E-01
2,4,6-Trichlorophenol				0.453	2.5	0.82	3.8	0.937	3	3.09			1.16	3.41	2.86	0.245	0.104	0.0851	0.108	0.095	0.124	0.105	1E-01
2,4-Dichlorophenol	22	10	1.3	10.6	16	13	58	7.38	22.9	29.7			8.68	34.1	12.7	4.85	0.404	0.378	0.446	0.443	0.519	0.352	5E-01
Outfall 22B Flow Rate						64	3.77	8.6	3.75	2.25			10	2.5	2.5	20	12	6	2	3	1.65	1.8	0.87

Notes:
 gpm = gallons per minute
 MDL = method detection limit
 ND = not detected (shown as ▲)
 SVOC = Semi-volatile organic compound
 ug/L = micrograms per liter
 Concentrations shown are the maximum detected at the 22B outfall during each monitoring event. Non -detects were given the value one half the respective MDL.

Figure E-5
Appendix E - Temporal Data Plots
Outfall 22B IRAM Annual 2025 Report

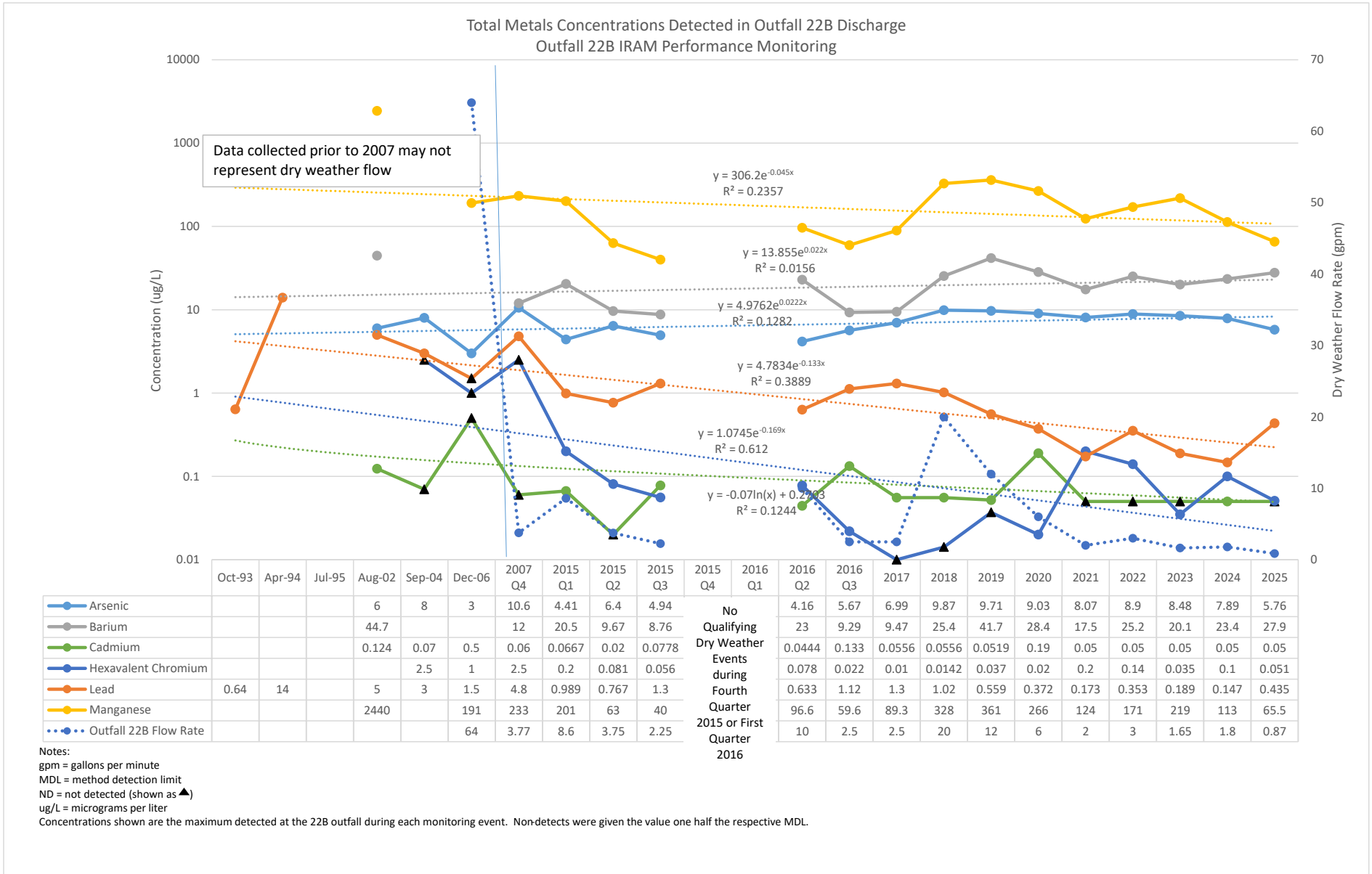
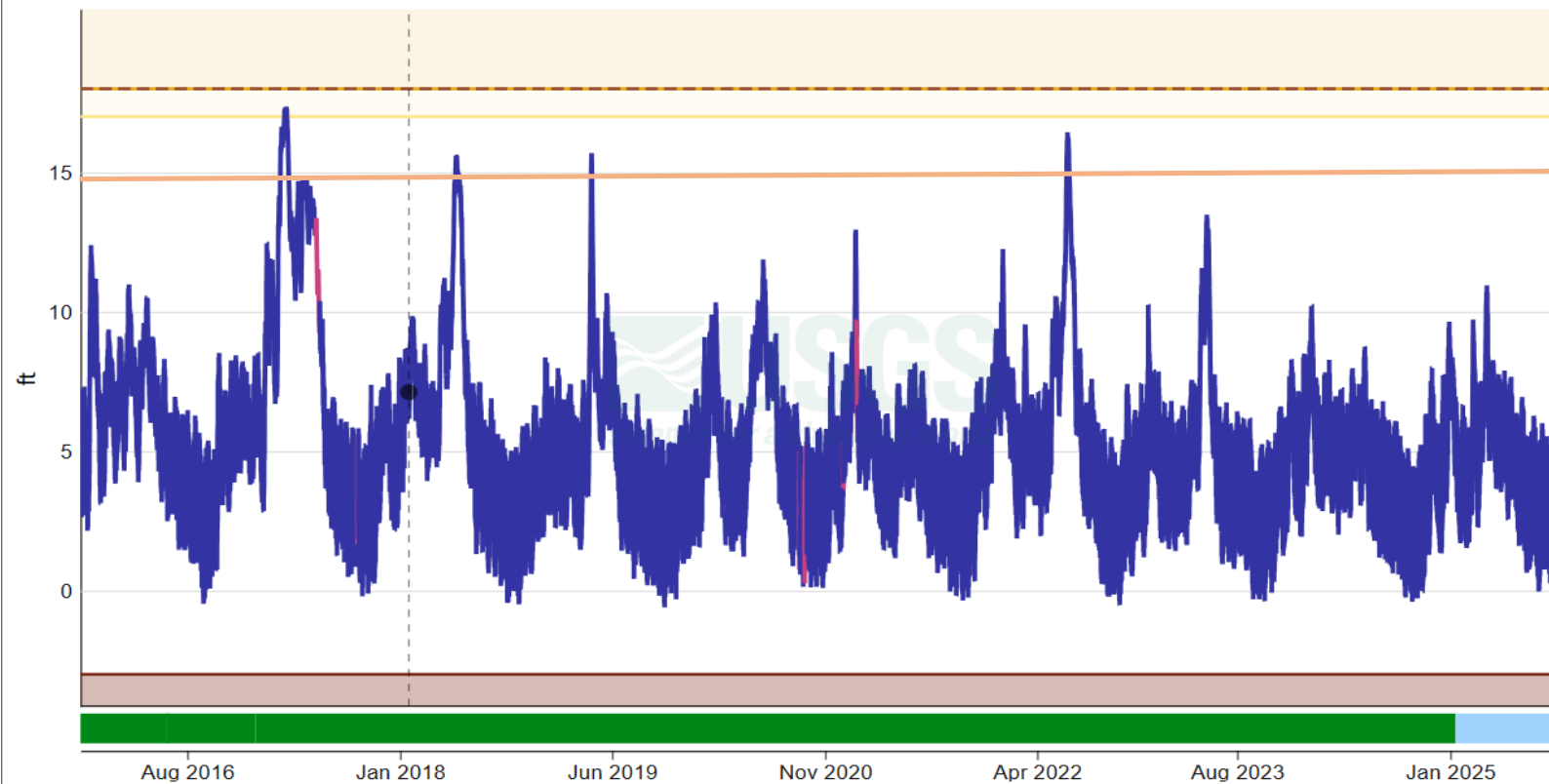


Figure E-6
Appendix E - Temporal Data Plots
Outfall 22B IRAM Annual 2025 Report

Willamette River at Portland, OR - USGS-14211720

[Subscribe to WaterAlert](#)

- using custom time span -
November 15, 2015 - September 1, 2025
Gage height, feet Morrison Bridge



