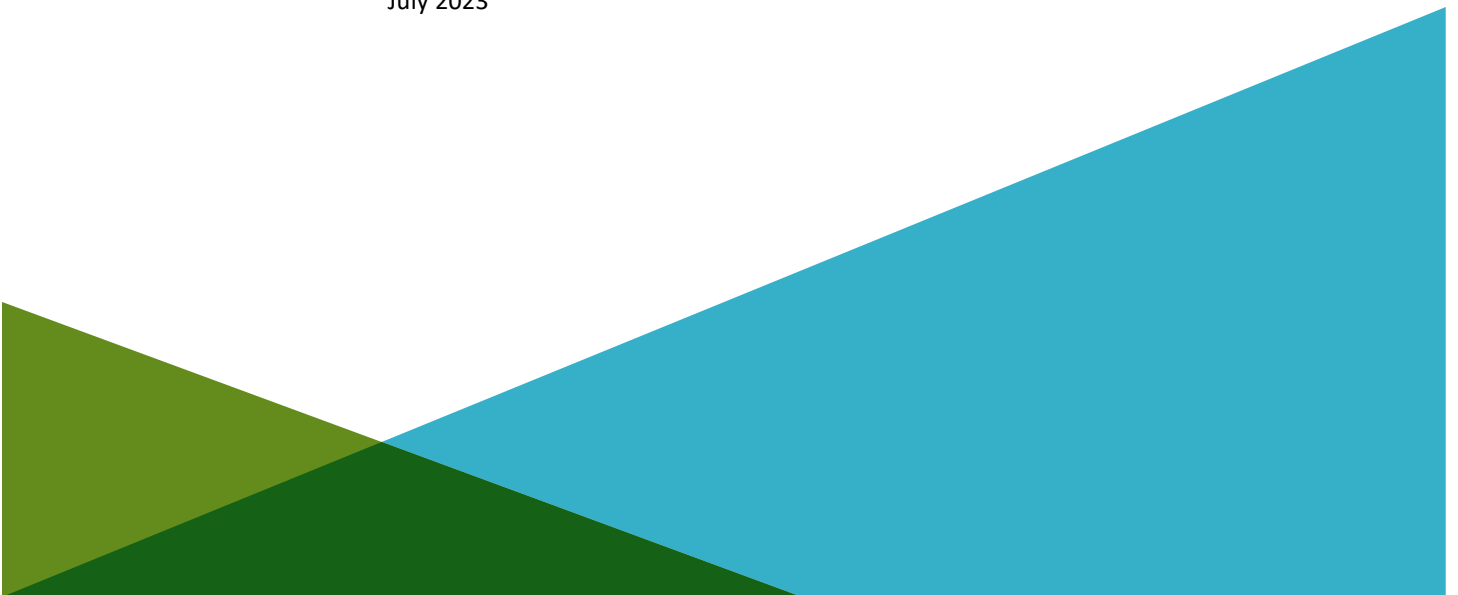


**REPORT ON
2022 GROUNDWATER AND SURFACE WATER MONITORING
PACCAR RENTON SITE
RENTON, WASHINGTON**

by
Haley & Aldrich, Inc.
Seattle, Washington

for
PACCAR
Bellevue, Washington

File No. 0203653-001
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SIGNATURE PAGE FOR**REPORT ON
2022 GROUNDWATER AND SURFACE WATER MONITORING
PACCAR RENTON SITE
RENTON, WASHINGTON****PREPARED FOR
PACCAR
BELLEVUE, WASHINGTON**

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1. Introduction

This report provides the 2022 groundwater and surface water monitoring results for the PACCAR Renton National Priorities List (NPL) Site. This monitoring report contains the elements described in the Confirmational Monitoring and Inspection Plan (CMIP; DOF 1997) and the Periodic Review prepared by the Washington State Department of Ecology (Ecology 2021) and presents the results of the groundwater, surface water, and structural fill cover monitoring conducted at the site in December 2022.

This report is divided into three sections:

- Section 2. Groundwater Monitoring
- Section 3. Surface Water Monitoring
- Section 4. PACCAR Structural Fill Cover Monitoring Field Inspection and Observation Form

The information in these sections is supplemented by tables and figures presented at the end of the respective sections. In addition, Appendix A presents the chemical data quality review for groundwater and surface water. Appendix B provides the laboratory report, and Appendices C and D present the groundwater and surface water quality summary charts, respectively.

2. Groundwater Monitoring

2.1 INTRODUCTION

This section presents the results of the groundwater monitoring event conducted in December 2022 and a review of historical groundwater data. Specifically, it includes a tabulation of water level and groundwater quality data, groundwater flow maps, and an assessment of results relative to cleanup levels (CULs) for developing sampling and analysis recommendations consistent with the CMIP and Periodic Review (Ecology 2021) for 2023 monitoring.

2.2 GROUNDWATER MONITORING

Groundwater monitoring was completed on 14 December 2022. The groundwater elevation and chemical test results obtained from this event are compiled in this section.

The CMIP provides compound-specific CULs and hot spot action levels (HSALs) for comparison with the Site data. The CULs represent the groundwater remediation goals at the Site, while HSALs for groundwater are based on drinking water standards. Proposed actions described in this report are based on an interpretation of the updated data relative to the decision-making processes outlined in the CMIP.

Data presented in this report are organized as follows:

- **Monitoring Summary.** An overview of the data collected from each monitoring well is presented in Table 1-1. This table lists the wells sampled and identifies the chemicals analyzed in each well.

- **Groundwater Elevation.** Groundwater elevation measurements are compiled in Table 1-2 and contoured on Figures 1-1 and 1-2 for the Upper Sand and Lower Sand units, respectively.
- **Chemical Result Summary.** A summary of groundwater analytical results is provided in Table 1-3. Groundwater samples were analyzed for arsenic and/or vinyl chloride (Table 1-1). Field parameter measurements including turbidity, temperature, pH, dissolved oxygen, redox potential, and conductivity are also included in Table 1-3.
- **Purge Water Sampling.** Groundwater collected during well purging (before sampling) was analyzed for arsenic, chromium, lead, diesel- and heavy-oil-range hydrocarbons, and volatile organic compounds (VOCs). These data are necessary for future disposal documentation and are presented in Table A-2.
- **Chemical Data Compilation.** Appendix A includes a data validation summary for the groundwater quality results and a compilation of the December 2022 groundwater data (Table A-1) and purge water data (Table A-2). The laboratory report is provided in Appendix C.
- **Groundwater Quality Summary Charts.** Appendix C includes groundwater quality summary charts and Mann-Kendall trend analysis for each well sampled as part of the December 2022 sampling program. The charts summarize the historical sampling results for these wells.

2.2.1 Results December 2022

The results of December 2022 groundwater sampling are summarized in Table 1-3 and Appendix C.

- **Arsenic.** The CUL for arsenic is 5 µg/L and the HSAL is 50 µg/L as established in the CMIP. During the 2021 Periodic Review, Ecology proposed lowering the HSAL to 10 µg/L to the current drinking water standard for arsenic. Detected arsenic concentrations in the six confirmation wells sampled in 2022 ranged from 0.06 to 18.1 µg/L. Concentrations of arsenic were below the CUL in wells CW-1D (0.06 µg/L), CW-1S (0.60 µg/L), and LW-9S (0.96 µg/L). Concentrations of arsenic exceeded the CUL in wells LW-06D (9.84 µg/L), LW-09D (8.7 µg/L), and MW-03I (18.1 µg/L). The proposed HSAL of 10 µg/L was only exceeded in MW-03I (18.1 µg/L).
- **Vinyl Chloride.** The CUL for vinyl chloride is 0.4 µg/L. Vinyl chloride in 2022 was detected at a concentration of 0.02 µg/L, below the CUL, in well CW-1S, but at a concentration of 0.46 µg/L, slightly above the CUL, in well LW-9D.

2.2.2 2023 Monitoring

The Periodic Review establishes the groundwater sampling program (Table 1-4) for the Site in 2023. The program consists of:

- Sampling groundwater for total and dissolved arsenic in wells CW-1D, LW-6D, LW-9D, CW-1S, LW-9S, and MW-03I. Field parameters will also be measured in these wells.
- Sampling groundwater for vinyl chloride in wells CW-1S and LW-9D.
- Measuring groundwater elevations in the PACCAR monitoring well network.

2.3 SUMMARY OF HISTORICAL GROUNDWATER SAMPLING RESULTS

Groundwater sampling has been conducted at the Site since the 1980s. Confirmation groundwater sampling began in 1998 after completion of the CMIP in 1997. The confirmational groundwater sampling network began with 28 wells. Historically, the monitoring well network has been sampled for arsenic,

chromium, lead, benzene, vinyl chloride, carcinogenic polycyclic aromatic hydrocarbons, pentachlorophenol, diesel, and heavy oil. Except for arsenic and vinyl chloride, these chemicals have either not been detected or detected at concentrations below CULs, and were dropped from the monitoring program using the protocols established in the CMIP. In addition, using the CMIP protocols, wells with arsenic and vinyl chloride concentrations below CULs were also dropped from the program. Currently the groundwater network consists of eight monitoring wells. Arsenic is analyzed in all of the monitoring wells (wells SC-1S and SC-2S are currently sampled every 5 years) and vinyl chloride is analyzed in two monitoring wells.

Historical groundwater sampling results for the current sampling network are summarized below. Appendix C includes groundwater quality summary charts, statistical and trend analysis for each well sampled as part of the December 2022 sampling program. The Mann-Kendall statistical trend analysis is based on data collected since 2010 (Table 1-5).

- **CW-01S.** CW-01S is located along Garden Avenue and is currently sampled for arsenic and vinyl chloride. In 2021, arsenic was detected at 4.44 µg/L, which is less than the CUL of 5 µg/L. Historically, since 2010, the mean concentration of arsenic in CW-01S is 4.08 µg/L ranging from 0.4 to 8.1 µg/L. The CUL of 5 µg/L was exceeded in 4 of 12 samples. Concentrations were below the proposed HSAL of 10 µg/L. There appears to be statistically significant decreasing trend in arsenic concentrations in CW-01S based on the Mann-Kendall analysis.

Vinyl chloride was detected in 2022 at a concentration of 0.02 µg/L, which is less than then CUL of 0.4 µg/L. The mean concentration of vinyl chloride in CW-01S since 2010 is 0.26 µg/L ranging from 0.02 to 0.64 µg/L. Concentrations of vinyl chloride in CW-01S have been less than the CUL since 2016. Vinyl chloride concentrations are statistically decreasing in CW-01S based on the Mann-Kendall analysis.

- **CW-01D.** CW-01D is located adjacent to CW-01S and is currently only sampled for arsenic. In 2022, arsenic was detected at a concentration of 0.06 µg/L, which is less than the CUL of 5 µg/L. Since 2010, the mean concentration of arsenic in CW-01D is 4.55 µg/L ranging from 0.06 to 6.94 µg/L. The concentration of arsenic exceeded the CUL in 10 of the 13 samples, all the samples since 2010 were below the proposed HSAL. Arsenic concentrations appear statistically stable in CW-01D based on the Mann-Kendall analysis.
- **LW-06D.** LW-06D is located along Garden Avenue and is currently only sampled for arsenic. In 2022, arsenic was detected at a concentration of 9.84 µg/L, which is greater than the CUL of 5 µg/L. Since 2010, the mean concentration of arsenic in LW-06D is 8.82 µg/L ranging from not detected to 10.4 µg/L. The concentration of arsenic exceeded the CUL in 12 of the 13 samples, 2 of the 13 samples exceeded the proposed HSAL. Arsenic concentrations appear statistically stable in LW-06D based on the Mann-Kendall analysis.
- **LW-09S.** LW-09S is located along Garden Avenue and is currently only sampled for arsenic. In 2022, arsenic was detected at 0.96 µg/L, which is less than the CUL of 5 µg/L. Since 2010, the mean concentration of arsenic in LW-09S is 11.87 µg/L ranging from 0.96 to 19.2 µg/L. Arsenic concentrations exceeded the CUL in 12 of 13 the samples and the proposed HSAL was exceeded in eight samples. Since April 2017, arsenic concentrations appear to be declining from 15.3 µg/L to less than 1 µg/L. The Mann-Kendall analysis indicates a statistically declining trend.
- **LW-09D.** LW-09D is located adjacent to LW 09S and is currently sampled for arsenic and vinyl chloride. Arsenic was detected at 8.7 µg/L in 2022, which is greater than the CUL of 5 µg/L. Since 2010, the mean concentration of arsenic in LW-09D is 8.56 µg/L ranging from 7.5 to 9.5 µg/L.

The arsenic concentration exceeded the CUL in all the samples since 2010. During the same period, concentrations were below the proposed HSAL. Arsenic concentrations in LW-09D have increased from 7.7 to 8.7 µg/L since 2015. There appears to be a statistically increasing trend in arsenic concentrations in LW-09D based on the Mann-Kendall analysis.

Vinyl chloride was detected in 2022 at a concentration of 0.41 µg/L, which is just above the CUL of 0.4 µg/L. The mean concentration of vinyl chloride since 2010 is 0.4 µg/L, ranging from 0.04 to 0.46 µg/L. The Mann-Kendall analysis indicates a statistically stable trend in LW-09D.

- **MW-03I.** MW-03I is located on the south side of Site along 4th Avenue and is currently only sampled for arsenic. In 2022, arsenic was detected at 18.1 µg/L, which is greater than the CUL of 5 µg/L and the proposed HSAL of 10 µg/L. Since 2010, the mean concentration of arsenic in MW-03I is 14.82 µg/L ranging from 10.9 to 18.1 µg/L. The arsenic concentration exceeded the CUL and HSAL in all 13 samples. There is a recent visual trend of increasing arsenic concentrations in MW-03I as concentrations have increased from 13.7 to 18.1 µg/L since 2019. However, arsenic concentrations measured in the well between 1998 and 2018 ranged from 10 to 37.4 µg/L, so these recent concentrations fall well within the range of historic arsenic values. There is no statistically significant trend in arsenic concentrations in MW-03I based on the Mann-Kendall analysis.

Table 1-5. Summary of Groundwater Trend Analysis - 2022		
Monitoring Well	Arsenic	Vinyl Chloride
CW-01S	Decreasing	Decreasing
CW-01D	Stable	--
LW-06D	Stable	--
LW-09S	Decreasing	--
LW-09D	Increasing	Stable
MW-03I	Increasing	--

3. Surface Water Monitoring

This section presents the results of the surface water monitoring event conducted in accordance with the CMIP and Periodic Review. Samples were collected from five storm sewer manholes on 13 December 2022. Chemical test results are compiled in Table 2-1, and the sampling locations are shown with the generalized storm sewer configuration on Figure 2-1. The data quality review and laboratory report (ARI #22L0324) are provided in Appendices A and B, respectively. Appendix D includes surface water quality summary charts for each well sampled as part of the December 2022 sampling program. The charts summarize the historical surface water sampling results.

3.1 DECEMBER 2022 SAMPLING RESULTS

Surface water monitoring was conducted on 13 December 2022, for metals (total copper, lead and zinc, and hexavalent chromium) at five locations (Figure 2-1) identified in the CMIP to assess whether any long-term changes are occurring. The December 2022 surface sampling results are presented below and are compared to CMIP CULs and Ecology stormwater benchmarks.

Table 1-6. Surface Water Cleanup Levels and Benchmarks - 2022		
	CUL (µg/L)	Benchmark (µg/L)
Copper	7	14
Lead	1	86.1
Zinc	47	117
Hexavalent chromium	11	--

- **SW-MH.** SW-MH represents municipal stormwater coming onto the Site from off-site and upstream sources. SW-MH is sampled from a concrete vault at the southeast corner of the Site, which provides access to the municipal storm drain. The municipal storm drain traverses the Site from south to north, leaving the Site at the north discharge point (SW-3). Surface water from the Site does not drain into the municipal storm drain as it traverses the Site. SW-MH was included for informational purposes.

Copper, lead, and zinc concentrations detected in stormwater collected from SW-MH in December 2022 exceeded surface water CULs. Copper and zinc also exceeded stormwater benchmarks.

- **SW-3.** SW-3 is located at the north discharge point. SW-3 represents treated and untreated surface water generated from the Site and the municipal storm drain, which carries untreated stormwater northward across the Site from untreated off-site sources. This location is not identified in the CMIP and is sampled for informational purposes.

Zinc was detected in stormwater collected from SW-3 in December 2022 at a concentration exceeding the surface water CUL but was below the stormwater benchmark. Detected copper and lead concentrations were below surface water CULs and stormwater benchmarks.

- **SW-DP.** SW-DP is sampled at the outlet of the north treatment facility. Stormwater from this location is derived from the Truck Plant and associated parking lot and was included in the CMIP for “informational purposes” only. This was because stormwater is derived from paved surfaces associated with the truck plant and discharge is regulated under a stormwater discharge permit.

Zinc was detected in stormwater collected from SW-DP in December 2022 at a concentration exceeding the surface water CUL and was just above the stormwater benchmark. Detected copper and lead concentrations were below surface water CULs and stormwater benchmarks.

- **SW-6.** SW-6 is sampled from a manhole which represents stormwater from the area where Building 17 was formerly located. Building 17 was demolished and removed from the site in 2013.

Copper and lead concentrations were detected from SW-6 in December 2022 below surface water CULs and stormwater benchmarks. Zinc was not detected at or above laboratory reporting limits, which were below CULs.

- **SW-5.** Stormwater from the south half of the Site is sampled at a manhole designated SW-5. The CMIP specifies that water quality from SW-5 will be compared to CULs for compliance purposes and represented (in 1991) runoff from the structural fill cover that covered contaminated soil. Currently, surface water at SW-5 is generated from the Kenworth Research and Development (R&D), PACCAR Part Distribution Warehouse (PDW), and Active facilities, as well as a portion of the undeveloped area at the southwest corner of site.

Copper and lead concentrations in the sample collected from SW-5 did not exceed the CULs or stormwater benchmarks. Zinc in the sample collected from SW-5 exceeded the CUL, but was well below the stormwater benchmark. Hexavalent chromium was not detected in SW-5.

3.2 HISTORICAL SURFACE WATER SAMPLING RESULTS

Surface water samples have been analyzed for metals (total copper, lead and zinc, and hexavalent chromium) at the five locations (Figure 2-1) identified in the CMIP to assess whether any long-term changes are occurring. Sampling began in 1998 after completion of cleanup activities at the site in 1997. Hexavalent chromium is not discussed since it has not been detected in any samples. The following discussion of historical sampling results and Mann-Kendall trend analysis (Table 2-2) are based on sampling since 2005 when post-construction conditions stabilized.

- **SW-MH.** SW-MH represents municipal stormwater coming onto the Site from off-site and upstream sources. As mentioned previously, surface water from the Site does not drain into the municipal storm drain as it traverses the Site. SW-MH was included for information purposes.

Copper, lead and zinc have generally been detected at concentrations above the CULs during most of the stormwater sampling events. Copper and zinc concentrations are also generally above stormwater benchmarks. Copper and lead concentrations appear to be statistically declining in SW-MH and zinc concentrations are probably decreasing based on the Mann-Kendall analysis.

- **SW-3.** SW-3 is located at the north discharge point. SW-3 represents treated and untreated surface water generated from the Site and the municipal storm drain, which carries untreated stormwater northward across the Site from untreated off-site sources. This location was sampled for informational purposes.

Since 2005, only two water samples collected from SW-3 have detected copper concentration exceeding the CUL (2015 and 2020). Lead concentrations generally have been detected below the CUL at concentrations ranging from 0.072 to 1 µg/L. However, in 2011, 2015, and 2019, lead concentrations were detected at concentrations of 2.2, 1.7, and 1.21 µg/L, respectively, above the CUL. Since 2005, zinc concentrations have ranged from 5 to 131 µg/L with roughly half of the samples exceeding CULs. All lead and copper concentrations and most zinc concentrations were below stormwater benchmarks. Copper and zinc concentrations appear statistically stable and lead appears to be decreasing in SW-3 based on the Mann-Kendall analysis.

- **SW-DP.** SW-DP is sampled at the outlet of the north treatment facility. Stormwater from this location is derived from the Truck Plant and associated parking lot and was included in the CMIP for “informational purposes” only.

Copper and lead concentrations have generally been detected below their respective CULs. All concentrations have been below stormwater benchmarks. Zinc concentrations have been variable and generally above the CULs, but below the stormwater benchmark. Copper and lead concentrations appear statistically stable and decreasing, respectively, and there is no statistical trend for zinc concentrations in SW-DP based on the Mann-Kendall analysis.

- **SW-6.** SW-6 is sampled from a manhole which represents stormwater from the area where Building 17 was formerly located. Building 17 was demolished and removed from the site in 2013.

Copper, lead, and zinc concentrations were below CULs except between 2014 to 2017 during construction of the PACCAR PDW completed in 2017. Copper concentrations trends appear

statistically stable, lead concentrations appear to be declining, and there is no trend in zinc concentrations in SW-6 based on the Mann-Kendall analysis.

- SW-5.** Stormwater from the south half of the Site is sampled at a manhole designated SW-5. Currently, surface water at SW-5 is generated from the Kenworth R&D, PACCAR PDW, and Active facilities, as well as a portion of the undeveloped area at the southwest corner of site. The CMIP specifies that water quality from SW-5 will be compared with CULs for compliance purposes.
 Since 2005, copper, lead and zinc concentrations have not exceeded the CULs with some minor exceptions. Sample concentrations were all below stormwater benchmarks. Between 2015 and 2017, some exceedances of copper, lead, and zinc concentrations occurred. This time period coincided with construction of the PACCAR PDW, which was completed in 2017. The zinc concentration exceeded the CUL in 2022. Other than during this period of construction disturbance, the surface cover has been effective at minimizing stormwater impacts based on surface water sampling at the point of compliance. Copper and zinc concentrations appear statistically stable and lead concentrations appear to be decreasing in SW-5 based on the Mann-Kendall analysis.

Table 2-2. Summary of Surface Water Trend Analysis - 2022			
Monitoring Well	Copper	Lead	Zinc
SW-MH	Decreasing	Decreasing	Probably Decreasing
SW-3	Stable	Decreasing	Stable
SW-DP	Stable	Decreasing	No trend
SW-6	Stable	Decreasing	No trend
SW-5	Stable	Decreasing	Stable

Surface water quality CULs have generally been met at SW-5, the established point of compliance, as well as at SW-6. Exceedances of CULs were noted in selected metals during the period of construction of the PACCAR PDW between 2015 and 2017. Following construction completion, stormwater metals concentrations have dropped below respective CULs.