- Outfall 22B Invert Elevation (14.65 ft)
- USGS Gauge Minimum Operating Limit (-3 ft)
- USGS Action Stage (17 ft)
- USGS Minor Flood Stage (18 ft)

Figure from OWRD (2025) for Monitoring location 14211720

October 2025

Mann-Kendall Trend Test Analysis

User Selected Options	
Date/Time of Computation	ProUCL 5.2 9/11/2025 1:45:40 PM
From File	RP 2025 stats for Appendix E_a.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Outfall 22B Flow Rate

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	0.87
Maximum	20
Mean	5.713
Geometric Mean	4.079
Median	3.75
Standard Deviation	5.162
Coefficient of Variation	0.904

Mann-Kendall Test	
M-K Test Value (S)	-26
Tabulated p-value	0.101
Standard Deviation of S	20.18
Standardized Value of S	-1.239
Approximate p-value	0.108

Insufficient evidence to identify a significant trend at the specified level of significance.

OCDD

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	3.40E-06
Maximum	1.12E-04
Mean	3.08E-05
Geometric Mean	2.09E-05
Median	1.80E-05
Standard Deviation	3.00E-05
Coefficient of Variation	9.72E-01

Mann-Kendall Test	
M-K Test Value (S)	-51
Tabulated p-value	0.006
Standard Deviation of S	20.21
Standardized Value of S	-2.474
Approximate p-value	0.00667

Statistically significant evidence of a decreasing trend at the specified level of significance.

October 2025

Mann-Kendall Trend Test Analysis

User Selected Options

PCB 105

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	1.70E-06
Maximum	5.39E-04
Mean	5.62E-05
Geometric Mean	2.14E-05
Median	1.62E-05
Standard Deviation	1.34E-04
Coefficient of Variation	2.39

Mann-Kendall Test

M-K Test Value (S)	-7
Tabulated p-value	0.385
Standard Deviation of S	20.21
Standardized Value of S	-0.297
Approximate p-value	0.383

Insufficient evidence to identify a significant trend at the specified level of significance.

PCB 77

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	6.75E-07
Maximum	9.10E-05
Mean	1.29E-05
Geometric Mean	4.95E-06
Median	3.43E-06
Standard Deviation	2.46E-05
Coefficient of Variation	1.903

Mann-Kendall Test

M-K Test Value (S)	-17
Tabulated p-value	0.218
Standard Deviation of S	20.21
Standardized Value of S	-0.792
Approximate p-value	0.214

Insufficient evidence to identify a significant trend at the specified level of significance.

October 2025

Mann-Kendall Trend Test Analysis

User Selected Options

PCB 106 & 118

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	2.70E-05
Maximum	4.83E-04
Mean	8.54E-05
Geometric Mean	5.86E-05
Median	5.36E-05
Standard Deviation	1.14E-04
Coefficient of Variation	1.34E+00

Mann-Kendall Test

M-K Test Value (S)	-25
Tabulated p-value	0.12
Standard Deviation of S	20.21
Standardized Value of S	-1.188
Approximate p-value	0.117

Insufficient evidence to identify a significant trend at the specified level of significance.

Total PCB Congeners

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	5.08E-04
Maximum	3.94E-03
Mean	0.00197
Geometric Mean	0.00171
Median	0.00188
Standard Deviation	0.001
Coefficient of Variation	5.11E-01

Mann-Kendall Test

M-K Test Value (S)	-27
Tabulated p-value	0.101
Standard Deviation of S	20.21
Standardized Value of S	-1.287
Approximate p-value	0.0991

Insufficient evidence to identify a significant trend at the specified level of significance.

October 2025

Mann-Kendall Trend Test Analysis

User Selected Options

4,4'-DDD

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	1.51E-04
Maximum	3.48E-03
Mean	6.48E-04
Geometric Mean	4.27E-04
Median	3.29E-04
Standard Deviation	8.50E-04
Coefficient of Variation	1.31E+00

Mann-Kendall Test

M-K Test Value (S)	-5
Tabulated p-value	0.423
Standard Deviation of S	20.21
Standardized Value of S	-0.198
Approximate p-value	0.422

Insufficient evidence to identify a significant trend at the specified level of significance.

4,4'-DDE

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	7.99E-05
Maximum	8.94E-04
Mean	2.47E-04
Geometric Mean	2.01E-04
Median	1.82E-04
Standard Deviation	2.02E-04
Coefficient of Variation	0.819

Mann-Kendall Test

M-K Test Value (S)	-39
Tabulated p-value	0.029
Standard Deviation of S	20.21
Standardized Value of S	-1.881
Approximate p-value	0.03

Statistically significant evidence of a decreasing trend at the specified level of significance.

October 2025

Mann-Kendall Trend Test Analysis

User Selected Options

alpha-BHC

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	3.02E-05
Maximum	0.204
Mean	0.0161
Geometric Mean	0.00162
Median	0.00133
Standard Deviation	0.0521
Coefficient of Variation	3.24

Mann-Kendall Test

M-K Test Value (S)	7
Tabulated p-value	0.385
Standard Deviation of S	20.21
Standardized Value of S	0.297
Approximate p-value	0.383

Insufficient evidence to identify a significant trend at the specified level of significance.

alpha-Chlordane

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	1.09E-04
Maximum	0.00166
Mean	3.79E-04
Geometric Mean	2.69E-04
Median	2.37E-04
Standard Deviation	4.05E-04
Coefficient of Variation	1.071

Mann-Kendall Test

M-K Test Value (S)	-1
Tabulated p-value	0.5
Standard Deviation of S	20.21
Standardized Value of S	0
Approximate p-value	0.5

Insufficient evidence to identify a significant trend at the specified level of significance.

October 2025

Mann-Kendall Trend Test Analysis

User Selected Options

beta-BHC

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	3.57E-05
Maximum	0.12
Mean	0.0113
Geometric Mean	0.00219
Median	0.00249
Standard Deviation	0.0302
Coefficient of Variation	2.665

Mann-Kendall Test

M-K Test Value (S)	19
Tabulated p-value	0.19
Standard Deviation of S	20.21
Standardized Value of S	0.891
Approximate p-value	0.187

Insufficient evidence to identify a significant trend at the specified level of significance.

Dieldrin

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	3.33E-04
Maximum	0.179
Mean	0.0188
Geometric Mean	0.00588
Median	0.00822
Standard Deviation	0.0446
Coefficient of Variation	2.369

Mann-Kendall Test

M-K Test Value (S)	19
Tabulated p-value	0.19
Standard Deviation of S	20.21
Standardized Value of S	0.891
Approximate p-value	0.187

Insufficient evidence to identify a significant trend at the specified level of significance.

October 2025

Mann-Kendall Trend Test Analysis

User Selected Options

Endrin

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	3.95E-05
Maximum	0.013
Mean	0.00151
Geometric Mean	5.91E-04
Median	5.85E-04
Standard Deviation	0.00322
Coefficient of Variation	2.14

Mann-Kendall Test

M-K Test Value (S)	3
Tabulated p-value	0.461
Standard Deviation of S	20.21
Standardized Value of S	0.099
Approximate p-value	0.461

Insufficient evidence to identify a significant trend at the specified level of significance.

gamma-BHC (Lindane)

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	1.22E-04
Maximum	0.306
Mean	0.0225
Geometric Mean	0.00137
Median	0.00175
Standard Deviation	0.0785
Coefficient of Variation	3.491

Mann-Kendall Test

M-K Test Value (S)	-15
Tabulated p-value	0.248
Standard Deviation of S	20.21
Standardized Value of S	-0.693
Approximate p-value	0.244

Insufficient evidence to identify a significant trend at the specified level of significance.

October 2025

Mann-Kendall Trend Test Analysis

User Selected Options

gamma-Chlordane

Number or Reported Events Not Used	0
Number of Generated Events	14
Number Values Reported (n)	15
Number Values Missing	1 <i>data from 2024</i>
Number Values Used	1.40E+01
Minimum	2.16E-05
Maximum	9.69E-04
Mean	2.65E-04
Geometric Mean	1.79E-04
Median	1.72E-04
Standard Deviation	2.50E-04
Coefficient of Variation	0.943

Mann-Kendall Test

M-K Test Value (S)	3
Tabulated p-value	0.457
Standard Deviation of S	18.27
Standardized Value of S	0.109
Approximate p-value	0.456

Insufficient evidence to identify a significant trend at the specified level of significance.

Hexachlorobenzene

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	4.05E-05
Maximum	4.00E-04
Mean	1.16E-04
Geometric Mean	9.82E-05
Median	8.93E-05
Standard Deviation	8.65E-05
Coefficient of Variation	0.747

Mann-Kendall Test

M-K Test Value (S)	-35
Tabulated p-value	0.046
Standard Deviation of S	20.21
Standardized Value of S	-1.683
Approximate p-value	0.0462

Statistically significant evidence of a decreasing trend at the specified level of significance.