4. Structural Fill Cover Monitoring Field Inspection and Observation Form

The structural fill and pavement covers are monitored annually to document their condition and note areas where repair or maintenance is necessary. An engineer or technician conducted a site walk to observe and document the following:

- conditions of paved area (settlement, ruts, cracks, other); and
- disturbance in areas of planted cover (erosion, excavation, vegetation, other).

4.1 FIELD INSPECTION OBSERVATIONS

Date of Field Inspection: 13 December 2022
 Weather Conditions: Cloudy
 Inspection Personnel: Blake Lytle-Goldstein
 Technical Specialist

Construction was completed and a new building and soil stockpiles are present. Areas around the building appear to be in good condition, with no obvious signs of settlement or cracking in asphalt cover. The new stockpile area has a planted cover with good development of grass and shows no signs of settlement or erosion. The cap area is used for vehicle parking, and the presence of tire tracks disturbing vegetation and surface soil were observed.

4.2 RECOMMENDED ACTIONS AND FOLLOW-UP

4.2.1 Areas Needing Repair

Review site conditions in 2023.

4.2.2 Documentation of Repair Completion

No repairs required.

5. References

1. Dalton, Olmstead, and Fuglevand (DOF), 1997. Confirmational Monitoring and Inspections Plans, Former PACCAR Defense Systems Site, Renton, Washington. November 1997.
2. EPA, 1988. Functional Guidelines for Evaluating Organics and Inorganics Analysis, Revision 2/88.
3. Hart Crowser, 1989. Remedial Investigation Report, PACCAR Site, Renton, Washington. September 1, 1989.
4. METRO, 1993. METRO Discharge Authorization for Special/Minor Discharge Number 292 for Paccar Incorporated. King County Department of Metropolitan Services. January 6, 1993.

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TABLES

TABLE 1-1
GROUNDWATER MONITORING PROGRAM FOR 2022
PACCAR RENTON SITE
RENTON, WASHINGTON

2022			
	Well	Arsenic	VOC ^a
Confirmation Lower Sand/Delta Deposits			
	CW-1D	X	
	LW-6D	X	
	LW-9D	X	X
Confirmation Upper Sand/Aquitard Wells			
	CW-1S	X	X
	LW-9S	X	
	MW-3I	X	
Stabilized Cell Wells			
	SC-1S		
	SC-2S		
Quality Control Samples			
		X	X
Purge Water Samples			
		X	X

Notes

^a VOC is vinyl chloride.

Water elevations were measured in approximately 27 wells.

All wells with samples submitted for laboratory analysis had the following field parameters measured:

temperature, pH, conductivity, turbidity, dissolved oxygen, and redox potential.

Purge water samples analyzed for VOCs, arsenic, lead, total chromium, and TPH.

TABLE 1-2
GROUNDWATER ELEVATION DATA, DECEMBER 2022
PACCAR RENTON SITE
RENTON, WASHINGTON

Well	Depth to Water in Feet	Reference Elevation in Feet	Water Elevation in Feet
CW-1D	4.50	26.18	21.68
CW-1S	3.93	26.14	22.21
CW-3D	NM	31.39	NM
CW-3S	7.38	32.04	24.66
DM-2D	5.88	28.40	22.52
DM-5D	7.28	40.13	32.85
LW-14S	21.07	45.37	24.30
LW-1D	3.85	25.98	22.13
LW-1S	2.22	25.84	23.62
LW-2D	4.98	28.78	NM
LW-2S	5.20	28.98	23.78
LW-4S	6.97	39.87	NM
LW-6D	7.48	30.58	23.10
LW-6S	NM	29.70	NM
LW-7S	4.99	33.74	28.75
LW-9D	10.47	31.95	21.48
LW-9S	8.66	32.12	23.46
MW-1S(N)	4.22	26.56	22.34
MW-2D(R)	6.82	29.43	22.61
MW-2S(W)	7.18	28.85	DRY
MW-3I(N)	9.63	34.39	24.76
MW-3S(S)	--	34.39	DRY
OSP-10D	13.54	40.74	27.20
OSP-1D	11.82	41.51	29.69
OSP-1S	8.86	41.44	32.58
OW-4D	21.46	43.48	22.02
OW-4S	19.12	43.49	24.37
R-10D	7.87	35.15	27.28
R-10S	9.05	36.24	27.19
SC-1S	4.94	37.78	32.84
SC-2S	13.81	40.52	26.71
U-1D	10.10	30.29	20.19
U-1S		29.86	NL

Notes

NL = Not located.

NM = Not measured.

TABLE 1-3
SUMMARY OF GROUNDWATER ANALYTICAL DATA
PACCAR RENTON SITE
RENTON, WASHINGTON

Well	Date	Arsenic in µg/L	Lead in µg/L	Chromium in µg/L	Benzene in µg/L	Vinyl Chloride in µg/L	Total cPAHs ^a in µg/L	PCP * in µg/L	Diesel in mg/L	Heavy Oil in mg/L	Ferrous Iron ^b in mg/L	Temp. in °C	pH	Diss. Oxygen in mg/L	Cond. in µmhos /cm	Redox Potential in Eh	Turbidity in NTU	TSS in mg/L
CUL:		5	5	80	5	0.4	0.1		1	1	NE	NE	NE	NE	NE	NE	NE	NE
HSAL:		50	50	100	5	2	NE		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Confirmation Lower Sand/Delta Deposits																		
CW-01D	3/24/98	4.1	-	-	0.5 U	0.13 U	-	-	0.24 U	0.71 U	-	-	-	-	-	-	-	-
	10/20/98	2 U	-	-	0.5 U	0.12 J	-	-	0.24 U	0.48 U	-	-	-	-	-	-	-	-
	3/4/99	3.2 +	-	-	0.5 U	0.039 U	-	-	0.24 U	0.71 U	-	-	-	-	-	-	-	-
	10/19/99	6.3	1 U	10 U	0.5 U	0.2	-	-	0.24 U	0.71 U	-	14	6.8	-	580	-	-	-
	5/18/00	6	-	-	0.2 U	0.4	-	-	0.25 U	0.5 U	-	14	6.8	-	560	-	-	-
	3/19/01	5.8	-	-	0.2 U	0.2	-	-	0.25 U	0.5 U	-	-	-	-	-	-	-	-
	3/25/02	7.9	-	-	0.2 U	0.6	-	-	0.25 U	0.5 U	-	12	7.1	-	780	-	0.08	-
	10/16/02	-	-	-	-	-	-	-	-	-	-	15.8	6.7	-	760	-	0.18	-
	4/2/03	6.7	1 U	1 U	0.2 U	0.2	0.15 U	-	0.25 U	0.5 U	4	13.2	6.8	1.18	442	-	28	-
	3/31/04	8.2	-	-	0.2 U	0.3	-	-	-	-	55.5	13.4	6.2	0.01	496	-34	12	74.5
	4/13/05	6.1	-	-	-	-	-	-	-	-	46.4	14.4	6.5	0.1	283	18	0	31.5
	3/28/06	5.1	-	-	-	-	-	-	-	-	52.5	13.9	6.2	0.26	448	25	0	51.9
	3/27/07	6.2	-	-	-	-	-	-	-	-	45.2	13.3	5.2	0.11	417	62	0	31.6
	4/1/10	5.6	-	-	-	-	-	-	-	-	52	13.1	7.1	0.26	-	-100	293	54.4
	3/29/11	5.7	-	-	-	-	-	-	-	-	43.8	12.8	6.4	<0.01	270	-	10	48.2
	3/22/12	5.5	-	-	-	-	-	-	-	-	46.4	12.9	6.1	<0.01	727	-165	16.3	40
	11/15/12	-	-	-	-	0.14	-	-	-	-	48.4	13.9	6.3	1.15	332	-132	21	85.4
	3/12/13	5.4	0.3	1 U	0.02 U	0.1	0.2 U	0.25 U	0.1 U	0.2 U	55	13.1	9.9	<0.01	423	-13	24.9	80
	4/2/14	5.8	-	-	-	0.1	-	-	-	-	49.8	12.91	6.3	<0.01	410	-80	76.2	76.2
	4/15/15	5.4	-	-	-	-	-	-	-	-	-	13.99	6.2	<0.01	433	-88	13.9	-
	3/10/16	0.4	-	-	-	0.02 U	-	-	-	-	-	13.61	6.6	0.01	797	-8	1.4	-
	4/11/17	6.29	-	-	-	-	-	-	-	-	-	13.55	6.2	<0.01	^c	-79	21	-
	4/17/18	5.16	-	-	-	-	-	-	-	-	-	13.6	6.0	0.09	477.1	0	220	-
	6/21/19	1.47	-	-	-	-	-	-	-	-	-	15.6	6.4	0.48	165.5	-25	42.4	-
	8/17/20	5.39	-	-	-	-	-	-	-	-	-	17.4	6.2	0.4	506	24	37	-
	10/19/21	6.94	-	-	-	-	-	-	-	-	-	16.3	6.29	0.32	517	-93	216	-
	12/14/22	0.061 J	-	-	-	-	-	-	-	-	-	12	5.69	1.63	23	156.1	2.91	-
LW-06D	3/26/98	11	-	-	0.5 U	0.13 U	-	-	0.24 U	0.71 U	-	-	-	-	-	-	-	-
	10/22/98	12	-	-	0.5 U	0.08 J	-	-	0.24 U	0.47 U	-	-	-	-	-	-	-	-
	3/5/99	3.1	-	-	0.5 U	0.039 U	-	-	0.24 U	0.71 U	-	-	-	-	-	-	-	-
	10/19/99	10	1 U	10 ``	0.5 U	0.099 J	-	-	0.24 U	0.71 U	-	14.1	6.4	-	530	-	-	-
	5/23/00	9	-	-	0.2 U	0.2 U	-	-	0.25 U	0.5 U	-	13	7.2	-	690	-	-	-
	3/16/01	10.8	-	-	0.2 U	0.2 U	-	-	0.25 U	0.5 U	-	14	7.1	-	900	-	0.14	-
	3/21/02	8.8	-	-	0.2 U	0.2 U	-	-	0.25 U	0.5 U	-	13	7.1	-	860	-	0.08	-
	4/3/03	3.3	1 U	1	0.2 U	0.2 U	0.15 U	-	0.25 U	0.5 U	4	11.4	6.9	1.25	454	-	18	-
	3/31/04	14.2	-	-	-	-	-	-	-	-	56.0	13.0	6.1	0.02	524	-2	27	93.0
	4/12/05	10.2	-	-	-	-	-	-	-	-	59.5	13.2	6.3	0.08	548	-15	0	38.9
	3/31/06	11.2	-	-	-	-	-	-	-	-	62.5	13.7	6.2	0.16	459	-10	0	20.3
	3/29/07	11.1	-	-	-	-	-	-	-	-	58.0	14.0	5.8	0.11	554	107	0	40.8
	3/26/08	9.8	-	-	-	-	-	-	-	-	49.6	11.1	6.7	0.52	436	-35	0	-
	3/26/09	10.4	-	-	-	-	-	-	-	-	63	13.36	5.6	2.64	764	-118	32	55
	4/2/10	10.4	-	-	-	-	-	-	-	-	62	12.5	7.1	<0.01	445	-83	160	58.4
	3/31/11	9.7	-	-	-	-	-	-	-	-	63	13	6.1	0.05	382	-61	10	70
	3/23/12	9.1	-	-	-	-	-	-	-	-	61.5	13.3	6.0	<0.01	724	-160	6.2	54.2
	3/13/13	9.1	0.1 U	1 U	0.025	0.14	0.2 U	-	0.1 U	0.2 U	65	13.18	8.6	<0.01	508	57	9.9	67.8
	4/2/14	7.8	-	-	-	-	-	-	-	-	56.5	14.01	6.3	0.01	527	-102	115.5	34.6
	4/15/15	7.8	-	-	-	-	-	-	-	-	-	14.05	6.2	<0.01	529	-189	25.4	-
	3/10/16	8.0	-	-	-	0.24	-	-	-	-	-	13.72	6.2	<0.01	533.9	-11	10.9	-
	4/11/17	10.0	-	-	-	-	-	-	-	-	-	13.71	6.1	<0.01	^c	-101	4.0	-
	4/17/18	9.2	-	-	-	-	-	-	-	-	-	13.7	6.21	0.14	682	0	378	-
	6/21/19	4.57	-	-	-	-	-	-	-	-	-	14.6	6.25	0.7	542	-62.6	32.2	-
	8/17/20	9.26	-	-	-	-	-	-	-	-	-	15.7	6.4	0.4	723	-6.3	3.9	-
	10/19/21	9.94	-	-	-	-	-	-	-	-	-	16	6.21	0.37	730	-92	11.6	-
	12/14/22	9.84	-	-	-	-	-	-	-	-	-	12.3	6.22	0.56	774	-26.5	4.5	-
LW-09D	3/26/98	9.5	-	-	0.5 U	0.97 J	-	0.82 U	0.24 U	0.71 U	-	-	-	-	-	-	-	-
	10/21/98	7.6	-	-	0.5 U	0.7 J	-	0.8 U	0.24 U	0.47 U	-	-	-	-	-	-	-	-
	3/7/99	7.9	-	-	0.5 U	0.86	-	0.9 U	0.24 U	0.71 U	-	-	-	-	-	-	-	-
	10/19/99	3.3	1 U	10 U	0.5 U	0.4 J	-	-	0.32	0.71 U	-	14.6	7.4	-	450	-	-	-
	5/24/00	9	-	-	0.2 U	0.3	-	-	0.25 U	0.5 U	-	14	6.7	-	740	-	-	-
	10/12/00	-	-	-	0.2 U	0.9	-	-	-	-	-	14	7.2	-	640	-	-	-
	3/15/01	9.4	-	-	0.2 U	0.9	-	-	0.25 U	0.5 U	-	14	6.8	-	59			

Well	Date	Arsenic in µg/L	Lead in µg/L	Chromium in µg/L	Benzene in µg/L	Vinyl Chloride in µg/L	Total cPAHs ^a in µg/L	PCP * in µg/L	Diesel in mg/L	Heavy Oil in mg/L	Ferrous Iron ^b in mg/L	Temp. in °C	pH	Diss. Oxygen in mg/L	Cond. in µmhos /cm	Redox Potential in Eh	Turbidity in NTU	TSS in mg/L
CUL:		5	5	80	5	0.4	0.1		1	1	NE	NE	NE	NE	NE	NE	NE	NE
HSAL:		50	50	100	5	2	NE		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Confirmation Upper Sand/Aquitard Wells																		
CW-01S	3/24/98	8.7	-	-	0.5 U	0.38 J	-	-	0.3	0.71 U	-	-	-	-	-	-	-	-
	10/20/98	6.6	-	-	0.62	0.86 J	-	-	0.24 U	0.47 U	-	-	-	-	-	-	-	-
	3/4/99	4.9	-	-	0.5 U	0.53	-	-	0.24 U	0.72 U	-	-	-	-	-	-	-	-
	10/19/99	7.1	1 U	10 U	0.53	0.63 J	-	-	0.24 U	0.71 U	-	14.9	6.6	-	550	-	-	-
	5/18/00	9	-	-	0.6	0.9	-	-	0.25 U	0.5 U	-	15	7.0	-	810	-	-	-
	3/19/01	8.7	-	-	0.7	1.3	-	-	0.25 U	0.5 U	-	-	-	-	-	-	-	-
	3/25/02	11.5	-	-	0.7	2.4	-	-	0.27	0.5 U	-	12	7.1	-	820	-	0.06	-
	10/16/02	-	-	-	-	-	-	-	-	-	-	16.1	6.6	-	580	-	0.14	-
	4/2/03	8.7	1 U	1	0.4	0.9	0.26 U	-	0.25 U	0.5 U	4	13.9	6.8	1.51	408	-	29	-
	10/7/03	-	-	-	0.2 U	0.6	-	-	-	-	-	14	6.9	-	770	-	0.09	-
	3/31/04	12.0	-	-	0.2	0.9	-	-	-	-	48.2	13.5	6.2	0.06	484	-7	30	72.5
	4/13/05	8.7	-	-	0.2 U	0.9	-	-	-	-	48.4	14.8	6.4	0.1	480	5	2	34.4
	3/28/06	8.1	-	-	0.2 U	0.9	-	-	-	-	46.6	14.2	6.5	0.2	524	9	0	33.5
	3/27/07	8.2	-	-	0.2 U	0.7	-	-	-	-	46.2	13.1	5.8	0.02	398	72	0	32.8
	3/27/08	8.1	-	-	-	0.63	-	-	-	-	37.6	12.3	6.6	0.67	379	-7	0	-
	3/24/09	8	-	-	-	0.54	-	-	-	-	0.999	12.83	5.8	2.2	665	-135	10	40.7
	4/1/10	8.1	-	-	0.2 U	0.4	-	-	-	-	49.7	13.1	7.0	<0.01	-	-94	333	69.6
	3/29/11	8.1	-	-	-	0.64	-	-	-	-	50.5	13.2	6.4	<0.01	440	-	10	48.7
	3/22/12	4.7	-	-	-	0.3	-	-	-	-	22.6	13.3	6.0	<0.01	441	-113	4.6	13.7
	3/12/13	7	0.2	1 U	0.023	0.62	0.2 U	-	0.16	0.2 U	52.5	13.01	9.9	0.01	464.3	3	1.2	48.3
	4/2/14	1.8	-	-	-	0.11	-	-	-	-	5.95	12.99	6.1	0.08	95.65	36	18	7
	4/15/15	3.6	-	-	-	0.46	-	-	-	-	-	14.4	5.9	0.08	237.5	-117	42.4	-
	3/10/16	0.4	-	-	-	0.02 U	-	-	-	-	-	13.13	6.6	6.4	163	71	18.1	-
	4/11/17	4.39	-	-	-	0.244	-	-	-	-	-	13.96	5.9	<0.01	374.9	7	3.6	-
	4/17/18	0.884	-	-	-	0.0243 J	-	-	-	-	-	13.8	5.7	1.83	37.3	321	10	-
	6/21/19	1.67	-	-	-	0.2 U	-	-	-	-	-	18.2	6.5	6.24	59.7	82.6	29.4	-
	8/13/20	7.3	-	-	-	0.259	-	-	-	-	-	17	6.2	0.3	544	28	49	-
	10/19/21	4.44	-	-	-	0.122	-	-	-	-	-	15.9	6.1	0.46	315	-57	16.7	-
	12/14/22	0.599	-	-	-	0.0208	-	-	-	-	-	12.3	5.7	1.15	43.9	209.8	5.16	-
LW-09S	3/26/98	21	-	-	0.5 U	0.13 U	-	-	0.32	0.71 U	-	-	-	-	-	-	-	-
	10/21/98	17	-	-	0.5 U	0.31 J	-	-	0.36	0.47 U	-	-	-	-	-	-	-	-
	3/7/99	10 S	-	-	0.5 U	0.039 U	-	-	0.24 U	0.71 U	-	-	-	-	-	-	-	-
	10/19/99	18	1 U	10 U	0.5 U	0.22 J	-	-	0.56	0.71 U	-	13.6	6.7	-	810	-	-	-
	5/24/00	14	-	-	0.2 U	0.2 U	-	-	0.25 U	0.5 U	-	13	7.2	-	860	-	-	-
	3/15/01	19.2	-	-	0.2 U	0.2 U	-	-	0.25	0.5 U	-	14	6.3	-	720	-	0.11	-
	3/20/02	19.9	-	-	0.2 U	0.2 U	-	-	0.38	0.5 U	-	13	7.4	-	660	-	0.08	-
	10/16/02	-	-	-	-	-	-	-	-	-	-	14.1	7.0	-	600	-	0.1	-
	4/4/03	13.4	1 U	2	0.2 U	0.2 U	0.15 U	-	0.4	0.5 U	3.8	11.5	7.5	1.12	268	-	16	-
	3/30/04	17.7	-	-	-	-	-	-	-	-	61.5	11.1	5.9	0.39	420	-12	49	89.0
	4/12/05	11.6	-	-	-	-	-	-	-	-	48.8	11.4	6.6	0.07	418	-37	10	48.4
	3/30/06	8.5	-	-	-	-	-	-	-	-	36.2	11.9	6.5	0.3	299	-15	0	43.6
	3/28/07	14.8	-	-	-	-	-	-	-	-	61	10.7	6.6	0.03	367	92	46	68.2
	3/25/08	12.8	-	-	-	-	-	-	-	-	39	10	6.4	1.08	343	-140	62	-
	3/26/09	13.3	-	-	-	-	-	-	-	-	57.5	11.86	6.0	2.4	612	-127	81	46.7
	4/2/10	18.3	-	-	-	-	-	-	-	-	65	10.4	7.6	<0.01	361	-124	77	56.4
	3/31/11	17.3	-	-	-	-	-	-	-	-	61	10.6	6.4	<0.01	322	-152	10	76 J
	3/23/12	14.1	-	-	-	-	-	-	-	-	54	10.5	6.2	<0.01	570	-190	9.2	68.1
	3/15/13	13.6	0.1 U	1.8	0.02 U	0.039	0.2 U	-	0.2	0.25	50	11.46	7.5	0.03	360.1	201	42	79.3
	4/2/14	14.6	-	-	-	-	-	-	-	-	61	11.03	6.7	0.07	417	-118	33.1	76.5
	4/15/15	19.2	-	-	-	-	-	-	-	-	-	11.72	6.5	0.01	410.5	-95	47.3	-
	3/10/16	14.8	-	-	-	0.027	-	-	-	-	-	11.59	6.4	<0.01	421.6	-74	27.6	-
	4/11/17	15.3	-	-	-	-	-	-	-	-	-	11.45	6.5	<0.01	--	-111	26.8	-
	4/17/18	7.31	-	-	-	-	-	-	-	-	-	11.3	6.49	0.16	523	0	57.2	-
	6/20/19	6.1	-	-	-	-	-	-	-	-	-	12.4	6.73	0.62	428.7	-81.2	36.5	-
	8/17/20	6.98	-	-	-	-	-	-	-	-	-	14.7	6.5	0.47	595	-53.4	4.5	-
	10/19/21	5.83	-	-	-	-	-	-	-	-	-	14.2	6.48	0.36	704	-113	1.8	-
	12/14/22	0.956	-	-	-	-	-	-	-	-	-	11	5.93	1.25	438	161.3	8.3	-
	MW-03I	3/27/98	17	-	-	0.5 U	0.13 U	-	-	0.24 U	0.71 U	-	-	-	-	-	-	-
10/22/98		15	-	-	0.5 U	0.15 J	-	-	0.24 U	0.47 U	-	-	-	-	-	-	-	-
3/5/99		10	-	-	0.5 U	0.039 U	-	-	0.24 U	0.71 U	-	-	-	-	-	-	-	-
10/20/99		19	1 U	10 U	0.5 U	0.14 J	-	-	0.34	0.71 U	-	15.7						

Well	Date	Arsenic in µg/L	Lead in µg/L	Chromium in µg/L	Benzene in µg/L	Vinyl Chloride in µg/L	Total cPAHs ^a in µg/L	PCP * in µg/L	Diesel in mg/L	Heavy Oil in mg/L	Ferrous Iron ^b in mg/L	Temp. in °C	pH	Diss. Oxygen in mg/L	Cond. in µmhos /cm	Redox Potential in Eh	Turbidity in NTU	TSS in mg/L
CUL:		5	5	80	5	0.4	0.1		1	1	NE	NE	NE	NE	NE	NE	NE	NE
HSAL:		50	50	100	5	2	NE		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Stabilized Cell Wells																		
SC-01S	3/25/98	4.4	2.2	10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/21/98	3.4	1.4	5 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3/7/99	4.7	1 U	10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/19/99	5.8	1 U	10 U	-	-	-	-	-	-	-	17.2	8.2	-	190	-	-	-
	5/24/00	5	1 U	0.5 U	-	-	-	-	-	-	-	13	7.0	-	740	-	-	-
	3/15/01	5.2	1 U	0.5 U	-	-	-	-	-	-	-	13	6.8	-	620	-	0.13	-
	3/20/02	5.8	1 U	0.5 U	-	-	-	-	-	-	-	12	7.2	-	860	-	0.15	-
	10/16/02	-	-	-	-	-	-	-	-	-	-	15.1	7.1	-	610	-	0.11	-
	4/4/03	4.9	1 U	0.5 U	-	-	-	-	-	-	0.6	13.8	8.1	2.6	107	-	26	-
	4/1/04	5.4	-	-	-	-	-	-	-	-	0.043	12.4	8.2	0.19	119	162	13	4.9
	4/12/05	5.1	-	-	-	-	-	-	-	-	0.04 U	12.7	8.0	0.15	123	-42	1	1.9
	3/29/06	4.7	-	-	-	-	-	-	-	-	0.04 U	12.8	7.7	0.32	97	-49	0	1.8
	3/29/07	4.6	-	-	-	-	-	-	-	-	0.04 U	12.9	7.1	0.2	118	93	0	2.9
	3/13/13	4.6	0.1 U	1 U	-	-	-	-	-	-	0.046	11.72	8.7	0.09	105.7	70	9.3	3.3
	6/20/19	-	-	-	-	0.2 U	-	-	-	-	-	16.2	7.9	9.64	131.6	166.3	3	-
	8/13/20	5.15	-	-	-	-	-	-	-	-	-	16.2	7.86	9.64	131.6	166	3	-
SC-02S	3/26/98	4.5	1 U	10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/21/98	4	1 U	5 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3/7/99	2.6	1 U	10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/19/99	4.7	1 U	10 U	-	-	-	-	-	-	-	16.5	-	-	-	-	-	-
	5/24/00	4	1 U	2 U	-	-	-	-	-	-	-	14	7.1	-	610	-	-	-
	3/15/01	4.1	1 U	2	-	-	-	-	-	-	-	13	6.3	-	810	-	0.17	-
	3/20/02	5.7	1 U	3.9	-	-	-	-	-	-	-	12	6.7	-	790	-	0.13	-
	10/16/02	-	-	-	-	-	-	-	-	-	-	13.4	6.5	-	560	-	0.09	-
	4/4/03	3.2	1 U	2	-	-	-	-	-	-	4.2	13	7.3	1.04	340	-	21	-
	4/1/04	4.9	-	-	-	-	-	-	-	-	36.5	12.7	6.2	0.03	386	66	18	23.2
	3/13/13	3.3	0.1 U	2	-	-	-	-	-	-	34.8	12.85	8.6	0.05	361	115	22.5	1.4
	6/21/19	-	-	-	-	0.2 U	-	-	-	-	-	13.5	6.2	0.67	476.7	-103	9.4	-
	8/13/20	3.65	-	-	-	-	-	-	-	-	-	13.5	6.15	0.67	476.7	-103	9.4	-

Notes:

^a cPAHs are benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, chrysene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene (WAC 173-340-200). Total cPAH values presented are based on toxicity equivalency quotient (TEQ) calculation.

^b Ferrous iron collected in October 2002 and April 2003 were field measurements using HACH kit. Other samples were analyzed in the laboratory using EPA Method SM 3500.

^c Instrument error - no data

* PCP = Pentachlorophenol

- = Sample not analyzed for specific analyte.

Hot Spot Action Level = HSAL

NE = Not established.

J = Estimated value.

U = Not selected at the detection limit noted.

See pages A-3 explanation of data qualifiers.

TABLE 1-4
GROUNDWATER MONITORING PROGRAM FOR 2023
PACCAR RENTON SITE
RENTON, WASHINGTON

2023			
	Well	Arsenic	VOC ^a
Confirmation Lower Sand/Delta Deposits			
	CW-1D	X	
	LW-6D	X	
	LW-9D	X	X
Confirmation Upper Sand/Aquitard Wells			
	CW-1S	X	X
	LW-9S	X	
	MW-3I	X	
Stabilized Cell Wells			
	SC-1S		
	SC-2S		
Quality Control Samples		X	X
Purge Water Samples		X	X

Notes

Arsenic will be analyzed for total (unfiltered) and dissolved (filtered)

^a VOC is vinyl chloride.

Water elevations will be measured in up to 33 wells.

All wells with samples submitted for laboratory analysis will have the following parameters measured:

temperature, pH, conductivity, turbidity, dissolved oxygen, and redox potential.

Purge water samples will be analyzed for arsenic, lead, total chromium, TPH, and VOCs.

TABLE 2-1
ANALYTICAL RESULTS FOR SURFACE WATER SAMPLES, OCTOBER 2021 AND DECEMBER 2022
PACCAR RENTON SITE
RENTON, WASHINGTON

Sample ID		SW-3		SW-5		SW-6		SW-DP		SW-MH		SW-MD	SW-MHD
Sample Date	CUL ^a	10/21/2021	12/13/2022	10/21/2021	12/13/2022	10/21/2021	12/13/2022	10/21/2021	12/13/2022	10/21/2021	12/13/2022	10/21/2021	12/13/2022
Total Metals in µg/L													
Copper	7	1.82	2.66	0.00215	3.09	2.5	3.37	5.4	2.39	51.7	78	53	82.4
Hexavalent chromium	11	13 U	13 U	13 U	13 U	13 U	13 U	13 U	13 U	13 U	13 U	13 U	13 U
Lead	1	0.072 J	0.074 J	0.551	0.153	0.105	0.066 J	0.387	0.058 J	2.08	3.36	2.28	2.67
Zinc	47	22	110	16.4	57.9	6.72	6 U	69.4	120	99.8	154	99.6	153

Notes

^a Cleanup levels (CUL) from Confirmational Monitoring and Inspection Plan (CMIP; DOF 1997).

See page B-3 for definition of data qualifiers.

SW-MD and SW-MHD are duplicate samples of SW-MH.

Bold indicates a detected value

Blue shading indicates a detected analyte concentration exceeding CUL from CMIP.

TABLE A-1
COMPILATION OF CHEMICAL ANALYTICAL DATA FOR GROUNDWATER SAMPLES
PACCAR RENTON SITE
RENTON, WASHINGTON

Sample ID	Cleanup	CW-1D		CW-1S		LW-6D		LW-9D		LW-900D	LW-9S		MW-3I	
Sampling Date	Level	10/19/2021	12/14/2022	10/19/2021	12/14/2022	10/19/2021	12/14/2022	10/19/2021	12/14/2022	12/14/2022	10/19/2021	12/14/2022	10/19/2021	12/14/2022
Metals in µg/L														
Arsenic, Total	5 ^a	6.94	0.061000 J	4.44	0.599000	9.94	9.84	9.51	9.02	8.7	5.83	0.956	18.1	18.1
Arsenic, Dissolved	5 ^a		0.068000 J		0.344000		3.58		2.93	2.7		0.414		1.01
Volatiles in µg/L														
Vinyl chloride	0.4 ^b			0.122	0.0208			0.375	0.47	0.462				

Notes

^a Proposed Hot Spot Action Level (HSAL) for arsenic is 10 µg/L.

^b HSAL for vinyl chloride is 2 µg/L.

Blank indicates sample not analyzed for specific analyte.

See page A-3 for explanation of data qualifiers.

LW-900D is a duplicate sample of LW-9D.

Bold indicates a detected value

Blue shading indicates a detected analyte concentration exceeding CUL

TABLE A-2
ANALYTICAL RESULTS FOR PURGE WATER
PACCAR RENTON SITE
RENTON, WASHINGTON

Sample ID	KW Tank
Sampling Date	12/14/2022
Metals in µg/L	
Arsenic	8.35
Chromium	1.9
Lead	2.06
TPH in mg/L	
Diesel Range Organics	0.1 U
Motor Oil	0.2 U
Volatiles in µg/L	
1,1,1,2-Tetrachloroethane	0.2 U
1,1,1-Trichloroethane	0.2 U
1,1,2,2-Tetrachloroethane	0.2 U
1,1,2-Trichloroethane	0.2 U
1,1-Dichloroethane	0.2 U
1,1-Dichloroethene	0.2 U
1,1-Dichloropropene	0.2 U
1,2,3-Trichlorobenzene	0.5 U
1,2,3-Trichloropropane	0.5 U
1,2,4-Trichlorobenzene	0.5 U
1,2,4-Trimethylbenzene	0.2 U
1,2-Dibromo-3-Chloropropane	0.5 U
1,2-Dichlorobenzene	0.2 U
1,2-Dichloroethane	0.2 U
1,2-Dichloropropane	0.2 U
1,3,5-Trimethylbenzene	0.2 U
1,3-Dichlorobenzene	0.2 U
1,3-Dichloropropane	0.2 U
1,4-Dichlorobenzene	0.2 U
2,2-Dichloropropane	0.2 U
2-Chloroethyl vinyl ether	1 U
2-Chlorotoluene	0.2 U
2-Hexanone	5 U
2-Pentanone	5 U
4-Chlorotoluene	0.2 U
4-Isopropyl Toluene	0.2 U
Acetone	5 U
Acrolein	5 U
Acrylonitrile	1 U
Benzene	0.2 U
Bromobenzene	0.2 U
Bromochloromethane	0.2 U
Bromoform	0.2 U
Bromomethane	1 U
Carbon Disulfide	0.2 U
Carbon Tetrachloride	0.2 U

Sample ID	KW Tank
Sampling Date	12/14/2022
Volatiles in µg/L	
CFC-11	0.2 U
CFC-113	0.2 U
Chlorobenzene	0.2 U
Chlorodibromomethane	0.2 U
Chloroethane	0.2 U
Chloroform	0.2 U
Chloromethane	0.5 U
Cis-1,2-Dichloroethene	0.2 U
Cis-1,3-Dichloropropene	0.2 U
Dibromomethane	0.2 U
Dichlorobromomethane	0.2 U
Dichlorodifluoromethane	0.2 U
Ethylbenzene	0.2 U
Ethylene Dibromide	0.2 U
Hexachlorobutadiene	2 U
Iodomethane	1 U
Isopropyl Benzene	0.2 U
m, p-Xylene	0.4 U
methyl ethyl ketone	5 U
Methyl isobutyl ketone	5 U
Methyl t-butyl ether	0.5 U
Methylene Chloride	1 U
Naphthalene	0.5 U
n-Butylbenzene	0.2 U
n-Propylbenzene	0.2 U
o-Xylene	0.2 U
Sec-Butylbenzene	0.2 U
Styrene	0.2 U
tert-butylbenzene	0.2 U
Tetrachloroethene	0.2 U
Toluene	0.08 J
Total Xylenes	0.6 U
Trans-1,2-Dichloroethene	0.2 U
Trans-1,3-Dichloropropene	0.2 U
Trans-1,4-Dichloro-2-butene	1 U
Trichloroethene	0.2 U
Vinyl Acetate	0.2 U
Vinyl Chloride	0.2 U

Notes:

J = Estimated value.

U = Not selected at the detection limit noted.

FIGURES

 GROUNDWATER FLOW DIRECTION

NL NOT LOCATED

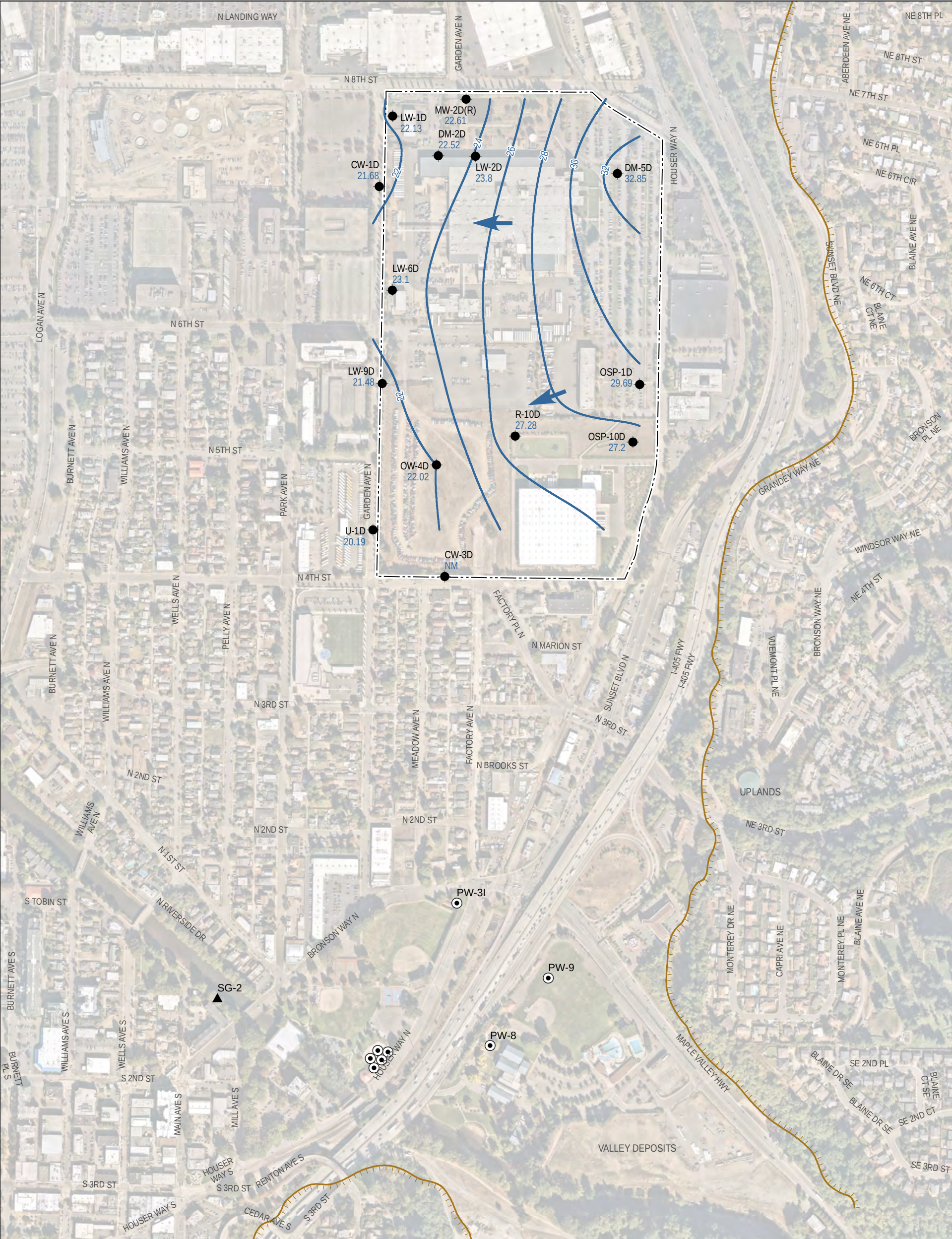
1. FEATURE LOCATIONS AND DEMINSIONS ARE APPROXIMATE.

2. AERIAL IMAGERY SOURCE: NEARMAP, 21 SEPTEMBER 2021



FIGURE 1-1

GIS: \\haleyaldrich.com\haredesa_projects\Notebooks\0203653-001_PACCAR_Renton_2022_GW-SW_Sampling\GIS\Maps\2023_04\203653_000_00MB_GROUNDWATER_ELEVATION_CONTOUR_MAP.mxd - dfeinholz - 4/17/2023 3:18:02 PM



LEGEND

- PIEZOMETER
- CITY OF RENTON PRODUCTION WELL
- RIVER STAFF GAUGE
- UPLAND BOUNDARY
- GROUNDWATER ELEVATION CONTOUR, IN FEET
- PROJECT BOUNDARY
- GROUNDWATER FLOW DIRECTION

- 27.28 GROUNDWATER ELEVATION, IN FEET
- NM NOT MEASURED
- NL NOT LOCATED

NOTES

1. FEATURE LOCATIONS AND DEMINIONS ARE APPROXIMATE.
2. AERIAL IMAGERY SOURCE: NEARMAP, 21 SEPTEMBER 2021



0 500 1,000
SCALE IN FEET

HALEY
ALDRICH

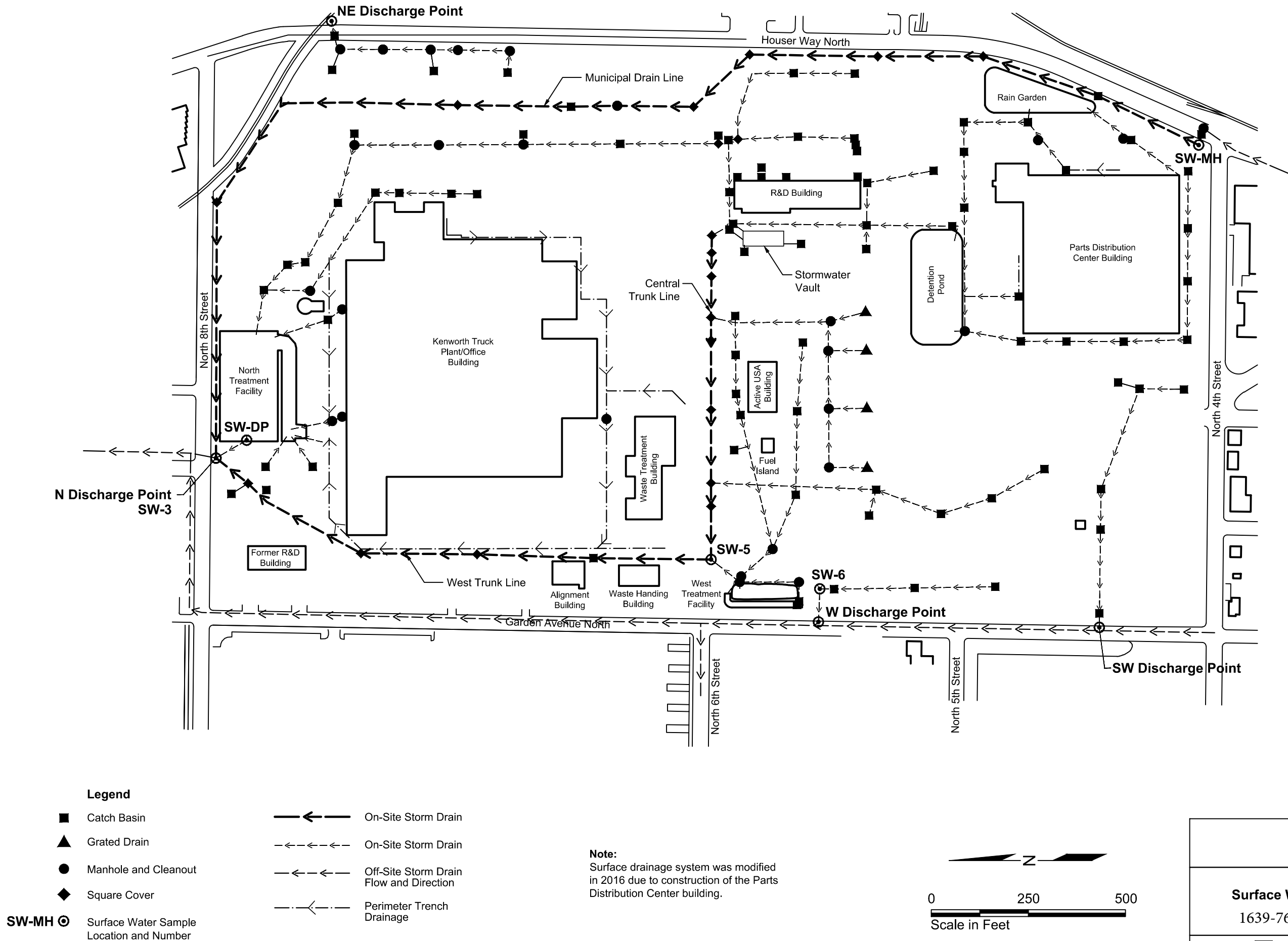
PACCAR
RENTON, WASHINGTON

GROUNDWATER ELEVATION
CONTOUR MAP
LOWER SAND UNIT - 2022

APRIL 2023

FIGURE 1-2

File: L:\Notebooks\163975_PACCAR_2019_GW_SW_Monitoring\CAD\163975-003 (SPlan).dwg Layout:SurfWatSamp Date: 10-17-2019 Author: melissaschweitzer



PACCAR Renton, Washington	
Surface Water Sampling Location Plan 1639-76 January 2022	
	Figure 2-1

APPENDIX A

Data Validation Summary for Water Sample

Data Usability Summary Report

Project Name: Paccar

Project Description: Groundwater Samples

Sample Date(s): 13 through 14 December 2022

Analytical Laboratory: Analytical Resources, LLC – Tukwila, WA

Validation Performed by: Raul Tenorio

Validation Reviewed by: Katherine Miller

Validation Date: 23 January 2023

Haley & Aldrich, Inc. prepared this Data Usability Summary Report (DUSR) to summarize the review and validation of the analytical results for Sample Delivery Group(s) (SDG) listed. This DUSR is organized into the following sections:

- 1. Sample Delivery Group Numbers 22L0324 and 22L0377**
 - 2. Precision and Accuracy [for SDG(s) above]**
 - 3. Explanations**
 - 4. Glossary**
 - 5. Abbreviations**
 - 6. Qualifiers**
- References**

This data validation and usability assessment was performed per the guidance and requirements established by the United States Environmental Protection Agency (USEPA) using the following reference materials:

- National Functional Guidelines (NFG) for Inorganic Data Review.
- National Functional Guidelines (NFG) for Organic Data Review.