October 2025

Mann-Kendall Trend Test Analysis

User Selected Options

trans-Heptachlor Epoxide

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	14
Number Values Reported (n)	15
Number Values Missing	1 <i>data from 2007 Q4</i>
Number Values Used	14
Minimum	1.99E-05
Maximum	2.19
Mean	0.223
Geometric Mean	0.0102
Median	0.0259
Standard Deviation	0.582
Coefficient of Variation	2.615

Mann-Kendall Test

M-K Test Value (S)	4
Tabulated p-value	0.415
Standard Deviation of S	18.24
Standardized Value of S	0.164
Approximate p-value	0.435

Insufficient evidence to identify a significant trend at the specified level of significance.

Arsenic (U)

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	4.16
Maximum	10.6
Mean	7.401
Geometric Mean	7.105
Median	8.03
Standard Deviation	2.086
Coefficient of Variation	0.282

Mann-Kendall Test

M-K Test Value (S)	11
Tabulated p-value	0.313
Standard Deviation of S	20.21
Standardized Value of S	0.495
Approximate p-value	0.31

Insufficient evidence to identify a significant trend at the specified level of significance.

October 2025

Mann-Kendall Trend Test Analysis

User Selected Options

Barium (U)

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	8.76
Maximum	41.7
Mean	20.17
Geometric Mean	18.12
Median	20.5
Standard Deviation	9.302
Coefficient of Variation	0.461

Mann-Kendall Test

M-K Test Value (S)	37
Tabulated p-value	0.037
Standard Deviation of S	20.21
Standardized Value of S	1.782
Approximate p-value	0.0374

Statistically significant evidence of an increasing trend at the specified level of significance.

Cadmium (U)

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	0.02
Maximum	0.19
Mean	0.0703
Geometric Mean	0.0616
Median	0.0556
Standard Deviation	0.0422
Coefficient of Variation	0.6

Mann-Kendall Test

M-K Test Value (S)	-16
Tabulated p-value	0.218
Standard Deviation of S	19.97
Standardized Value of S	-0.751
Approximate p-value	0.226

Insufficient evidence to identify a significant trend at the specified level of significance.

October 2025

Mann-Kendall Trend Test Analysis

User Selected Options

Manganese (U)

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	40
Maximum	361
Mean	164.6
Geometric Mean	134.8
Median	152
Standard Deviation	101.2
Coefficient of Variation	0.615

Mann-Kendall Test

M-K Test Value (S)	7
Tabulated p-value	0.385
Standard Deviation of S	20.21
Standardized Value of S	0.297
Approximate p-value	0.383

Insufficient evidence to identify a significant trend at the specified level of significance.

2,4,5-Trichlorophenol

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	0.0805
Maximum	9.3
Mean	2.822
Geometric Mean	0.804
Median	1.05
Standard Deviation	3.402
Coefficient of Variation	1.205

Mann-Kendall Test

M-K Test Value (S)	-47
Tabulated p-value	0.01
Standard Deviation of S	20.21
Standardized Value of S	-2.276
Approximate p-value	0.0114

Statistically significant evidence of a decreasing trend at the specified level of significance.

Mann-Kendall Trend Test Analysis

User Selected Options

2,4,6-Trichlorophenol

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	0.0851
Maximum	3.8
Mean	1.285
Geometric Mean	0.48
Median	0.245
Standard Deviation	1.474
Coefficient of Variation	1.147

Mann-Kendall Test

M-K Test Value (S)	-51
Tabulated p-value	0.006
Standard Deviation of S	20.21
Standardized Value of S	-2.474
Approximate p-value	0.00667

Statistically significant evidence of a decreasing trend at the specified level of significance.

2,4-Dichlorophenol

Number or Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	0.378
Maximum	58
Mean	12.1
Geometric Mean	3.06
Median	4.85
Standard Deviation	17.02
Coefficient of Variation	1.407

Mann-Kendall Test

M-K Test Value (S)	-53
Tabulated p-value	0.004
Standard Deviation of S	20.21
Standardized Value of S	-2.573
Approximate p-value	0.00504

Statistically significant evidence of a decreasing trend at the specified level of significance.

October 2025

Mann-Kendall Trend Test Analysis

User Selected Options

Pentachlorophenol

General Statistics

Number of Reported Events Not Used	0
Number of Generated Events	15
Number Values Reported (n)	15
Minimum	0.119
Maximum	2.58
Mean	0.893
Geometric Mean	0.521
Median	0.49
Standard Deviation	0.837
Coefficient of Variation	0.937

Mann-Kendall Test

M-K Test Value (S)	-61
Tabulated p-value	0.001
Standard Deviation of S	20.21
Standardized Value of S	-2.969
Approximate p-value	0.00149

Statistically significant evidence of a decreasing trend at the specified level of significance.

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