Data reported in this sampling event were reported to the laboratory reporting limit (RL). Results found between the MDL and RL are flagged J as estimated.

Sample data were qualified in accordance with the laboratory's standard operating procedures (SOP). The results presented in each laboratory report were found to be compliant with the data quality objectives (DQO) for the project and therefore usable; any exceptions are noted in the following pages.

1. Sample Delivery Group Numbers 22L0324 and 22L0377

1.1 SAMPLE MANAGEMENT

This DUSR summarizes the review of SDG numbers:

- 22L0324, dated 5 January 2023,
- 22L0377, dated 17 January 2023.

Samples were collected, preserved, and shipped following standard chain of custody (COC) protocol. Samples were also received appropriately, identified correctly, and analyzed according to the COC. Issues noted with sample management are listed below:

- Custody seals were not used when samples were dropped off at the laboratory or service center by the field staff, submitted to a laboratory-provided courier, or when transported between subcontracted laboratories.
- SDG 22L0377: Trip Blanks were not listed on COC.
- SDG 22L0377: Samples were delivered after normal receiving hours and temperature was not taken and noted upon receipt. Samples were packed with ice and temperatures were taken upon documentation at 0830 12/14/22. No qualification necessary as cooler was received within temperature.

Analyses were performed on the following samples:

Sample ID	Sample Type	Lab ID	Sample Date	Matrix	Methods
SW-3-20221213	N	22L0324-01	12/13/2022	WS	A, B
SW-DP-20221213	N	22L0324-02	12/13/2022	WS	A, B
SW-5-20221213	N	22L0324-03	12/13/2022	WS	A, B
SW-6-20221213	N	22L0324-04	12/13/2022	WS	A, B
SW-MH-20221213	N	22L0324-05	12/13/2022	WS	A, B
SW-MHD-20221213	FD	22L0324-06	12/13/2022	WS	A, B
CW-1S-20221214	N	22L0377-01	12/14/2022	WG	A, C
CW-1S-20221214	N	22L0377-02	12/14/2022	WG	A
CW-1D-20221214	N	22L0377-03	12/14/2022	WG	A
CW-1D-20221214	N	22L0377-04	12/14/2022	WG	A

Method Holding Times			
A.	E200.8	Metals (by Mass Spectrometer)	180 days for liquid, preserved
B.	SM3500-CR B	CHROMIUM BY COLORIMETRY	24 hours, unpreserved
C.	SW8260DSIM	SELECTED ION MONITORING - VOLATILE ORGANICS	14 days for liquid, preserved 7 days for liquid unpreserved
D.	NWTPH-DX	Total Petroleum Hydrocarbons (TPH) Total Diesel	14 days for liquid, preserved 7 days for liquid unpreserved
E.	SW8260D	Volatile Organic Compounds (VOCs)	14 days for liquid, preserved 7 days for liquid unpreserved

1.2 CASE NARRATIVE

The laboratory report case narrative lists various additional quality control issues such as continuing calibration verification (CCV) exceedances. Since these additional quality control issues were not required for the project's data quality objectives, these quality control issues were not reviewed.

1.3 HOLDING TIMES/PRESERVATION

The samples arrived at the laboratory at the proper temperature and were prepared and analyzed within the holding time and preservation criteria specified per method protocol with the following exceptions:

- SDG 22L0377: Sample containers 22L0377-02A, -04A, -06A, -08A, -10A, -12A, and -14A had pH > 2.0 and were filtered at 0.45 µm and preserved to pH < 2.0 with 0.75 mL concentration HNO₃ (12/16/22). No qualification necessary as unpreserved holding times were met.

1.4 REPORTING LIMITS AND SAMPLE DILUTIONS

All sample dilutions were reviewed and found to be justified. Any non-detects with elevated reported limits are noted and explained below.

Sample ID	Lab ID	Analyte/ Method	Dilution Factor	Issue/Explanation
All Samples	22L0324-01-06	SM3500-CR B	1.25	Dilution required to bring the concentration of target analytes within the calibration range.
SW-MH-20221213	22L0324-05	E200.8	2	
KWTANK-20221214	22L0377-15	E200.8	2	

1.5 SURROGATE RECOVERY COMPLIANCE

[Refer to section E 1.2.](#) The percent recovery (%R) for each surrogate compound added to each project sample were determined to be within the laboratory specified quality control (QC) limits.

1.6 LABORATORY CONTROL SAMPLES

[Refer to section E 1.3.](#) Compounds associated with the laboratory control samples/laboratory control sample duplicates (LCS/LCSD) analyses associated with client samples exhibited recoveries and relative percent differences (RPDs) within the specified limits with the following exceptions:

SDG #	Sample Type	Method	Batch ID	Analyte	%R/RPD	Qualifier	Affected Samples
22L0377	LCS	8260D	BKL0388	Trans-1,2-dichloroethene	132%	J/None	None, samples are ND

1.7 MATRIX SPIKE SAMPLES

[Refer to section E 1.4.](#) No client samples were used for matrix spike/matrix spike duplicate (MS/MSD) analysis in this SDG.

1.8 BLANK SAMPLE ANALYSIS

[Refer to section E 1.5.](#) Method blank samples had no detections, indicating that no contamination from laboratory activities occurred.

1.9 DUPLICATE SAMPLE ANALYSIS

[Refer to section E 1.6.](#) No client samples were used for laboratory duplicate analysis.

The following sample(s) were used for field duplicate analysis. The RPD comparison for detections in either the parent or duplicate sample(s) is shown below. RPDs were all below 35 percent for water (or the absolute difference rule was satisfied if detects were less than 5 times the RL).

Primary Sample ID	Duplicate Sample ID	Method(s)
LW-9D-20221214	LW-900D-20221214	E200.8, SW8260D SIM
SW-MH-20221213	SW-MHD-20221213	E200.8, SM3500-CR B

1.10 SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

The results presented in this report were found to comply with the data quality objectives for the project and the guidelines specified by the analytical method. Based on the review of this report, the data are useable and acceptable as no data was rejected. No qualifiers were applied to any data in this report.

2. Precision and Accuracy [for SDG(s) above]

[Refer to section E 1.7.](#) Where required by the method, some measurement of analytical accuracy and precision was reported for each method with the site samples.

3. Explanations

The following explanations include more detailed information regarding each of the sections in the DUSR above. Not all sections in the Explanations are represented:

- E 1.1 Reporting Basis (Wet/Dry)
 - Soil samples can be reported on either a wet (as received) or dry weight basis. Dry weight data indicate calculations were made to compensate for the moisture content of the soil sample.
 - Percent (%) solids should be appropriately considered when evaluating analytical results for non-aqueous samples. Sediments with high moisture content may or may not be successfully analyzed by routine analytical methods. Samples should have greater than or equal to 30 percent solids to be appropriately quantified.
- E 1.2 Surrogate Recovery Compliance
 - Surrogates, also known as system monitoring compounds, are compounds added to each sample prior to sample preparation to determine the efficiency of the extraction procedure by evaluating the percent recovery (%R) of the compounds.
- E 1.3 Laboratory Control Samples
 - The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analyses are used to assess the precision and accuracy of the analytical method independent of matrix interferences.
- E 1.4 Matrix Spike Samples
 - Matrix spike/matrix spike duplicate (MS/MSD) data are used to assess the precision and accuracy of the analytical method and evaluate the effects of the sample matrix on the sample preparation procedures and measurement methodologies.
 - For inorganic methods, when a matrix spike recovery falls outside of the control limits and the sample result is less than four times the spike added, a post digestion spike (PDS) is performed.
- E 1.5 Blank Sample Analysis
 - Method blanks are prepared by the analytical laboratory and analyzed concurrently with the project samples to assess possible laboratory contamination.
- E 1.6 Laboratory and Field Duplicate Sample Analysis
 - The laboratory duplicate sample analysis is used by the laboratory at the time of the analysis to demonstrate acceptable method precision. The RPD or absolute difference was evaluated for each duplicate sample pair to monitor the reproducibility of the data.
 - The field duplicate sample analysis is used to assess the precision of the field sampling procedures and analytical method. The relative percent difference (RPD) or absolute difference was evaluated for each duplicate sample pair to monitor the reproducibility of the data.
- E 1.7 Precision and Accuracy

- Precision measures the reproducibility of repetitive measurements. In a laboratory environment, this will be measured by determining the relative percent difference (RPD) found between a primary and a duplicate sample. This can be an LCS/LCSD pair, a MS/MSD pair, a laboratory duplicate performed on a site sample, or a field duplicate collected and analyzed concurrently with a site sample.
 - Accuracy is a statistical measurement of the correctness of a measured value and includes components of random error (variability caused by imprecision) and systematic error. In a laboratory environment, this will be measured by determining the percent recovery (%R) of certain spiked compounds. This can be assessed using LCS, blank spike (BS), MS, and/or surrogate recoveries.
- E 1.21 Initial and Continuing Calibration Verification
 - Organic methods require an additional ICV and CCV to ensure that the instrument continues to meet the sensitivity and linearity criteria to produce acceptable qualitative and quantitative data throughout each analytical sequence. CCVs must be run at the beginning and end of every 12-hour period of operation.
 - Inorganic methods require an ICV and CCV to ensure that the instrument continues to meet the sensitivity and linearity criteria to produce acceptable qualitative and quantitative data throughout each analytical sequence. Initial calibrations must be run each time the instrument is set up and after each CCV failure. ICVs are analyzed immediately after initial calibration to verify ICAL accuracy, and CCVs are analyzed every two hours during an analytical sequence. %R is reported and must be within the specified limits (90 to 110 percent).

4. Glossary

Not all of the following symbols, acronyms, or qualifiers occur in this document.

- Sample Types:
 - EB Equipment Blank Sample
 - FB Field Blank Sample
 - FD Field Duplicate Sample
 - N Primary Sample
 - TB Trip Blank Sample
- Units:
 - $\mu\text{g/kg}$ microgram per kilogram
 - $\mu\text{g/L}$ microgram per liter
 - $\mu\text{g/m}^3$ microgram per cubic meter
 - mg/kg milligram per kilogram
 - mg/L milligram per liter
 - ppb v/v parts per billion volume/volume
 - pCi/L picocuries per liter
 - pg/g picograms per gram
- Matrices:
 - AA Ambient Air
 - GS Soil Gas
 - GW/WG Groundwater
 - QW Water Quality
 - IA Indoor Air
 - SE Sediment
 - SO Soil
 - WQ Water Quality control matrix
 - WS Surface Water
- Table Footnotes:
 - NA Not applicable
 - ND Non-detect
 - NR Not reported
- Common Symbols:
 - % percent
 - < less than
 - $\leq$ less than or equal to
 - > greater than
 - $\geq$ greater than or equal to
 - = equal
 - $^{\circ}\text{C}$ degrees Celsius
 - $\pm$ plus or minus
 - $\sim$ approximately
 - x times (multiplier)

5. Abbreviations

%D	Percent Difference	mg/kg	milligrams per kilogram
%R	Percent Recovery	MS/MSD	Matrix Spike/Matrix Spike Duplicate
%RSD	Percent Relative Standard Deviation	NA	not applicable
%v/v	Percent volume by volume	ND	Non-Detect
µg/L	micrograms per liter	NFG	National Functional Guidelines
2s	2 sigma	NH ₃	Ammonia
4,4-DDT	4 4-dichlorodiphenyltrichloroethane	NYSDEC	New York State Department of Environmental Conservation
Abs Diff	Absolute Difference		
amu	atomic mass unit	PAH	polycyclic aromatic hydrocarbon
BPJ	Best Professional Judgement	PCB	Polychlorinated Biphenyl
BS	Blank Spike	PDS	Post Digestion Spike
CCB	Continuing Calibration Blank	PEM	Performance Evaluation Mixture
CCV	Continuing Calibration Verification	PFAS	Per- and Polyfluoroalkyl Substances
CCVL	Continuing Calibration Verification Low	PFBA	Perfluorobutanoic Acid
		PFD	Perfluorodecalin
COC	Chain of Custody	PFOA	Perfluorooctanoic Acid
COM	Combined Isotope Calculation	PFOS	Perfluorooctane sulfonate
Cr (VI)	Hexavalent Chromium	PFPeA	Perfluoropentanoic Acid
CRI	Collision Reaction Interface	QAPP	Quality Assurance Project Plan
DoD	Department of Defense	QC	Quality Control
DQO	data quality objective	QSM	Quality Systems Manual
DUSR	Data Usability Summary Report	R ²	R-squared value
EMPC	Estimated Maximum Possible Concentration	Ra-226	Radium-226
		Ra-228	Radium-228
FBK	Field Blank Contamination	RESC	Resolution Check Measure
FDP	Field Duplicate	RL	Laboratory Reporting Limit
GC	Gas Chromatograph	RPD	Relative Percent Difference
GC/MS	Gas Chromatography/Mass Spectrometry	RRF	Relative Response Factors
		RT	Retention Time
GPC	Gel Permeation Chromatography	SAP	sampling analysis plan
H ₂	Hydrogen gas	SDG	Sample Delivery Group
HCl	Hydrochloric Acid	SIM	Selected ion monitoring
ICAL	Initial Calibration	SOP	Laboratory Standard Operating Procedures
ICB	Initial Calibration Blank		
ICP/MS	Inductively Coupled Plasma/ Mass Spectrometry	SPE	Solid Phase Extraction
		SVOC	Semi-Volatile Organic Compounds
ICV	Initial Calibration Verification	TIC	Tentatively Identified Compound
ICVL	Initial Calibration Verification Low	TKN	Total Kjeldahl Nitrogen
IPA	Isopropyl Alcohol	TPH	Total Petroleum Hydrocarbon
LC	Laboratory Control	TPU	Total Propagated Uncertainty
LCS/LCSD	Laboratory Control Sample/Laboratory Control Sample Duplicate	amu	atomic mass unit
		USEPA	U.S. Environmental Protection Agency
MBK	Method Blank Contamination	VOC	Volatile Organic Compounds
MDC	Minimum Detectable Concentration	WP	Work Plan
MDL	Laboratory Method Detection Limit		

6. Qualifiers

The qualifiers below are from the USEPA National Functional Guidelines and the data in the DUSR may contain these qualifiers:

- Concentration (C) Qualifiers:
 - U The compound was analyzed for but not detected. The associated value is either the compound quantitation limit if not detected by the analytical instrument or could be the reported or blank concentration if qualified by blank contamination. This can also be displayed as less than the associated compound quantitation limit (<RL or <MDL), or “ND”.
 - B The compound was found in the sample and its associated blank. Its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers:
 - E The compound was quantitated above the calibration range.
 - D The concentration is based on a diluted sample analysis.
- Validation Qualifiers:
 - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
 - J+ The result is an estimated quantity, but the result may be biased high.
 - J- The result is an estimated quantity, but the result may be biased low.
 - J/UJ as listed in exception tables J applies to detected data and UJ applies to non-detected data as reported by the laboratory.
 - UJ The compound was not detected above the reported sample quantitation limit; however, the reported limit is estimated and may or may not represent the actual limit of quantitation.
 - NJ The analysis indicated the presence of a compound for which there is presumptive evidence to make a tentative identification; the associated numerical value is an estimated concentration only.
 - R The sample results were rejected as unusable; the compound may or may not be present in the sample.
 - S Result is suspect. See DUSR for details.

References

1. United States Environmental Protection Agency, 2020a. National Functional Guidelines for Inorganic Superfund Methods Data Review. EPA-542-R-20-006. November 2020.
2. United States Environmental Protection Agency, 2020b. National Functional Guidelines for Organic Superfund Methods Data Review. EPA-540-R-20-005. November 2020.

APPENDIX B

Laboratory Reports



Analytical Resources, LLC
Analytical Chemists and Consultants

05 January 2023

Haley Aldrich
Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle, WA 98121

RE: Paccar (203653-001)

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

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

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

Associated Work Order(s)
22L0324

Associated SDG ID(s)
N/A

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

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

Analytical Resources, LLC

Kelly Bottem, Client Services Manager

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



Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 22L0324		Turn-around Requested: STANDARD		Page: 1 of 1		 Analytical Resources, LLC Analytical Chemists and Consultants 4611 South 134th Place, Suite 100 Tukwila, WA 98168 206-695-6200 206-695-6201 (fax)					
ARI Client Company: HALEY & ALDRICH		Phone:		Date: 12/13/22				Ice Present? Y			
Client Contact: A. GOODWIN A.GOODWIN@HALEYALDRICH.COM				No. of Coolers: 1				Cooler Temps: 2.0			
Client Project Name: PACAR				Analysis Requested				Notes/Comments			
Client Project #: 203653-001		Samplers: B. LITTE-GOLDSTEIN		TOTAL METALS							
Sample ID		Date	Time			Matrix	No. Containers				
SW-3		12/13/22	1040			WATER	2	X			
SW-DP			1140					X			
SW-5			1215					X			
SW-6			1255					X			
SW-MH			1340					X			
SW-MHD		↓	1400			↓	↓	X			
Comments/Special Instructions * TOTAL METALS = TOTAL COPPER, LEAD, ZINC, HEXAVALENT CHROMIUM		Relinquished by: (Signature) [Signature]		Received by: (Signature) [Signature]		Relinquished by: (Signature)		Received by: (Signature)			
		Printed Name: BLAKE LITTE-GOLDSTEIN		Printed Name: Philip Bates		Printed Name:		Printed Name:			
		Company: H&A		Company: AR		Company:		Company:			
		Date & Time: 12/13/22 1455		Date & Time: 12/13/22 14:55		Date & Time:		Date & Time:			

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

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



Haley & Aldrich

3131 Elliott Avenue, Suite 600

Seattle WA, 98121

Project: Paccar

Project Number: 203653-001

Project Manager: Haley Aldrich

Reported:

05-Jan-2023 14:29

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW-3	22L0324-01	Water	13-Dec-2022 10:40	13-Dec-2022 14:55
SW-DP	22L0324-02	Water	13-Dec-2022 11:40	13-Dec-2022 14:55
SW-5	22L0324-03	Water	13-Dec-2022 12:15	13-Dec-2022 14:55
SW-6	22L0324-04	Water	13-Dec-2022 12:55	13-Dec-2022 14:55
SW-MH	22L0324-05	Water	13-Dec-2022 13:40	13-Dec-2022 14:55
SW-MHD	22L0324-06	Water	13-Dec-2022 14:00	13-Dec-2022 14:55



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

Work Order Case Narrative

Total Metals - EPA Method 200.8

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

Initial and continuing calibrations were within method requirements.

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

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

Wet Chemistry

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

Initial and continuing calibrations were within method requirements.

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

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

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



WORK ORDER

22L0324

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

Client: Haley & Aldrich

Project Manager: Kelly Bottem

Project: Paccar

Project Number: 203653-001

Preservation Confirmation

Container ID	Container Type	pH
22L0324-01 A	HDPE NM, 500 mL	
22L0324-01 B	HDPE NM, 500 mL, 1:1 HNO3	L2 Pass (P)
22L0324-02 A	HDPE NM, 500 mL	
22L0324-02 B	HDPE NM, 500 mL, 1:1 HNO3	L2 P
22L0324-03 A	HDPE NM, 500 mL	
22L0324-03 B	HDPE NM, 500 mL, 1:1 HNO3	L2 P
22L0324-04 A	HDPE NM, 500 mL	
22L0324-04 B	HDPE NM, 500 mL, 1:1 HNO3	L2 P
22L0324-05 A	HDPE NM, 500 mL	
22L0324-05 B	HDPE NM, 500 mL, 1:1 HNO3	L2 P
22L0324-06 A	HDPE NM, 500 mL	
22L0324-06 B	HDPE NM, 500 mL, 1:1 HNO3	L2 P

Preservation Confirmed By

Date



Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Haley & Aldrich

Project Name: PAICCAT

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 22L0324

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO

Were custody papers included with the cooler? YES YES NO

Were custody papers properly filled out (ink, signed, etc.) YES YES NO

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

Time 13:15 14:55 20

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

Temp Gun ID#: 7009708

Cooler Accepted by: PFB Date: 12/13/22 Time: 14:55

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

How were bottles sealed in plastic bags? Individually Grouped Not

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI NA

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: 15.33 Split by: _____

Samples Logged by: PFB Date: 12/13/22 Time: 15:04 Labels checked by: PFB

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

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

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

SW-3
22L0324-01 (Water)

Metals and Metallic Compounds

Method: EPA 200.8

Sampled: 12/13/2022 10:40

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/03/2023 23:37

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0324-01 B 01

Preparation Batch: BKL0616

Sample Size: 25 mL

Prepared: 12/27/2022

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead	7439-92-1	1	0.0513	0.100	0.0740	ug/L	J



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

SW-3
22L0324-01 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 12/13/2022 10:40

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/03/2023 23:37

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M
Preparation Batch: BKL0616
Prepared: 12/27/2022

Sample Size: 25 mL
Final Volume: 25 mL

Extract ID: 22L0324-01 B 01

Analyte	CAS Number	Dilution	Detection	Reporting	Result	Units	Notes
			Limit	Limit			
Copper	7440-50-8	1	0.173	0.500	2.66	ug/L	
Zinc	7440-66-6	1	0.940	6.00	110	ug/L	



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

SW-3
22L0324-01 (Water)

Wet Chemistry

Method: SM 3500-Cr B-09

Sampled: 12/13/2022 10:40

Instrument: UV1800-2 Analyst: RMS

Analyzed: 12/13/2022 17:24

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 22L0324-01 A 01

Preparation Batch: BKL0343

Sample Size: 40 mL

Prepared: 12/13/2022

Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Hexavalent Chromium	1854-02-99	1.25	0.013	0.013	ND	mg/L	U



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

SW-DP
22L0324-02 (Water)

Metals and Metallic Compounds

Method: EPA 200.8

Sampled: 12/13/2022 11:40

Instrument: ICPMS1 Analyst: MCB

Analyzed: 12/28/2022 08:17

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M
Preparation Batch: BKL0517
Prepared: 12/20/2022

Sample Size: 25 mL
Final Volume: 25 mL

Extract ID: 22L0324-02 B 01

Analyte	CAS Number	Dilution	Detection	Reporting	Result	Units	Notes
			Limit	Limit			
Lead	7439-92-1	1	0.0513	0.100	0.0580	ug/L	J



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

SW-DP
22L0324-02 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 12/13/2022 11:40

Instrument: ICPMS1 Analyst: MCB

Analyzed: 12/29/2022 02:40

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M
Preparation Batch: BKL0517
Prepared: 12/20/2022

Sample Size: 25 mL
Final Volume: 25 mL

Extract ID: 22L0324-02 B 01

Analyte	CAS Number	Dilution	Detection	Reporting	Result	Units	Notes
			Limit	Limit			
Copper	7440-50-8	1	0.173	0.500	2.39	ug/L	
Zinc	7440-66-6	1	0.940	6.00	120	ug/L	



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

SW-DP
22L0324-02 (Water)

Wet Chemistry

Method: SM 3500-Cr B-09

Sampled: 12/13/2022 11:40

Instrument: UV1800-2 Analyst: RMS

Analyzed: 12/13/2022 17:26

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 22L0324-02 A 01

Preparation Batch: BKL0343

Sample Size: 40 mL

Prepared: 12/13/2022

Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Hexavalent Chromium	1854-02-99	1.25	0.013	0.013	ND	mg/L	U



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

SW-5
22L0324-03 (Water)

Metals and Metallic Compounds

Method: EPA 200.8

Sampled: 12/13/2022 12:15

Instrument: ICPMS1 Analyst: MCB

Analyzed: 12/28/2022 08:22

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M
Preparation Batch: BKL0517
Prepared: 12/20/2022

Sample Size: 25 mL
Final Volume: 25 mL

Extract ID: 22L0324-03 B 01

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead	7439-92-1	1	0.0513	0.100	0.153	ug/L	



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

SW-5
22L0324-03 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 12/13/2022 12:15

Instrument: ICPMS1 Analyst: MCB

Analyzed: 12/29/2022 02:44

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M
Preparation Batch: BKL0517
Prepared: 12/20/2022

Sample Size: 25 mL
Final Volume: 25 mL

Extract ID: 22L0324-03 B 01

Analyte	CAS Number	Dilution	Detection	Reporting	Result	Units	Notes
			Limit	Limit			
Copper	7440-50-8	1	0.173	0.500	3.09	ug/L	
Zinc	7440-66-6	1	2.92	6.00	57.9	ug/L	



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

SW-5
22L0324-03 (Water)

Wet Chemistry

Method: SM 3500-Cr B-09

Sampled: 12/13/2022 12:15

Instrument: UV1800-2 Analyst: RMS

Analyzed: 12/13/2022 17:27

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 22L0324-03 A 01

Preparation Batch: BKL0343

Sample Size: 40 mL

Prepared: 12/13/2022

Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Hexavalent Chromium	1854-02-99	1.25	0.013	0.013	ND	mg/L	U



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

SW-6
22L0324-04 (Water)

Metals and Metallic Compounds

Method: EPA 200.8

Sampled: 12/13/2022 12:55

Instrument: ICPMS1 Analyst: MCB

Analyzed: 12/28/2022 08:26

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0324-04 B 01

Preparation Batch: BKL0517

Sample Size: 25 mL

Prepared: 12/20/2022

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead	7439-92-1	1	0.0513	0.100	0.0660	ug/L	J



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

SW-6
22L0324-04 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 12/13/2022 12:55

Instrument: ICPMS1 Analyst: MCB

Analyzed: 12/29/2022 02:49

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M
Preparation Batch: BKL0517
Prepared: 12/20/2022

Sample Size: 25 mL
Final Volume: 25 mL

Extract ID: 22L0324-04 B 01

Analyte	CAS Number	Dilution	Detection	Reporting	Result	Units	Notes
			Limit	Limit			
Copper	7440-50-8	1	0.173	0.500	3.37	ug/L	
Zinc	7440-66-6	1	2.92	6.00	ND	ug/L	U



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

SW-6
22L0324-04 (Water)

Wet Chemistry

Method: SM 3500-Cr B-09

Sampled: 12/13/2022 12:55

Instrument: UV1800-2 Analyst: RMS

Analyzed: 12/13/2022 17:27

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 22L0324-04 A 01

Preparation Batch: BKL0343

Sample Size: 40 mL

Prepared: 12/13/2022

Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Hexavalent Chromium	1854-02-99	1.25	0.013	0.013	ND	mg/L	U



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

SW-MH
22L0324-05 (Water)

Metals and Metallic Compounds

Method: EPA 200.8

Sampled: 12/13/2022 13:40

Instrument: ICPMS2 Analyst: MCB

Analyzed: 12/30/2022 22:15

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0324-05 B 01

Preparation Batch: BKL0517

Sample Size: 25 mL

Prepared: 12/20/2022

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection	Reporting	Result	Units	Notes
			Limit	Limit			
Lead	7439-92-1	2	0.103	0.200	3.36	ug/L	D



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

SW-MH
22L0324-05 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 12/13/2022 13:40

Instrument: ICPMS1 Analyst: MCB

Analyzed: 12/29/2022 02:58

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M
Preparation Batch: BKL0517
Prepared: 12/20/2022

Sample Size: 25 mL
Final Volume: 25 mL

Extract ID: 22L0324-05 B 01

Analyte	CAS Number	Dilution	Detection	Reporting	Result	Units	Notes
			Limit	Limit			
Copper	7440-50-8	2	0.346	1.00	78.0	ug/L	D
Zinc	7440-66-6	2	5.84	12.0	154	ug/L	D



Haley & Aldrich
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Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

SW-MH
22L0324-05 (Water)

Wet Chemistry

Method: SM 3500-Cr B-09

Sampled: 12/13/2022 13:40

Instrument: UV1800-2 Analyst: RMS

Analyzed: 12/13/2022 17:28

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 22L0324-05 A 01

Preparation Batch: BKL0343

Sample Size: 40 mL

Prepared: 12/13/2022

Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Hexavalent Chromium	1854-02-99	1.25	0.013	0.013	ND	mg/L	U



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

SW-MHD
22L0324-06 (Water)

Metals and Metallic Compounds

Method: EPA 200.8

Sampled: 12/13/2022 14:00

Instrument: ICPMS1 Analyst: MCB

Analyzed: 12/28/2022 08:36

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M
Preparation Batch: BKL0517
Prepared: 12/20/2022

Sample Size: 25 mL
Final Volume: 25 mL

Extract ID: 22L0324-06 B 01

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead	7439-92-1	1	0.0513	0.100	2.67	ug/L	



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

SW-MHD
22L0324-06 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 12/13/2022 14:00

Instrument: ICPMS1 Analyst: MCB

Analyzed: 12/29/2022 02:54

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M
Preparation Batch: BKL0517
Prepared: 12/20/2022

Sample Size: 25 mL
Final Volume: 25 mL

Extract ID: 22L0324-06 B 01

Analyte	CAS Number	Dilution	Detection	Reporting	Result	Units	Notes
			Limit	Limit			
Copper	7440-50-8	1	0.173	0.500	82.4	ug/L	
Zinc	7440-66-6	1	0.940	6.00	153	ug/L	



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

SW-MHD
22L0324-06 (Water)

Wet Chemistry

Method: SM 3500-Cr B-09

Sampled: 12/13/2022 14:00

Instrument: UV1800-2 Analyst: RMS

Analyzed: 12/13/2022 17:29

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: No Prep Wet Chem

Extract ID: 22L0324-06 A 01

Preparation Batch: BKL0343

Sample Size: 40 mL

Prepared: 12/13/2022

Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Hexavalent Chromium	1854-02-99	1.25	0.013	0.013	ND	mg/L	U



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds - Quality Control

Batch BKL0517 - EPA 200.8 UCT-KED

Instrument: ICPMS1 Analyst: SKD

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BKL0517-BLK1)			Prepared: 20-Dec-2022 Analyzed: 20-Dec-2022 16:28									
Copper	63	ND	0.173	0.500	ug/L							U
Zinc	66	ND	2.92	6.00	ug/L							U
Zinc	67	ND	0.940	6.00	ug/L							U
Blank (BKL0517-BLK2)			Prepared: 20-Dec-2022 Analyzed: 21-Dec-2022 21:29									
Lead	208	ND	0.0513	0.100	ug/L							U
LCS (BKL0517-BS1)			Prepared: 20-Dec-2022 Analyzed: 20-Dec-2022 16:34									
Copper	63	23.4	0.173	0.500	ug/L	25.0		93.6	80-120			
Zinc	66	79.6	2.92	6.00	ug/L	80.0		99.5	80-120			
Zinc	67	74.6	0.940	6.00	ug/L	80.0		93.3	80-120			
LCS (BKL0517-BS2)			Prepared: 20-Dec-2022 Analyzed: 21-Dec-2022 21:34									
Lead	208	24.5	0.0513	0.100	ug/L	25.0		97.8	80-120			



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds - Quality Control

Batch BKL0616 - EPA 200.8

Instrument: ICPMS1 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BKL0616-BLK1)			Prepared: 27-Dec-2022 Analyzed: 27-Dec-2022 19:21									
Lead	208	ND	0.0513	0.100	ug/L							U
Copper	63	ND	0.173	0.500	ug/L							U
Zinc	66	ND	2.92	6.00	ug/L							U
Zinc	67	ND	0.940	6.00	ug/L							U
LCS (BKL0616-BS1)			Prepared: 27-Dec-2022 Analyzed: 27-Dec-2022 19:26									
Lead	208	24.9	0.0513	0.100	ug/L	25.0		99.5	80-120			
Copper	63	24.0	0.173	0.500	ug/L	25.0		95.9	80-120			
Zinc	66	76.8	2.92	6.00	ug/L	80.0		96.1	80-120			
Zinc	67	73.3	0.940	6.00	ug/L	80.0		91.6	80-120			



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

Analysis by: Analytical Resources, LLC

Wet Chemistry - Quality Control

Batch BKL0343 - SM 3500-Cr B-09

Instrument: UV1800-2 Analyst: RMS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BKL0343-BLK1)					Prepared: 13-Dec-2022 Analyzed: 13-Dec-2022 17:23						
Hexavalent Chromium	ND	0.013	0.013	mg/L							U
LCS (BKL0343-BS1)					Prepared: 13-Dec-2022 Analyzed: 13-Dec-2022 17:24						
Hexavalent Chromium	0.624	0.013	0.013	mg/L	0.630		99.1	85-115			
Duplicate (BKL0343-DUP1)					Source: 22L0324-01 Prepared: 13-Dec-2022 Analyzed: 13-Dec-2022 17:25						
Hexavalent Chromium	ND	0.013	0.013	mg/L		ND					U
Matrix Spike (BKL0343-MS1)					Source: 22L0324-01 Prepared: 13-Dec-2022 Analyzed: 13-Dec-2022 17:25						
Hexavalent Chromium	0.063	0.013	0.013	mg/L	0.0630	ND	99.8	85-115			

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



Haley & Aldrich

3131 Elliott Avenue, Suite 600

Seattle WA, 98121

Project: Paccar

Project Number: 203653-001

Project Manager: Haley Aldrich

Reported:

05-Jan-2023 14:29

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 200.8 in Water</i>	
Lead-208	NELAP,WADOE,WA-DW,DoD-ELAP
<i>EPA 200.8 UCT-KED in Water</i>	
Copper-63	NELAP,WADOE,WA-DW,DoD-ELAP
Copper-65	NELAP,WADOE,WA-DW,DoD-ELAP
Zinc-66	NELAP,WADOE,WA-DW,DoD-ELAP
Zinc-67	NELAP,WADOE,WA-DW,DoD-ELAP
<i>SM 3500-Cr B-09 in Water</i>	
Hexavalent Chromium	WADOE,NELAP

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



Haley & Aldrich
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Project: Paccar
Project Number: 203653-001
Project Manager: Haley Aldrich

Reported:
05-Jan-2023 14:29

Notes and Definitions

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



Analytical Resources, LLC
Analytical Chemists and Consultants

09 January 2023

Haley Aldrich
Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle, WA 98121

RE: Paccar

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

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

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

Associated Work Order(s)
22L0377

Associated SDG ID(s)
N/A

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

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

Analytical Resources, LLC

Kelly Bottem, Client Services Manager

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



Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 2210377	Turn-around Requested: Standard	Page: 1 of 1
ARI Client Company: Haley & Aldrich	Phone:	Date: 12/14/22 Ice Present?
Client Contact: Angie Woodman	No. of Coolers:	Cooler Temps:



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

Client Project Name: PACCAR					Analysis Requested										Notes/Comments
Client Project #:					Samplers: AN, BLC										
Sample ID	Date	Time	Matrix	No. Containers	As Total/Discrete	Vinyl Chloride	TPH-DL	Total As, Pb, Cr	VOCs						
CW-1S	12/14/22	1010	H ₂ O	5	X	X									
CW-1D		0925		2	X										
CW-6D		1710		2	X										
LW-9D		135		5	X	X									
LW-9S		1105		2	X										
MW-3I		1520		2	X										
LW-900D		1345		5	X	X									
CH Tank		1730					X	X	X						

Comments/Special Instructions	Relinquished by: (Signature) Andrew Walcher	Received by: (Signature) Alvaro A.	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Andrew Walcher	Printed Name:	Printed Name:	Printed Name:
	Company: ASA	Company: AR, LLC	Company:	Company:
	Date & Time: 12/14/22 1820	Date & Time: 12/14/22 1824	Date & Time:	Date & Time:

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

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



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CW-15	22L0377-01	Water	14-Dec-2022 10:10	14-Dec-2022 18:20
CW-15	22L0377-02	Water	14-Dec-2022 10:10	14-Dec-2022 18:20
CW-1D	22L0377-03	Water	14-Dec-2022 09:25	14-Dec-2022 18:20
CW-1D	22L0377-04	Water	14-Dec-2022 09:25	14-Dec-2022 18:20
LW-6D	22L0377-05	Water	14-Dec-2022 17:10	14-Dec-2022 18:20
LW-6D	22L0377-06	Water	14-Dec-2022 17:10	14-Dec-2022 18:20
LW-9D	22L0377-07	Water	14-Dec-2022 13:15	14-Dec-2022 18:20
LW-9D	22L0377-08	Water	14-Dec-2022 13:15	14-Dec-2022 18:20
LW-9S	22L0377-09	Water	14-Dec-2022 11:05	14-Dec-2022 18:20
LW-9S	22L0377-10	Water	14-Dec-2022 11:05	14-Dec-2022 18:20
MW-3I	22L0377-11	Water	14-Dec-2022 15:20	14-Dec-2022 18:20
MW-3I	22L0377-12	Water	14-Dec-2022 15:20	14-Dec-2022 18:20
LW-900D	22L0377-13	Water	14-Dec-2022 13:45	14-Dec-2022 18:20
LW-900D	22L0377-14	Water	14-Dec-2022 13:45	14-Dec-2022 18:20
KWTANK	22L0377-15	Water	14-Dec-2022 17:30	14-Dec-2022 18:20
Trip Blanks	22L0377-16	Water	14-Dec-2022 10:10	14-Dec-2022 18:20



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

Work Order Case Narrative

Volatiles - EPA Method SW8260D

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

Initial and continuing calibrations were within method requirements with the exception of all associated "Q" flagged analytes which are out of control high in the CCAL. All associated samples that contain analyte have been flagged with a "Q" qualifier.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

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

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent difference (RPD) were within control limits with the exception of analytes flagged on the associated forms.

Volatiles - EPA Method 8260D-SIM (Selected Ion Monitoring)

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

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

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

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

Dissolved and Total Metals - EPA Method 200.8

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

Initial and continuing calibrations were within method requirements.

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

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



Haley & Aldrich

3131 Elliott Avenue, Suite 600

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Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

09-Jan-2023 17:30

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx

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

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

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

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



Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Haley & Aldrich
COC No(s): _____ (NA)
Assigned ARI Job No: 2210377

Project Name: Pacco
Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO
Were custody papers included with the cooler? YES NO
Were custody papers properly filled out (ink, signed, etc.) YES NO
Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 2.3 3.1
Time 18:48 18:00 18:30 #1 #2
If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: Unknown

Cooler Accepted by: JS - for AA Date: 12/14/22 Time: 18:48 18:00
JS Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO
What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____
Was sufficient ice used (if appropriate)? NA YES NO
How were bottles sealed in plastic bags? Individually Grouped Not
Did all bottles arrive in good condition (unbroken)? YES NO
Were all bottle labels complete and legible? YES NO
Did the number of containers listed on COC match with the number of containers received? YES NO
Did all bottle labels and tags agree with custody papers? YES NO
Were all bottles used correct for the requested analyses? YES NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO
Were all VOC vials free of air bubbles? NA YES NO
Was sufficient amount of sample sent in each bottle? JS YES NO
Date VOC Trip Blank was made at ARI: NA 12/13/22
Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: Quinn Date: 12/15/22 Time: 9:03 Labels checked by: PLB

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

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

Additional Notes, Discrepancies, & Resolutions: Trip Blanks not listed on COC, from samples or were
Samples were delivered after normal receiving hours,
and a temperature was not taken & noted, upon
receipt. Samples were packed w/ ice. Sample temps taken
upon documentation ~ 18:30
By: JS - for AA Date: 12/14/22



WORK ORDER

22L0377

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

Client: Haley & Aldrich

Project Manager: Kelly Bottem

Project: Paccar

Project Number: [none]

Preservation Confirmation

Container ID	Container Type	pH
22L0377-01 A	HDPE NM, 500 mL, 1:1 HNO3	7.2 Pass
22L0377-01 B	VOA Vial, Clear, 40 mL, HCL	
22L0377-01 C	VOA Vial, Clear, 40 mL, HCL	
22L0377-01 D	VOA Vial, Clear, 40 mL, HCL	
22L0377-02 A	HDPE NM, 500 mL	7.2 Fail
22L0377-03 A	HDPE NM, 500 mL, 1:1 HNO3	7.2 Pass
22L0377-04 A	HDPE NM, 500 mL	7.2 Fail
22L0377-05 A	HDPE NM, 500 mL, 1:1 HNO3	7.2 Pass
22L0377-06 A	HDPE NM, 500 mL	7.2 Fail
22L0377-07 A	HDPE NM, 500 mL, 1:1 HNO3	7.2 Pass
22L0377-07 B	VOA Vial, Clear, 40 mL, HCL	
22L0377-07 C	VOA Vial, Clear, 40 mL, HCL	
22L0377-07 D	VOA Vial, Clear, 40 mL, HCL	
22L0377-08 A	HDPE NM, 500 mL	7.2 Fail
22L0377-09 A	HDPE NM, 500 mL, 1:1 HNO3	7.2 Pass
22L0377-10 A	HDPE NM, 500 mL	7.2 Fail
22L0377-11 A	HDPE NM, 500 mL, 1:1 HNO3	7.2 Pass
22L0377-12 A	HDPE NM, 500 mL	7.2 Fail
22L0377-13 A	HDPE NM, 500 mL, 1:1 HNO3	7.2 Pass
22L0377-13 B	VOA Vial, Clear, 40 mL, HCL	
22L0377-13 C	VOA Vial, Clear, 40 mL, HCL	
22L0377-13 D	VOA Vial, Clear, 40 mL, HCL	
22L0377-14 A	HDPE NM, 500 mL	7.2 Fail
22L0377-15 A	HDPE NM, 500 mL, 1:1 HNO3	7.2 Pass
22L0377-15 B	Glass NM, Amber, 500 mL	
22L0377-15 C	Glass NM, Amber, 500 mL	
22L0377-15 D	VOA Vial, Clear, 40 mL, HCL	
22L0377-15 E	VOA Vial, Clear, 40 mL, HCL	
22L0377-15 F	VOA Vial, Clear, 40 mL, HCL	
22L0377-16 A	VOA Vial, Clear, 40 mL, HCL	
22L0377-16 B	VOA Vial, Clear, 40 mL, HCL	

[Signature]

Preservation Confirmed By

[Signature]

Date



WORK ORDER

22L0377

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

Client: Haley & Aldrich

Project Manager: Kelly Bottem

Project: Paccar

Project Number: [none]

Preservation Confirmation

Container ID	Container Type	pH
22L0377-01 A	HDPE NM, 500 mL, 1:1 HNO ₃	7.2 Pass
22L0377-01 B	VOA Vial, Clear, 40 mL, HCL	
22L0377-01 C	VOA Vial, Clear, 40 mL, HCL	
22L0377-01 D	VOA Vial, Clear, 40 mL, HCL	
22L0377-02 A	HDPE NM, 500 mL	7.2 Fail (1)
22L0377-03 A	HDPE NM, 500 mL, 1:1 HNO ₃	7.2 Pass
22L0377-04 A	HDPE NM, 500 mL	7.2 Fail (1)
22L0377-05 A	HDPE NM, 500 mL, 1:1 HNO ₃	7.2 Pass
22L0377-06 A	HDPE NM, 500 mL	7.2 Fail (1)
22L0377-07 A	HDPE NM, 500 mL, 1:1 HNO ₃	7.2 Pass
22L0377-07 B	VOA Vial, Clear, 40 mL, HCL	
22L0377-07 C	VOA Vial, Clear, 40 mL, HCL	
22L0377-07 D	VOA Vial, Clear, 40 mL, HCL	
22L0377-08 A	HDPE NM, 500 mL	7.2 Fail (1)
22L0377-09 A	HDPE NM, 500 mL, 1:1 HNO ₃	7.2 Pass
22L0377-10 A	HDPE NM, 500 mL	7.2 Fail (1)
22L0377-11 A	HDPE NM, 500 mL, 1:1 HNO ₃	7.2 Pass
22L0377-12 A	HDPE NM, 500 mL	7.2 Fail (1)
22L0377-13 A	HDPE NM, 500 mL, 1:1 HNO ₃	7.2 Pass
22L0377-13 B	VOA Vial, Clear, 40 mL, HCL	
22L0377-13 C	VOA Vial, Clear, 40 mL, HCL	
22L0377-13 D	VOA Vial, Clear, 40 mL, HCL	
22L0377-14 A	HDPE NM, 500 mL	7.2 Fail (1)
22L0377-15 A	HDPE NM, 500 mL, 1:1 HNO ₃	7.2 Pass
22L0377-15 B	Glass NM, Amber, 500 mL	
22L0377-15 C	Glass NM, Amber, 500 mL	
22L0377-15 D	VOA Vial, Clear, 40 mL, HCL	
22L0377-15 E	VOA Vial, Clear, 40 mL, HCL	
22L0377-15 F	VOA Vial, Clear, 40 mL, HCL	
22L0377-16 A	VOA Vial, Clear, 40 mL, HCL	
22L0377-16 B	VOA Vial, Clear, 40 mL, HCL	

DMB
Preservation Confirmed By

12/15/22
Date

(1) Filtered at 0.45um and
preserved to pH 2.0 with 0.75ml
conc. HNO₃ (K11506).
ML 12/16/22

Reviewed By

Date



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

CW-15
22L0377-01 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM

Sampled: 12/14/2022 10:10

Instrument: NT16 Analyst: KOTT

Analyzed: 12/15/2022 14:59

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 22L0377-01 C

Preparation Batch: BKL0400

Sample Size: 10 mL

Prepared: 12/15/2022

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	5.01	20.0	20.8	ng/L	
Surrogate: 1,2-Dichloroethane-d4				80-129 %	96.9	%	
Surrogate: Toluene-d8				80-120 %	88.7	%	
Surrogate: 4-Bromofluorobenzene				75-125 %	93.1	%	



Haley & Aldrich

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Seattle WA, 98121

Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

09-Jan-2023 17:30

CW-15

22L0377-01 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 10:10

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 05:31

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-01 A 01

Preparation Batch: BKL0716

Sample Size: 25 mL

Prepared: 12/30/2022

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0373	0.200	0.599	ug/L	



Haley & Aldrich

3131 Elliott Avenue, Suite 600

Seattle WA, 98121

Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

09-Jan-2023 17:30

CW-15

22L0377-02 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 10:10

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 01:37

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-02 A 02

Preparation Batch: BKL0699

Filtration Batch: BKL0437

Prepared: 12/29/2022

Sample Size: 25 mL

Final Volume: 25 mL

Filtration Date: 12/16/2022 14:30

Analyte	CAS Number	Dilution	Detection	Reporting	Result	Units	Notes
			Limit	Limit			
Arsenic, Dissolved	7440-38-2	1	0.0373	0.200	0.344	ug/L	



Haley & Aldrich

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Seattle WA, 98121

Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

09-Jan-2023 17:30

CW-1D

22L0377-03 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 09:25

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 05:35

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-03 A 01

Preparation Batch: BKL0716

Sample Size: 25 mL

Prepared: 12/30/2022

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0373	0.200	0.0610	ug/L	J



Haley & Aldrich

3131 Elliott Avenue, Suite 600

Seattle WA, 98121

Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

09-Jan-2023 17:30

CW-1D

22L0377-04 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 09:25

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 01:11

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-04 A 02

Preparation Batch: BKL0699

Filtration Batch: BKL0437

Prepared: 12/29/2022

Sample Size: 25 mL

Final Volume: 25 mL

Filtration Date: 12/16/2022 14:30

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0373	0.200	0.0680	ug/L	J



Haley & Aldrich

3131 Elliott Avenue, Suite 600

Seattle WA, 98121

Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

09-Jan-2023 17:30

LW-6D

22L0377-05 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 17:10

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 05:40

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-05 A 01

Preparation Batch: BKL0716

Sample Size: 25 mL

Prepared: 12/30/2022

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0373	0.200	9.84	ug/L	



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Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

09-Jan-2023 17:30

LW-6D

22L0377-06 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 17:10

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 01:16

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-06 A 02

Preparation Batch: BKL0699

Filtration Batch: BKL0437

Prepared: 12/29/2022

Sample Size: 25 mL

Final Volume: 25 mL

Filtration Date: 12/16/2022 14:30

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0373	0.200	3.58	ug/L	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

LW-9D
22L0377-07 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM

Sampled: 12/14/2022 13:15

Instrument: NT16 Analyst: KOTT

Analyzed: 12/15/2022 15:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap)
Preparation Batch: BKL0400
Prepared: 12/15/2022

Sample Size: 10 mL
Final Volume: 10 mL

Extract ID: 22L0377-07 B

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	5.01	20.0	470	ng/L	
Surrogate: 1,2-Dichloroethane-d4				80-129 %	98.4	%	
Surrogate: Toluene-d8				80-120 %	87.1	%	
Surrogate: 4-Bromofluorobenzene				75-125 %	93.0	%	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

LW-9D
22L0377-07 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 13:15

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 05:44

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M
Preparation Batch: BKL0716
Prepared: 12/30/2022

Sample Size: 25 mL
Final Volume: 25 mL

Extract ID: 22L0377-07 A 01

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0373	0.200	9.02	ug/L	



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Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

09-Jan-2023 17:30

LW-9D

22L0377-08 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 13:15

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 01:20

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-08 A 02

Preparation Batch: BKL0699

Filtration Batch: BKL0437

Prepared: 12/29/2022

Sample Size: 25 mL

Final Volume: 25 mL

Filtration Date: 12/16/2022 14:30

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0373	0.200	2.93	ug/L	



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Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

09-Jan-2023 17:30

LW-9S

22L0377-09 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 11:05

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 05:48

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-09 A 01

Preparation Batch: BKL0716

Sample Size: 25 mL

Prepared: 12/30/2022

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0373	0.200	0.956	ug/L	



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Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

09-Jan-2023 17:30

LW-9S

22L0377-10 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 11:05

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 01:24

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-10 A 02

Preparation Batch: BKL0699

Sample Size: 25 mL

Filtration Batch: BKL0437

Prepared: 12/29/2022

Final Volume: 25 mL

Filtration Date: 12/16/2022 14:30

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0373	0.200	0.414	ug/L	



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Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

09-Jan-2023 17:30

MW-3I

22L0377-11 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 15:20

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 05:53

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-11 A 01

Preparation Batch: BKL0716

Sample Size: 25 mL

Prepared: 12/30/2022

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0373	0.200	18.1	ug/L	



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Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

09-Jan-2023 17:30

MW-3I

22L0377-12 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 15:20

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 01:29

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-12 A 02

Preparation Batch: BKL0699

Filtration Batch: BKL0437

Prepared: 12/29/2022

Sample Size: 25 mL

Final Volume: 25 mL

Filtration Date: 12/16/2022 14:30

Analyte	CAS Number	Dilution	Detection	Reporting	Result	Units	Notes
			Limit	Limit			
Arsenic, Dissolved	7440-38-2	1	0.0373	0.200	1.01	ug/L	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

LW-900D
22L0377-13 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM

Sampled: 12/14/2022 13:45

Instrument: NT16 Analyst: KOTT

Analyzed: 12/15/2022 15:41

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap)
Preparation Batch: BKL0400
Prepared: 12/15/2022

Sample Size: 10 mL
Final Volume: 10 mL

Extract ID: 22L0377-13 B

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	5.01	20.0	462	ng/L	
Surrogate: 1,2-Dichloroethane-d4				80-129 %	97.8	%	
Surrogate: Toluene-d8				80-120 %	87.6	%	
Surrogate: 4-Bromofluorobenzene				75-125 %	92.4	%	



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Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

09-Jan-2023 17:30

LW-900D

22L0377-13 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 13:45

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 05:57

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-13 A 01

Preparation Batch: BKL0716

Sample Size: 25 mL

Prepared: 12/30/2022

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0373	0.200	8.70	ug/L	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

LW-900D
22L0377-14 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 13:45

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 01:33

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-14 A 02

Preparation Batch: BKL0699

Sample Size: 25 mL

Filtration Batch: BKL0437

Prepared: 12/29/2022

Final Volume: 25 mL

Filtration Date: 12/16/2022 14:30

Analyte	CAS Number	Dilution	Detection	Reporting	Result	Units	Notes
			Limit	Limit			
Arsenic, Dissolved	7440-38-2	1	0.0373	0.200	2.70	ug/L	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

KWTANK
22L0377-15 (Water)

Volatile Organic Compounds

Method: EPA 8260D

Sampled: 12/14/2022 17:30

Instrument: NT2 Analyst: LH

Analyzed: 12/15/2022 11:48

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 22L0377-15 D

Preparation Batch: BKL0388

Sample Size: 10 mL

Prepared: 12/15/2022

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.27	0.50	ND	ug/L	U
Vinyl Chloride	75-01-4	1	0.08	0.20	ND	ug/L	U
Bromomethane	74-83-9	1	0.74	1.00	ND	ug/L	U
Chloroethane	75-00-3	1	0.18	0.20	ND	ug/L	U
Trichlorofluoromethane	75-69-4	1	0.13	0.20	ND	ug/L	U
Acrolein	107-02-8	1	2.70	5.00	ND	ug/L	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.11	0.20	ND	ug/L	U
Acetone	67-64-1	1	4.33	5.00	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.08	0.20	ND	ug/L	U
Iodomethane	74-88-4	1	0.43	1.00	ND	ug/L	U
Methylene Chloride	75-09-2	1	0.53	1.00	ND	ug/L	U
Acrylonitrile	107-13-1	1	0.40	1.00	ND	ug/L	U
Carbon Disulfide	75-15-0	1	0.12	0.20	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.07	0.20	ND	ug/L	U
Vinyl Acetate	108-05-4	1	0.12	0.20	ND	ug/L	U
1,1-Dichloroethane	75-34-3	1	0.09	0.20	ND	ug/L	U
2-Butanone	78-93-3	1	1.77	5.00	ND	ug/L	U
2,2-Dichloropropane	594-20-7	1	0.11	0.20	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.08	0.20	ND	ug/L	U
Chloroform	67-66-3	1	0.05	0.20	ND	ug/L	U
Bromochloromethane	74-97-5	1	0.09	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.08	0.20	ND	ug/L	U
1,1-Dichloropropene	563-58-6	1	0.09	0.20	ND	ug/L	U
Carbon tetrachloride	56-23-5	1	0.09	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.08	0.20	ND	ug/L	U
Benzene	71-43-2	1	0.05	0.20	ND	ug/L	U
Trichloroethene	79-01-6	1	0.07	0.20	ND	ug/L	U
1,2-Dichloropropane	78-87-5	1	0.07	0.20	ND	ug/L	U
Bromodichloromethane	75-27-4	1	0.09	0.20	ND	ug/L	U
Dibromomethane	74-95-3	1	0.06	0.20	ND	ug/L	U
2-Chloroethyl vinyl ether	110-75-8	1	0.55	1.00	ND	ug/L	U
4-Methyl-2-Pentanone	108-10-1	1	1.90	5.00	ND	ug/L	U
cis-1,3-Dichloropropene	10061-01-5	1	0.09	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.05	0.20	0.08	ug/L	J



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

KWTANK
22L0377-15 (Water)

Volatile Organic Compounds

Method: EPA 8260D

Sampled: 12/14/2022 17:30

Instrument: NT2 Analyst: LH

Analyzed: 12/15/2022 11:48

Analysis by: Analytical Resources, LLC

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
trans-1,3-Dichloropropene	10061-02-6	1	0.09	0.20	ND	ug/L	U
2-Hexanone	591-78-6	1	2.06	5.00	ND	ug/L	U
1,1,2-Trichloroethane	79-00-5	1	0.10	0.20	ND	ug/L	U
1,3-Dichloropropane	142-28-9	1	0.07	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.09	0.20	ND	ug/L	U
Dibromochloromethane	124-48-1	1	0.09	0.20	ND	ug/L	U
1,2-Dibromoethane	106-93-4	1	0.09	0.20	ND	ug/L	U
Chlorobenzene	108-90-7	1	0.06	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.05	0.20	ND	ug/L	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.09	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.14	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.08	0.20	ND	ug/L	U
Xylenes, total	1330-20-7	1	0.22	0.60	ND	ug/L	U
Styrene	100-42-5	1	0.09	0.20	ND	ug/L	U
Bromoform	75-25-2	1	0.15	0.20	ND	ug/L	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.10	0.20	ND	ug/L	U
1,2,3-Trichloropropane	96-18-4	1	0.16	0.50	ND	ug/L	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.60	1.00	ND	ug/L	U
n-Propylbenzene	103-65-1	1	0.07	0.20	ND	ug/L	U
Bromobenzene	108-86-1	1	0.07	0.20	ND	ug/L	U
Isopropyl Benzene	98-82-8	1	0.07	0.20	ND	ug/L	U
2-Chlorotoluene	95-49-8	1	0.06	0.20	ND	ug/L	U
4-Chlorotoluene	106-43-4	1	0.06	0.20	ND	ug/L	U
t-Butylbenzene	98-06-6	1	0.07	0.20	ND	ug/L	U
1,3,5-Trimethylbenzene	108-67-8	1	0.07	0.20	ND	ug/L	U
1,2,4-Trimethylbenzene	95-63-6	1	0.10	0.20	ND	ug/L	U
s-Butylbenzene	135-98-8	1	0.06	0.20	ND	ug/L	U
4-Isopropyl Toluene	99-87-6	1	0.08	0.20	ND	ug/L	U
1,3-Dichlorobenzene	541-73-1	1	0.08	0.20	ND	ug/L	U
1,4-Dichlorobenzene	106-46-7	1	0.10	0.20	ND	ug/L	U
n-Butylbenzene	104-51-8	1	0.18	0.20	ND	ug/L	U
1,2-Dichlorobenzene	95-50-1	1	0.08	0.20	ND	ug/L	U
1,2-Dibromo-3-chloropropane	96-12-8	1	0.39	0.50	ND	ug/L	U
1,2,4-Trichlorobenzene	120-82-1	1	0.21	0.50	ND	ug/L	U
Hexachloro-1,3-Butadiene	87-68-3	1	1.00	2.00	ND	ug/L	U
Naphthalene	91-20-3	1	0.27	0.50	ND	ug/L	U
1,2,3-Trichlorobenzene	87-61-6	1	0.25	0.50	ND	ug/L	U



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

KWTANK
22L0377-15 (Water)

Volatile Organic Compounds

Method: EPA 8260D

Sampled: 12/14/2022 17:30

Instrument: NT2 Analyst: LH

Analyzed: 12/15/2022 11:48

Analysis by: Analytical Resources, LLC

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Dichlorodifluoromethane	75-71-8	1	0.13	0.20	ND	ug/L	U
Methyl tert-butyl Ether	1634-04-4	1	0.14	0.50	ND	ug/L	U
2-Pentanone	107-87-9	1	2.34	5.00	ND	ug/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>				<i>80-129 %</i>	<i>118</i>	<i>%</i>	
<i>Surrogate: Toluene-d8</i>				<i>80-120 %</i>	<i>96.2</i>	<i>%</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>				<i>80-120 %</i>	<i>89.1</i>	<i>%</i>	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>				<i>80-120 %</i>	<i>100</i>	<i>%</i>	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

KWTANK
22L0377-15 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 12/14/2022 17:30

Instrument: FID4 Analyst: AA

Analyzed: 12/19/2022 10:43

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BKL0436
Prepared: 12/16/2022

Sample Size: 500 mL
Final Volume: 1 mL

Extract ID: 22L0377-15 B 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
<i>Surrogate: o-Terphenyl</i>			<i>50-150 %</i>	<i>114</i>	<i>%</i>	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

KWTANK
22L0377-15 (Water)

Metals and Metallic Compounds

Method: EPA 200.8

Sampled: 12/14/2022 17:30

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 20:35

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-15 A 01

Preparation Batch: BKL0716

Sample Size: 25 mL

Prepared: 12/30/2022

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chromium	7440-47-3	2	0.520	1.00	1.90	ug/L	D
Lead	7439-92-1	1	0.0513	0.100	2.06	ug/L	



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Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

09-Jan-2023 17:30

KWTANK

22L0377-15 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 17:30

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 06:02

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-15 A 01

Preparation Batch: BKL0716

Sample Size: 25 mL

Prepared: 12/30/2022

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0373	0.200	8.35	ug/L	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

Trip Blanks
22L0377-16 (Water)

Volatile Organic Compounds

Method: EPA 8260D

Sampled: 12/14/2022 10:10

Instrument: NT2 Analyst: LH

Analyzed: 12/15/2022 11:28

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 22L0377-16 A

Preparation Batch: BKL0388

Sample Size: 10 mL

Prepared: 12/15/2022

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.27	0.50	ND	ug/L	U
Vinyl Chloride	75-01-4	1	0.08	0.20	ND	ug/L	U
Bromomethane	74-83-9	1	0.74	1.00	ND	ug/L	U
Chloroethane	75-00-3	1	0.18	0.20	ND	ug/L	U
Trichlorofluoromethane	75-69-4	1	0.13	0.20	ND	ug/L	U
Acrolein	107-02-8	1	2.70	5.00	ND	ug/L	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.11	0.20	ND	ug/L	U
Acetone	67-64-1	1	4.33	5.00	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.08	0.20	ND	ug/L	U
Iodomethane	74-88-4	1	0.43	1.00	ND	ug/L	U
Methylene Chloride	75-09-2	1	0.53	1.00	ND	ug/L	U
Acrylonitrile	107-13-1	1	0.40	1.00	ND	ug/L	U
Carbon Disulfide	75-15-0	1	0.12	0.20	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.07	0.20	ND	ug/L	U
Vinyl Acetate	108-05-4	1	0.12	0.20	ND	ug/L	U
1,1-Dichloroethane	75-34-3	1	0.09	0.20	ND	ug/L	U
2-Butanone	78-93-3	1	1.77	5.00	ND	ug/L	U
2,2-Dichloropropane	594-20-7	1	0.11	0.20	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.08	0.20	ND	ug/L	U
Chloroform	67-66-3	1	0.05	0.20	ND	ug/L	U
Bromochloromethane	74-97-5	1	0.09	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.08	0.20	ND	ug/L	U
1,1-Dichloropropene	563-58-6	1	0.09	0.20	ND	ug/L	U
Carbon tetrachloride	56-23-5	1	0.09	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.08	0.20	ND	ug/L	U
Benzene	71-43-2	1	0.05	0.20	ND	ug/L	U
Trichloroethene	79-01-6	1	0.07	0.20	ND	ug/L	U
1,2-Dichloropropane	78-87-5	1	0.07	0.20	ND	ug/L	U
Bromodichloromethane	75-27-4	1	0.09	0.20	ND	ug/L	U
Dibromomethane	74-95-3	1	0.06	0.20	ND	ug/L	U
2-Chloroethyl vinyl ether	110-75-8	1	0.55	1.00	ND	ug/L	U
4-Methyl-2-Pentanone	108-10-1	1	1.90	5.00	ND	ug/L	U
cis-1,3-Dichloropropene	10061-01-5	1	0.09	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.05	0.20	ND	ug/L	U



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

Trip Blanks
22L0377-16 (Water)

Volatile Organic Compounds

Method: EPA 8260D

Sampled: 12/14/2022 10:10

Instrument: NT2 Analyst: LH

Analyzed: 12/15/2022 11:28

Analysis by: Analytical Resources, LLC

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
trans-1,3-Dichloropropene	10061-02-6	1	0.09	0.20	ND	ug/L	U
2-Hexanone	591-78-6	1	2.06	5.00	ND	ug/L	U
1,1,2-Trichloroethane	79-00-5	1	0.10	0.20	ND	ug/L	U
1,3-Dichloropropane	142-28-9	1	0.07	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.09	0.20	ND	ug/L	U
Dibromochloromethane	124-48-1	1	0.09	0.20	ND	ug/L	U
1,2-Dibromoethane	106-93-4	1	0.09	0.20	ND	ug/L	U
Chlorobenzene	108-90-7	1	0.06	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.05	0.20	ND	ug/L	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.09	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.14	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.08	0.20	ND	ug/L	U
Xylenes, total	1330-20-7	1	0.22	0.60	ND	ug/L	U
Styrene	100-42-5	1	0.09	0.20	ND	ug/L	U
Bromoform	75-25-2	1	0.15	0.20	ND	ug/L	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.10	0.20	ND	ug/L	U
1,2,3-Trichloropropane	96-18-4	1	0.16	0.50	ND	ug/L	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.60	1.00	ND	ug/L	U
n-Propylbenzene	103-65-1	1	0.07	0.20	ND	ug/L	U
Bromobenzene	108-86-1	1	0.07	0.20	ND	ug/L	U
Isopropyl Benzene	98-82-8	1	0.07	0.20	ND	ug/L	U
2-Chlorotoluene	95-49-8	1	0.06	0.20	ND	ug/L	U
4-Chlorotoluene	106-43-4	1	0.06	0.20	ND	ug/L	U
t-Butylbenzene	98-06-6	1	0.07	0.20	ND	ug/L	U
1,3,5-Trimethylbenzene	108-67-8	1	0.07	0.20	ND	ug/L	U
1,2,4-Trimethylbenzene	95-63-6	1	0.10	0.20	ND	ug/L	U
s-Butylbenzene	135-98-8	1	0.06	0.20	ND	ug/L	U
4-Isopropyl Toluene	99-87-6	1	0.08	0.20	ND	ug/L	U
1,3-Dichlorobenzene	541-73-1	1	0.08	0.20	ND	ug/L	U
1,4-Dichlorobenzene	106-46-7	1	0.10	0.20	ND	ug/L	U
n-Butylbenzene	104-51-8	1	0.18	0.20	ND	ug/L	U
1,2-Dichlorobenzene	95-50-1	1	0.08	0.20	ND	ug/L	U
1,2-Dibromo-3-chloropropane	96-12-8	1	0.39	0.50	ND	ug/L	U
1,2,4-Trichlorobenzene	120-82-1	1	0.21	0.50	ND	ug/L	U
Hexachloro-1,3-Butadiene	87-68-3	1	1.00	2.00	ND	ug/L	U
Naphthalene	91-20-3	1	0.27	0.50	ND	ug/L	U
1,2,3-Trichlorobenzene	87-61-6	1	0.25	0.50	ND	ug/L	U



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

Trip Blanks
22L0377-16 (Water)

Volatile Organic Compounds

Method: EPA 8260D

Sampled: 12/14/2022 10:10

Instrument: NT2 Analyst: LH

Analyzed: 12/15/2022 11:28

Analysis by: Analytical Resources, LLC

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Dichlorodifluoromethane	75-71-8	1	0.13	0.20	ND	ug/L	U
Methyl tert-butyl Ether	1634-04-4	1	0.14	0.50	ND	ug/L	U
2-Pentanone	107-87-9	1	2.34	5.00	ND	ug/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>				<i>80-129 %</i>	<i>111</i>	<i>%</i>	
<i>Surrogate: Toluene-d8</i>				<i>80-120 %</i>	<i>96.0</i>	<i>%</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>				<i>80-120 %</i>	<i>90.6</i>	<i>%</i>	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>				<i>80-120 %</i>	<i>96.7</i>	<i>%</i>	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

Trip Blanks
22L0377-16 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM

Sampled: 12/14/2022 10:10

Instrument: NT16 Analyst: KOTT

Analyzed: 12/15/2022 14:38

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 22L0377-16 B

Preparation Batch: BKL0400

Sample Size: 10 mL

Prepared: 12/15/2022

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	5.01	20.0	ND	ng/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	95.8	%	
Surrogate: Toluene-d8				80-120 %	88.8	%	
Surrogate: 4-Bromofluorobenzene				75-125 %	93.3	%	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BKL0388 - EPA 8260D

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BKL0388-BLK1)						Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 09:19					
Chloromethane	ND	0.27	0.50	ug/L							U
Vinyl Chloride	ND	0.08	0.20	ug/L							U
Bromomethane	ND	0.74	1.00	ug/L							U
Chloroethane	ND	0.18	0.20	ug/L							U
Trichlorofluoromethane	ND	0.13	0.20	ug/L							U
Acrolein	ND	2.70	5.00	ug/L							U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.11	0.20	ug/L							U
Acetone	ND	4.33	5.00	ug/L							U
1,1-Dichloroethene	ND	0.08	0.20	ug/L							U
Iodomethane	ND	0.43	1.00	ug/L							U
Methylene Chloride	ND	0.53	1.00	ug/L							U
Acrylonitrile	ND	0.40	1.00	ug/L							U
Carbon Disulfide	ND	0.12	0.20	ug/L							U
trans-1,2-Dichloroethene	ND	0.07	0.20	ug/L							U
Vinyl Acetate	ND	0.12	0.20	ug/L							U
1,1-Dichloroethane	ND	0.09	0.20	ug/L							U
2-Butanone	ND	1.77	5.00	ug/L							U
2,2-Dichloropropane	ND	0.11	0.20	ug/L							U
cis-1,2-Dichloroethene	ND	0.08	0.20	ug/L							U
Chloroform	ND	0.05	0.20	ug/L							U
Bromochloromethane	ND	0.09	0.20	ug/L							U
1,1,1-Trichloroethane	ND	0.08	0.20	ug/L							U
1,1-Dichloropropene	ND	0.09	0.20	ug/L							U
Carbon tetrachloride	ND	0.09	0.20	ug/L							U
1,2-Dichloroethane	ND	0.08	0.20	ug/L							U
Benzene	ND	0.05	0.20	ug/L							U
Trichloroethene	ND	0.07	0.20	ug/L							U
1,2-Dichloropropane	ND	0.07	0.20	ug/L							U
Bromodichloromethane	ND	0.09	0.20	ug/L							U
Dibromomethane	ND	0.06	0.20	ug/L							U
2-Chloroethyl vinyl ether	ND	0.55	1.00	ug/L							U
4-Methyl-2-Pentanone	ND	1.90	5.00	ug/L							U
cis-1,3-Dichloropropene	ND	0.09	0.20	ug/L							U
Toluene	ND	0.05	0.20	ug/L							U
trans-1,3-Dichloropropene	ND	0.09	0.20	ug/L							U



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BKL0388 - EPA 8260D

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BKL0388-BLK1)						Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 09:19					
2-Hexanone	ND	2.06	5.00	ug/L							U
1,1,2-Trichloroethane	ND	0.10	0.20	ug/L							U
1,3-Dichloropropane	ND	0.07	0.20	ug/L							U
Tetrachloroethene	ND	0.09	0.20	ug/L							U
Dibromochloromethane	ND	0.09	0.20	ug/L							U
1,2-Dibromoethane	ND	0.09	0.20	ug/L							U
Chlorobenzene	ND	0.06	0.20	ug/L							U
Ethylbenzene	ND	0.05	0.20	ug/L							U
1,1,1,2-Tetrachloroethane	ND	0.09	0.20	ug/L							U
m,p-Xylene	ND	0.14	0.40	ug/L							U
o-Xylene	ND	0.08	0.20	ug/L							U
Xylenes, total	ND	0.22	0.60	ug/L							U
Styrene	ND	0.09	0.20	ug/L							U
Bromoform	ND	0.15	0.20	ug/L							U
1,1,2,2-Tetrachloroethane	ND	0.10	0.20	ug/L							U
1,2,3-Trichloropropane	ND	0.16	0.50	ug/L							U
trans-1,4-Dichloro 2-Butene	ND	0.60	1.00	ug/L							U
n-Propylbenzene	ND	0.07	0.20	ug/L							U
Bromobenzene	ND	0.07	0.20	ug/L							U
Isopropyl Benzene	ND	0.07	0.20	ug/L							U
2-Chlorotoluene	ND	0.06	0.20	ug/L							U
4-Chlorotoluene	ND	0.06	0.20	ug/L							U
t-Butylbenzene	ND	0.07	0.20	ug/L							U
1,3,5-Trimethylbenzene	ND	0.07	0.20	ug/L							U
1,2,4-Trimethylbenzene	ND	0.10	0.20	ug/L							U
s-Butylbenzene	ND	0.06	0.20	ug/L							U
4-Isopropyl Toluene	ND	0.08	0.20	ug/L							U
1,3-Dichlorobenzene	ND	0.08	0.20	ug/L							U
1,4-Dichlorobenzene	ND	0.10	0.20	ug/L							U
n-Butylbenzene	ND	0.18	0.20	ug/L							U
1,2-Dichlorobenzene	ND	0.08	0.20	ug/L							U
1,2-Dibromo-3-chloropropane	ND	0.39	0.50	ug/L							U
1,2,4-Trichlorobenzene	ND	0.21	0.50	ug/L							U
Hexachloro-1,3-Butadiene	ND	1.00	2.00	ug/L							U
Naphthalene	ND	0.27	0.50	ug/L							U



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Project: Paccar
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Reported:
09-Jan-2023 17:30

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BKL0388 - EPA 8260D

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BKL0388-BLK1)						Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 09:19					
1,2,3-Trichlorobenzene	ND	0.25	0.50	ug/L							U
Dichlorodifluoromethane	ND	0.13	0.20	ug/L							U
Methyl tert-butyl Ether	ND	0.14	0.50	ug/L							U
2-Pentanone	ND	2.34	5.00	ug/L							U
<i>Surrogate: 1,2-Dichloroethane-d4</i>	5.64			ug/L	5.00		113	80-129			
<i>Surrogate: Toluene-d8</i>	4.83			ug/L	5.00		96.6	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	4.55			ug/L	5.00		90.9	80-120			
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	5.06			ug/L	5.00		101	80-120			
LCS (BKL0388-BS1)						Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 07:57					
Chloromethane	8.96	0.27	0.50	ug/L	10.0		89.6	60-138			
Vinyl Chloride	9.89	0.08	0.20	ug/L	10.0		98.9	66-133			
Bromomethane	10.4	0.74	1.00	ug/L	10.0		104	72-131			
Chloroethane	10.3	0.18	0.20	ug/L	10.0		103	60-155			
Trichlorofluoromethane	10.1	0.13	0.20	ug/L	10.0		101	62-141			
Acrolein	47.7	2.70	5.00	ug/L	50.0		95.4	52-190			
1,1,2-Trichloro-1,2,2-Trifluoroethane	11.0	0.11	0.20	ug/L	10.0		110	76-129			
Acetone	53.7	4.33	5.00	ug/L	50.0		107	58-142			
1,1-Dichloroethene	10.5	0.08	0.20	ug/L	10.0		105	69-135			
Iodomethane	11.1	0.43	1.00	ug/L	10.0		111	56-147			
Methylene Chloride	10.4	0.53	1.00	ug/L	10.0		104	65-135			
Acrylonitrile	10.5	0.40	1.00	ug/L	10.0		105	64-134			
Carbon Disulfide	11.0	0.12	0.20	ug/L	10.0		110	78-125			
trans-1,2-Dichloroethene	13.2	0.07	0.20	ug/L	10.0		132	78-128			*, Q
Vinyl Acetate	9.63	0.12	0.20	ug/L	10.0		96.3	55-138			
1,1-Dichloroethane	10.3	0.09	0.20	ug/L	10.0		103	76-124			
2-Butanone	57.5	1.77	5.00	ug/L	50.0		115	61-140			
2,2-Dichloropropane	9.27	0.11	0.20	ug/L	10.0		92.7	66-147			
cis-1,2-Dichloroethene	10.4	0.08	0.20	ug/L	10.0		104	80-121			
Chloroform	10.4	0.05	0.20	ug/L	10.0		104	80-122			
Bromochloromethane	10.0	0.09	0.20	ug/L	10.0		100	80-121			
1,1,1-Trichloroethane	9.86	0.08	0.20	ug/L	10.0		98.6	79-123			
1,1-Dichloropropene	9.81	0.09	0.20	ug/L	10.0		98.1	80-127			
Carbon tetrachloride	8.64	0.09	0.20	ug/L	10.0		86.4	53-137			
1,2-Dichloroethane	9.89	0.08	0.20	ug/L	10.0		98.9	75-123			



Haley & Aldrich
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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BKL0388 - EPA 8260D

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BKL0388-BS1)						Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 07:57					
Benzene	10.5	0.05	0.20	ug/L	10.0		105	80-120			
Trichloroethene	9.93	0.07	0.20	ug/L	10.0		99.3	80-120			
1,2-Dichloropropane	10.3	0.07	0.20	ug/L	10.0		103	80-120			
Bromodichloromethane	9.63	0.09	0.20	ug/L	10.0		96.3	80-121			
Dibromomethane	9.92	0.06	0.20	ug/L	10.0		99.2	80-120			
2-Chloroethyl vinyl ether	8.01	0.55	1.00	ug/L	10.0		80.1	64-120			
4-Methyl-2-Pentanone	55.8	1.90	5.00	ug/L	50.0		112	67-133			
cis-1,3-Dichloropropene	10.0	0.09	0.20	ug/L	10.0		100	80-124			
Toluene	10.4	0.05	0.20	ug/L	10.0		104	80-120			
trans-1,3-Dichloropropene	9.83	0.09	0.20	ug/L	10.0		98.3	71-127			
2-Hexanone	53.1	2.06	5.00	ug/L	50.0		106	69-133			
1,1,2-Trichloroethane	10.5	0.10	0.20	ug/L	10.0		105	80-121			
1,3-Dichloropropane	9.86	0.07	0.20	ug/L	10.0		98.6	80-120			
Tetrachloroethene	9.87	0.09	0.20	ug/L	10.0		98.7	80-120			
Dibromochloromethane	9.25	0.09	0.20	ug/L	10.0		92.5	65-135			
1,2-Dibromoethane	10.3	0.09	0.20	ug/L	10.0		103	80-121			
Chlorobenzene	9.98	0.06	0.20	ug/L	10.0		99.8	80-120			
Ethylbenzene	9.94	0.05	0.20	ug/L	10.0		99.4	80-120			
1,1,1,2-Tetrachloroethane	9.19	0.09	0.20	ug/L	10.0		91.9	80-120			
m,p-Xylene	20.1	0.14	0.40	ug/L	20.0		100	80-121			
o-Xylene	9.74	0.08	0.20	ug/L	10.0		97.4	80-121			
Xylenes, total	29.8	0.22	0.60	ug/L	30.0		99.4	76-127			
Styrene	10.3	0.09	0.20	ug/L	10.0		103	80-124			
Bromoform	9.10	0.15	0.20	ug/L	10.0		91.0	51-134			
1,1,2,2-Tetrachloroethane	9.92	0.10	0.20	ug/L	10.0		99.2	77-123			
1,2,3-Trichloropropane	9.58	0.16	0.50	ug/L	10.0		95.8	76-125			
trans-1,4-Dichloro 2-Butene	9.02	0.60	1.00	ug/L	10.0		90.2	55-129			
n-Propylbenzene	10.2	0.07	0.20	ug/L	10.0		102	78-130			
Bromobenzene	9.78	0.07	0.20	ug/L	10.0		97.8	80-120			
Isopropyl Benzene	9.99	0.07	0.20	ug/L	10.0		99.9	80-128			
2-Chlorotoluene	9.98	0.06	0.20	ug/L	10.0		99.8	78-122			
4-Chlorotoluene	9.94	0.06	0.20	ug/L	10.0		99.4	80-121			
t-Butylbenzene	9.49	0.07	0.20	ug/L	10.0		94.9	78-125			
1,3,5-Trimethylbenzene	9.98	0.07	0.20	ug/L	10.0		99.8	80-129			
1,2,4-Trimethylbenzene	10.0	0.10	0.20	ug/L	10.0		100	80-127			



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BKL0388 - EPA 8260D

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BKL0388-BS1)											
						Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 07:57					
s-Butylbenzene	9.73	0.06	0.20	ug/L	10.0		97.3	78-129			
4-Isopropyl Toluene	9.81	0.08	0.20	ug/L	10.0		98.1	79-130			
1,3-Dichlorobenzene	9.91	0.08	0.20	ug/L	10.0		99.1	80-120			
1,4-Dichlorobenzene	9.82	0.10	0.20	ug/L	10.0		98.2	80-120			
n-Butylbenzene	9.67	0.18	0.20	ug/L	10.0		96.7	74-129			
1,2-Dichlorobenzene	9.70	0.08	0.20	ug/L	10.0		97.0	80-120			
1,2-Dibromo-3-chloropropane	8.30	0.39	0.50	ug/L	10.0		83.0	62-123			
1,2,4-Trichlorobenzene	8.91	0.21	0.50	ug/L	10.0		89.1	64-124			
Hexachloro-1,3-Butadiene	8.09	1.00	2.00	ug/L	10.0		80.9	58-123			
Naphthalene	8.84	0.27	0.50	ug/L	10.0		88.4	50-134			
1,2,3-Trichlorobenzene	8.84	0.25	0.50	ug/L	10.0		88.4	49-133			
Dichlorodifluoromethane	8.87	0.13	0.20	ug/L	10.0		88.7	48-147			
Methyl tert-butyl Ether	10.5	0.14	0.50	ug/L	10.0		105	71-132			
2-Pentanone	51.1	2.34	5.00	ug/L	50.0		102	69-134			
Surrogate: 1,2-Dichloroethane-d4	5.22			ug/L	5.00		104	80-129			
Surrogate: Toluene-d8	5.04			ug/L	5.00		101	80-120			
Surrogate: 4-Bromofluorobenzene	4.87			ug/L	5.00		97.4	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	4.98			ug/L	5.00		99.6	80-120			
LCS Dup (BKL0388-BS1)											
						Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 08:38					
Chloromethane	10.0	0.27	0.50	ug/L	10.0		100	60-138	11.00	30	
Vinyl Chloride	10.2	0.08	0.20	ug/L	10.0		102	66-133	3.23	30	
Bromomethane	10.6	0.74	1.00	ug/L	10.0		106	72-131	1.96	30	
Chloroethane	10.7	0.18	0.20	ug/L	10.0		107	60-155	3.40	30	
Trichlorofluoromethane	11.9	0.13	0.20	ug/L	10.0		119	62-141	15.80	30	
Acrolein	50.9	2.70	5.00	ug/L	50.0		102	52-190	6.52	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	11.3	0.11	0.20	ug/L	10.0		113	76-129	2.31	30	
Acetone	52.9	4.33	5.00	ug/L	50.0		106	58-142	1.47	30	
1,1-Dichloroethene	11.0	0.08	0.20	ug/L	10.0		110	69-135	4.58	30	
Iodomethane	11.7	0.43	1.00	ug/L	10.0		117	56-147	4.92	30	
Methylene Chloride	10.8	0.53	1.00	ug/L	10.0		108	65-135	3.48	30	
Acrylonitrile	11.0	0.40	1.00	ug/L	10.0		110	64-134	4.12	30	
Carbon Disulfide	11.5	0.12	0.20	ug/L	10.0		115	78-125	4.39	30	
trans-1,2-Dichloroethene	10.0	0.07	0.20	ug/L	10.0		100	78-128	27.10	30	Q
Vinyl Acetate	10.3	0.12	0.20	ug/L	10.0		103	55-138	7.05	30	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BKL0388 - EPA 8260D

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BKL0388-BSD1)						Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 08:38					
1,1-Dichloroethane	10.9	0.09	0.20	ug/L	10.0		109	76-124	5.31	30	
2-Butanone	57.9	1.77	5.00	ug/L	50.0		116	61-140	0.74	30	
2,2-Dichloropropane	10.0	0.11	0.20	ug/L	10.0		100	66-147	7.75	30	
cis-1,2-Dichloroethene	10.8	0.08	0.20	ug/L	10.0		108	80-121	4.03	30	
Chloroform	10.9	0.05	0.20	ug/L	10.0		109	80-122	4.48	30	
Bromochloromethane	10.7	0.09	0.20	ug/L	10.0		107	80-121	5.88	30	
1,1,1-Trichloroethane	10.3	0.08	0.20	ug/L	10.0		103	79-123	4.61	30	
1,1-Dichloropropene	10.1	0.09	0.20	ug/L	10.0		101	80-127	2.64	30	
Carbon tetrachloride	9.02	0.09	0.20	ug/L	10.0		90.2	53-137	4.31	30	
1,2-Dichloroethane	10.0	0.08	0.20	ug/L	10.0		100	75-123	1.29	30	
Benzene	10.9	0.05	0.20	ug/L	10.0		109	80-120	3.37	30	
Trichloroethene	10.2	0.07	0.20	ug/L	10.0		102	80-120	2.85	30	
1,2-Dichloropropane	10.7	0.07	0.20	ug/L	10.0		107	80-120	3.07	30	
Bromodichloromethane	9.96	0.09	0.20	ug/L	10.0		99.6	80-121	3.36	30	
Dibromomethane	10.0	0.06	0.20	ug/L	10.0		100	80-120	0.80	30	
2-Chloroethyl vinyl ether	8.11	0.55	1.00	ug/L	10.0		81.1	64-120	1.22	30	
4-Methyl-2-Pentanone	56.4	1.90	5.00	ug/L	50.0		113	67-133	1.08	30	
cis-1,3-Dichloropropene	10.2	0.09	0.20	ug/L	10.0		102	80-124	1.41	30	
Toluene	10.5	0.05	0.20	ug/L	10.0		105	80-120	1.02	30	
trans-1,3-Dichloropropene	9.92	0.09	0.20	ug/L	10.0		99.2	71-127	0.88	30	
2-Hexanone	54.8	2.06	5.00	ug/L	50.0		110	69-133	3.18	30	
1,1,2-Trichloroethane	10.5	0.10	0.20	ug/L	10.0		105	80-121	0.37	30	
1,3-Dichloropropane	10.3	0.07	0.20	ug/L	10.0		103	80-120	3.99	30	
Tetrachloroethene	10.3	0.09	0.20	ug/L	10.0		103	80-120	3.98	30	
Dibromochloromethane	9.60	0.09	0.20	ug/L	10.0		96.0	65-135	3.69	30	
1,2-Dibromoethane	10.2	0.09	0.20	ug/L	10.0		102	80-121	0.69	30	
Chlorobenzene	10.4	0.06	0.20	ug/L	10.0		104	80-120	4.30	30	
Ethylbenzene	10.3	0.05	0.20	ug/L	10.0		103	80-120	3.80	30	
1,1,1,2-Tetrachloroethane	9.50	0.09	0.20	ug/L	10.0		95.0	80-120	3.37	30	
m,p-Xylene	20.9	0.14	0.40	ug/L	20.0		105	80-121	4.16	30	
o-Xylene	10.2	0.08	0.20	ug/L	10.0		102	80-121	4.70	30	
Xylenes, total	31.2	0.22	0.60	ug/L	30.0		104	76-127	4.33	30	
Styrene	10.9	0.09	0.20	ug/L	10.0		109	80-124	5.51	30	
Bromoform	9.34	0.15	0.20	ug/L	10.0		93.4	51-134	2.64	30	
1,1,2,2-Tetrachloroethane	10.4	0.10	0.20	ug/L	10.0		104	77-123	4.46	30	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BKL0388 - EPA 8260D

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BKL0388-BSD1)						Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 08:38					
1,2,3-Trichloropropane	10.1	0.16	0.50	ug/L	10.0		101	76-125	5.30	30	
trans-1,4-Dichloro 2-Butene	9.41	0.60	1.00	ug/L	10.0		94.1	55-129	4.26	30	
n-Propylbenzene	10.7	0.07	0.20	ug/L	10.0		107	78-130	4.74	30	
Bromobenzene	10.4	0.07	0.20	ug/L	10.0		104	80-120	6.14	30	
Isopropyl Benzene	10.4	0.07	0.20	ug/L	10.0		104	80-128	3.88	30	
2-Chlorotoluene	10.4	0.06	0.20	ug/L	10.0		104	78-122	4.44	30	
4-Chlorotoluene	10.4	0.06	0.20	ug/L	10.0		104	80-121	4.59	30	
t-Butylbenzene	10.1	0.07	0.20	ug/L	10.0		101	78-125	6.18	30	
1,3,5-Trimethylbenzene	10.5	0.07	0.20	ug/L	10.0		105	80-129	5.53	30	
1,2,4-Trimethylbenzene	10.6	0.10	0.20	ug/L	10.0		106	80-127	5.18	30	
s-Butylbenzene	10.3	0.06	0.20	ug/L	10.0		103	78-129	5.34	30	
4-Isopropyl Toluene	10.3	0.08	0.20	ug/L	10.0		103	79-130	4.64	30	
1,3-Dichlorobenzene	10.4	0.08	0.20	ug/L	10.0		104	80-120	4.57	30	
1,4-Dichlorobenzene	10.4	0.10	0.20	ug/L	10.0		104	80-120	5.45	30	
n-Butylbenzene	10.2	0.18	0.20	ug/L	10.0		102	74-129	5.42	30	
1,2-Dichlorobenzene	10.2	0.08	0.20	ug/L	10.0		102	80-120	5.46	30	
1,2-Dibromo-3-chloropropane	8.58	0.39	0.50	ug/L	10.0		85.8	62-123	3.32	30	
1,2,4-Trichlorobenzene	9.61	0.21	0.50	ug/L	10.0		96.1	64-124	7.63	30	
Hexachloro-1,3-Butadiene	9.13	1.00	2.00	ug/L	10.0		91.3	58-123	12.00	30	
Naphthalene	9.50	0.27	0.50	ug/L	10.0		95.0	50-134	7.21	30	
1,2,3-Trichlorobenzene	9.29	0.25	0.50	ug/L	10.0		92.9	49-133	4.99	30	
Dichlorodifluoromethane	9.15	0.13	0.20	ug/L	10.0		91.5	48-147	3.04	30	
Methyl tert-butyl Ether	10.9	0.14	0.50	ug/L	10.0		109	71-132	4.43	30	
2-Pentanone	51.4	2.34	5.00	ug/L	50.0		103	69-134	0.62	30	
Surrogate: 1,2-Dichloroethane-d4	5.34			ug/L	5.00		107	80-129			
Surrogate: Toluene-d8	4.96			ug/L	5.00		99.2	80-120			
Surrogate: 4-Bromofluorobenzene	4.88			ug/L	5.00		97.5	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	4.97			ug/L	5.00		99.5	80-120			



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - SIM - Quality Control

Batch BKL0400 - EPA 8260D-SIM

Instrument: NT16 Analyst: KOTT

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Blank (BKL0400-BLK1)					Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 13:06					
Vinyl chloride	ND	5.01	20.0	ng/L						U
Surrogate: 1,2-Dichloroethane-d4	4560			ng/L	5000	91.1	80-129			
Surrogate: Toluene-d8	4510			ng/L	5000	90.1	80-120			
Surrogate: 4-Bromofluorobenzene	4720			ng/L	5000	94.3	75-125			
LCS (BKL0400-BS1)					Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 11:35					
Vinyl chloride	2140	5.01	20.0	ng/L	2000	107	62-141			
Surrogate: 1,2-Dichloroethane-d4	4590			ng/L	5000	91.8	80-129			
Surrogate: Toluene-d8	4720			ng/L	5000	94.4	80-120			
Surrogate: 4-Bromofluorobenzene	5080			ng/L	5000	102	75-125			
LCS Dup (BKL0400-BS1)					Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 12:16					
Vinyl chloride	1970	5.01	20.0	ng/L	2000	98.5	62-141	8.09	30	
Surrogate: 1,2-Dichloroethane-d4	4610			ng/L	5000	92.3	80-129			
Surrogate: Toluene-d8	4750			ng/L	5000	95.0	80-120			
Surrogate: 4-Bromofluorobenzene	5110			ng/L	5000	102	75-125			



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Project: Paccar
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Reported:
09-Jan-2023 17:30

Analysis by: Analytical Resources, LLC

Petroleum Hydrocarbons - Quality Control

Batch BKL0436 - NWTPH-Dx

Instrument: FID4 Analyst: AA

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Blank (BKL0436-BLK1) Prepared: 16-Dec-2022 Analyzed: 19-Dec-2022 10:04									
Diesel Range Organics (C12-C24)	ND	0.100	mg/L						U
Motor Oil Range Organics (C24-C38)	ND	0.200	mg/L						U
Surrogate: <i>o</i> -Terphenyl	0.195		mg/L	0.225	86.5	50-150			
LCS (BKL0436-BS1) Prepared: 16-Dec-2022 Analyzed: 19-Dec-2022 10:23									
Diesel Range Organics (C12-C24)	2.94	0.100	mg/L	3.00	98.0	56-120			
Surrogate: <i>o</i> -Terphenyl	0.250		mg/L	0.225	111	50-150			



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Reported:
09-Jan-2023 17:30

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds - Quality Control

Batch BKL0716 - EPA 200.8

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BKL0716-BLK1)			Prepared: 30-Dec-2022 Analyzed: 03-Jan-2023 16:16									
Chromium	52	ND	0.260	0.500	ug/L							U
Lead	208	ND	0.0513	0.100	ug/L							U
Arsenic	75a	ND	0.0373	0.200	ug/L							U
LCS (BKL0716-BS1)			Prepared: 30-Dec-2022 Analyzed: 03-Jan-2023 16:21									
Chromium	52	26.7	0.260	0.500	ug/L	25.0		107	80-120			
Lead	208	27.3	0.0513	0.100	ug/L	25.0		109	80-120			
Arsenic	75a	25.8	0.0373	0.200	ug/L	25.0		103	80-120			



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Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds (dissolved) - Quality Control

Batch BKL0699 - EPA 200.8 UCT-KED

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BKL0699-BLK1)			Prepared: 29-Dec-2022 Analyzed: 03-Jan-2023 17:26									
Arsenic, Dissolved	75a	ND	0.0373	0.200	ug/L							U
LCS (BKL0699-BS1)			Prepared: 29-Dec-2022 Analyzed: 03-Jan-2023 17:30									
Arsenic, Dissolved	75a	24.7	0.0373	0.200	ug/L	25.0		98.8	80-120			
Duplicate (BKL0699-DUP1)			Source: 22L0377-02		Prepared: 29-Dec-2022 Analyzed: 04-Jan-2023 01:42							
Arsenic, Dissolved	75a	0.309	0.0373	0.200	ug/L		0.344			10.70	20	
Matrix Spike (BKL0699-MS1)			Source: 22L0377-02		Prepared: 29-Dec-2022 Analyzed: 04-Jan-2023 01:48							
Arsenic, Dissolved	75a	25.7	0.0373	0.200	ug/L	25.0	0.344	101	75-125			

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



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Project: Paccar
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09-Jan-2023 17:30

Certified Analyses included in this Report

Analyte	Certifications
EPA 200.8 in Water	
Chromium-52	NELAP,WADOE,WA-DW,DoD-ELAP
Chromium-53	NELAP,WADOE,WA-DW,DoD-ELAP
Lead-208	NELAP,WADOE,WA-DW,DoD-ELAP
EPA 200.8 UCT-KED in Water	
Arsenic-75a	NELAP,WADOE,WA-DW,DoD-ELAP
Arsenic-75a	NELAP,WADOE,WA-DW,DoD-ELAP
EPA 8260D in Water	
Chloromethane	DoD-ELAP,ADEC,NELAP,WADOE
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,WADOE
Bromomethane	DoD-ELAP,ADEC,NELAP,WADOE
Chloroethane	DoD-ELAP,ADEC,NELAP,WADOE
Trichlorofluoromethane	DoD-ELAP,ADEC,NELAP,WADOE
Acrolein	DoD-ELAP,NELAP,WADOE
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,NELAP,WADOE
Acetone	DoD-ELAP,ADEC,NELAP,WADOE
1,1-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Iodomethane	DoD-ELAP,NELAP,WADOE
Methylene Chloride	DoD-ELAP,ADEC,NELAP,WADOE
Acrylonitrile	DoD-ELAP,NELAP,WADOE
Carbon Disulfide	DoD-ELAP,NELAP,WADOE
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Vinyl Acetate	DoD-ELAP,NELAP,WADOE
1,1-Dichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
2-Butanone	DoD-ELAP,NELAP,WADOE
2,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,WADOE
Bromochloromethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1-Dichloropropene	DoD-ELAP,ADEC,NELAP,WADOE
Carbon tetrachloride	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
Benzene	DoD-ELAP,ADEC,NELAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,NELAP,WADOE



Haley & Aldrich

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Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

09-Jan-2023 17:30

1,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
Bromodichloromethane	DoD-ELAP,ADEC,NELAP,WADOE
Dibromomethane	DoD-ELAP,ADEC,NELAP,WADOE
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,NELAP,WADOE
4-Methyl-2-Pentanone	DoD-ELAP,NELAP,WADOE
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,WADOE
Toluene	DoD-ELAP,ADEC,NELAP,WADOE
trans-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,WADOE
2-Hexanone	DoD-ELAP,NELAP,WADOE
1,1,2-Trichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Dibromochloromethane	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dibromoethane	DoD-ELAP,NELAP,WADOE
Chlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,NELAP,WADOE
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,WADOE
m,p-Xylene	DoD-ELAP,ADEC,NELAP,WADOE
o-Xylene	DoD-ELAP,ADEC,NELAP,WADOE
Styrene	DoD-ELAP,NELAP,WADOE
Bromoform	DoD-ELAP,NELAP,WADOE
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,NELAP,WADOE
n-Propylbenzene	DoD-ELAP,NELAP,WADOE
Bromobenzene	DoD-ELAP,NELAP,WADOE
Isopropyl Benzene	DoD-ELAP,NELAP,WADOE
2-Chlorotoluene	DoD-ELAP,ADEC,NELAP,WADOE
4-Chlorotoluene	DoD-ELAP,ADEC,NELAP,WADOE
t-Butylbenzene	DoD-ELAP,NELAP,WADOE
1,3,5-Trimethylbenzene	DoD-ELAP,NELAP,WADOE
1,2,4-Trimethylbenzene	DoD-ELAP,NELAP,WADOE
s-Butylbenzene	DoD-ELAP,NELAP,WADOE
4-Isopropyl Toluene	DoD-ELAP,NELAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
n-Butylbenzene	DoD-ELAP,NELAP,WADOE
1,2-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,NELAP,WADOE



Haley & Aldrich

3131 Elliott Avenue, Suite 600

Seattle WA, 98121

Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

09-Jan-2023 17:30

1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,NELAP,WADOE
Naphthalene	DoD-ELAP,ADEC,NELAP,WADOE
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
Dichlorodifluoromethane	DoD-ELAP,ADEC,NELAP,WADOE
Methyl tert-butyl Ether	DoD-ELAP,ADEC,NELAP,WADOE
n-Hexane	WADOE
2-Pentanone	WADOE

EPA 8260D-SIM in Water

Acrylonitrile	NELAP,WADOE
Vinyl chloride	NELAP,WADOE
1,1-Dichloroethene	NELAP,WADOE
cis-1,2-Dichloroethene	NELAP,WADOE
trans-1,2-Dichloroethene	NELAP,WADOE
Trichloroethene	NELAP,WADOE
Tetrachloroethene	NELAP,WADOE
1,1,2,2-Tetrachloroethane	NELAP,WADOE
1,2-Dichloroethane	NELAP,WADOE
Benzene	NELAP,WADOE

NWTPH-Dx in Water

Diesel Range Organics (C12-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C25)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C12-C22)	DoD-ELAP
Diesel Range Organics (C12-C25)	DoD-ELAP
Motor Oil Range Organics (C24-C38)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C40)	DoD-ELAP,NELAP,WADOE
Residual Range Organics (C23-C32)	DoD-ELAP
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP,WADOE
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,NELAP,WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP,WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP,WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP,WADOE



Haley & Aldrich

3131 Elliott Avenue, Suite 600

Seattle WA, 98121

Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

09-Jan-2023 17:30

Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP,WADOE

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



Haley & Aldrich
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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
09-Jan-2023 17:30

Notes and Definitions

*	Flagged value is not within established control limits.
B	This analyte was detected in the method blank.
D	The reported value is from a dilution
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
J	Estimated concentration value detected below the reporting limit.
Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.



Analytical Resources, LLC
Analytical Chemists and Consultants

17 January 2023

Haley Aldrich
Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle, WA 98121

RE: Paccar

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

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

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

Associated Work Order(s)
22L0377

Associated SDG ID(s)
N/A

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

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

Analytical Resources, LLC

Kelly Bottem, Client Services Manager

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



Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 2210377	Turn-around Requested: Standard	Page: 1 of 1
ARI Client Company: Haley & Aldrich	Phone:	Date: 12/14/22 Ice Present?
Client Contact: Angie Woodman	No. of Coolers:	Cooler Temps:



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

Client Project Name: PACCAR					Analysis Requested										Notes/Comments
Client Project #:					Samplers: AN, BLC										
Sample ID	Date	Time	Matrix	No. Containers	As Total/Discrete	Vinyl Chloride	TPH-DL	Total As, Pb, Cr	VOCs						
CW-1S	12/14/22	1010	H ₂ O	5	X	X									
CW-1D		0925		2	X										
CW-6D		1710		2	X										
LW-9D		135		5	X	X									
LW-9S		1105		2	X										
MW-3I		1520		2	X										
LW-900D		1345		5	X	X									
CH Tank		1730					X	X	X						

Comments/Special Instructions	Relinquished by: (Signature) AC	Received by: (Signature) AK	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Andrew Walcher	Printed Name:	Printed Name:	Printed Name:
	Company: ASA	Company: AR, LLC	Company:	Company:
	Date & Time: 12/14/22 1820	Date & Time: 12/14/22 1824	Date & Time:	Date & Time:

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

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



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CW-1S	22L0377-01	Water	14-Dec-2022 10:10	14-Dec-2022 18:20
CW-1S	22L0377-02	Water	14-Dec-2022 10:10	14-Dec-2022 18:20
CW-1D	22L0377-03	Water	14-Dec-2022 09:25	14-Dec-2022 18:20
CW-1D	22L0377-04	Water	14-Dec-2022 09:25	14-Dec-2022 18:20
LW-6D	22L0377-05	Water	14-Dec-2022 17:10	14-Dec-2022 18:20
LW-6D	22L0377-06	Water	14-Dec-2022 17:10	14-Dec-2022 18:20
LW-9D	22L0377-07	Water	14-Dec-2022 13:15	14-Dec-2022 18:20
LW-9D	22L0377-08	Water	14-Dec-2022 13:15	14-Dec-2022 18:20
LW-9S	22L0377-09	Water	14-Dec-2022 11:05	14-Dec-2022 18:20
LW-9S	22L0377-10	Water	14-Dec-2022 11:05	14-Dec-2022 18:20
MW-3I	22L0377-11	Water	14-Dec-2022 15:20	14-Dec-2022 18:20
MW-3I	22L0377-12	Water	14-Dec-2022 15:20	14-Dec-2022 18:20
LW-900D	22L0377-13	Water	14-Dec-2022 13:45	14-Dec-2022 18:20
LW-900D	22L0377-14	Water	14-Dec-2022 13:45	14-Dec-2022 18:20
KWTANK	22L0377-15	Water	14-Dec-2022 17:30	14-Dec-2022 18:20
Trip Blanks	22L0377-16	Water	14-Dec-2022 10:10	14-Dec-2022 18:20



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

Work Order Case Narrative

Volatiles - EPA Method SW8260D

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

Initial and continuing calibrations were within method requirements with the exception of all associated "Q" flagged analytes which are out of control high in the CCAL. All associated samples that contain analyte have been flagged with a "Q" qualifier.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

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

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent difference (RPD) were within control limits with the exception of analytes flagged on the associated forms.

Volatiles - EPA Method 8260D-SIM (Selected Ion Monitoring)

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

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

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

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

Dissolved and Total Metals - EPA Method 200.8

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

Initial and continuing calibrations were within method requirements.

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

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



Haley & Aldrich

3131 Elliott Avenue, Suite 600

Seattle WA, 98121

Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

17-Jan-2023 09:20

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx

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

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

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

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



Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Haley & Aldrich
COC No(s): _____ (NA)
Assigned ARI Job No: 2210377

Project Name: Pacco
Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO
Were custody papers included with the cooler? YES NO
Were custody papers properly filled out (ink, signed, etc.) YES NO
Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 2.3 3.1
Time 18:48 18:00 18:30 #1 #2
If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: Unknown

Cooler Accepted by: JS - for AA Date: 12/14/22 Time: 18:48 18:00
JS Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO
What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____
Was sufficient ice used (if appropriate)? NA YES NO
How were bottles sealed in plastic bags? Individually Grouped Not
Did all bottles arrive in good condition (unbroken)? YES NO
Were all bottle labels complete and legible? YES NO
Did the number of containers listed on COC match with the number of containers received? YES NO
Did all bottle labels and tags agree with custody papers? YES NO
Were all bottles used correct for the requested analyses? YES NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO
Were all VOC vials free of air bubbles? NA YES NO
Was sufficient amount of sample sent in each bottle? JS YES NO
Date VOC Trip Blank was made at ARI: NA 12/13/22
Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: Quinn Date: 12/15/22 Time: 9:03 Labels checked by: PLB

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

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

Additional Notes, Discrepancies, & Resolutions: Trip Blanks not listed on COC, from samples or were
Samples were delivered after normal receiving hours,
and a temperature was not taken & noted, upon
receipt. Samples were packed w/ ice. Sample temps taken
upon documentation ~ 18:30
By: JS - for AA Date: 12/14/22



WORK ORDER

22L0377

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

Client: Haley & Aldrich

Project Manager: Kelly Bottem

Project: Paccar

Project Number: [none]

Preservation Confirmation

Container ID	Container Type	pH
22L0377-01 A	HDPE NM, 500 mL, 1:1 HNO3	7.2 Pass
22L0377-01 B	VOA Vial, Clear, 40 mL, HCL	
22L0377-01 C	VOA Vial, Clear, 40 mL, HCL	
22L0377-01 D	VOA Vial, Clear, 40 mL, HCL	
22L0377-02 A	HDPE NM, 500 mL	7.2 Fail
22L0377-03 A	HDPE NM, 500 mL, 1:1 HNO3	7.2 Pass
22L0377-04 A	HDPE NM, 500 mL	7.2 Fail
22L0377-05 A	HDPE NM, 500 mL, 1:1 HNO3	7.2 Pass
22L0377-06 A	HDPE NM, 500 mL	7.2 Fail
22L0377-07 A	HDPE NM, 500 mL, 1:1 HNO3	7.2 Pass
22L0377-07 B	VOA Vial, Clear, 40 mL, HCL	
22L0377-07 C	VOA Vial, Clear, 40 mL, HCL	
22L0377-07 D	VOA Vial, Clear, 40 mL, HCL	
22L0377-08 A	HDPE NM, 500 mL	7.2 Fail
22L0377-09 A	HDPE NM, 500 mL, 1:1 HNO3	7.2 Pass
22L0377-10 A	HDPE NM, 500 mL	7.2 Fail
22L0377-11 A	HDPE NM, 500 mL, 1:1 HNO3	7.2 Pass
22L0377-12 A	HDPE NM, 500 mL	7.2 Fail
22L0377-13 A	HDPE NM, 500 mL, 1:1 HNO3	7.2 Pass
22L0377-13 B	VOA Vial, Clear, 40 mL, HCL	
22L0377-13 C	VOA Vial, Clear, 40 mL, HCL	
22L0377-13 D	VOA Vial, Clear, 40 mL, HCL	
22L0377-14 A	HDPE NM, 500 mL	7.2 Fail
22L0377-15 A	HDPE NM, 500 mL, 1:1 HNO3	7.2 Pass
22L0377-15 B	Glass NM, Amber, 500 mL	
22L0377-15 C	Glass NM, Amber, 500 mL	
22L0377-15 D	VOA Vial, Clear, 40 mL, HCL	
22L0377-15 E	VOA Vial, Clear, 40 mL, HCL	
22L0377-15 F	VOA Vial, Clear, 40 mL, HCL	
22L0377-16 A	VOA Vial, Clear, 40 mL, HCL	
22L0377-16 B	VOA Vial, Clear, 40 mL, HCL	

AMZ
Preservation Confirmed By

12/15/22
Date



WORK ORDER

22L0377

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

Client: Haley & Aldrich

Project Manager: Kelly Bottem

Project: Paccar

Project Number: [none]

Preservation Confirmation

Container ID	Container Type	pH
22L0377-01 A	HDPE NM, 500 mL, 1:1 HNO ₃	7.2 Pass
22L0377-01 B	VOA Vial, Clear, 40 mL, HCL	
22L0377-01 C	VOA Vial, Clear, 40 mL, HCL	
22L0377-01 D	VOA Vial, Clear, 40 mL, HCL	
22L0377-02 A	HDPE NM, 500 mL	7.2 Fail (1)
22L0377-03 A	HDPE NM, 500 mL, 1:1 HNO ₃	7.2 Pass
22L0377-04 A	HDPE NM, 500 mL	7.2 Fail (1)
22L0377-05 A	HDPE NM, 500 mL, 1:1 HNO ₃	7.2 Pass
22L0377-06 A	HDPE NM, 500 mL	7.2 Fail (1)
22L0377-07 A	HDPE NM, 500 mL, 1:1 HNO ₃	7.2 Pass
22L0377-07 B	VOA Vial, Clear, 40 mL, HCL	
22L0377-07 C	VOA Vial, Clear, 40 mL, HCL	
22L0377-07 D	VOA Vial, Clear, 40 mL, HCL	
22L0377-08 A	HDPE NM, 500 mL	7.2 Fail (1)
22L0377-09 A	HDPE NM, 500 mL, 1:1 HNO ₃	7.2 Pass
22L0377-10 A	HDPE NM, 500 mL	7.2 Fail (1)
22L0377-11 A	HDPE NM, 500 mL, 1:1 HNO ₃	7.2 Pass
22L0377-12 A	HDPE NM, 500 mL	7.2 Fail (1)
22L0377-13 A	HDPE NM, 500 mL, 1:1 HNO ₃	7.2 Pass
22L0377-13 B	VOA Vial, Clear, 40 mL, HCL	
22L0377-13 C	VOA Vial, Clear, 40 mL, HCL	
22L0377-13 D	VOA Vial, Clear, 40 mL, HCL	
22L0377-14 A	HDPE NM, 500 mL	7.2 Fail (1)
22L0377-15 A	HDPE NM, 500 mL, 1:1 HNO ₃	7.2 Pass
22L0377-15 B	Glass NM, Amber, 500 mL	
22L0377-15 C	Glass NM, Amber, 500 mL	
22L0377-15 D	VOA Vial, Clear, 40 mL, HCL	
22L0377-15 E	VOA Vial, Clear, 40 mL, HCL	
22L0377-15 F	VOA Vial, Clear, 40 mL, HCL	
22L0377-16 A	VOA Vial, Clear, 40 mL, HCL	
22L0377-16 B	VOA Vial, Clear, 40 mL, HCL	

DMB
Preservation Confirmed By

12/15/22
Date

(1) Filtered at 0.45um and
preserved to pH 2.0 with 0.75ml
conc. HNO₃ (K11506).
ML 12/16/22

Reviewed By

Date



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

CW-1S
22L0377-01 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM

Sampled: 12/14/2022 10:10

Instrument: NT16 Analyst: KOTT

Analyzed: 12/15/2022 14:59

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 22L0377-01 C

Preparation Batch: BKL0400

Sample Size: 10 mL

Prepared: 12/15/2022

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	5.01	20.0	20.8	ng/L	
Surrogate: 1,2-Dichloroethane-d4				80-129 %	96.9	%	
Surrogate: Toluene-d8				80-120 %	88.7	%	
Surrogate: 4-Bromofluorobenzene				75-125 %	93.1	%	



Haley & Aldrich

3131 Elliott Avenue, Suite 600

Seattle WA, 98121

Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

17-Jan-2023 09:20

CW-1S

22L0377-01 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 10:10

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 05:31

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-01 A 01

Preparation Batch: BKL0716

Sample Size: 25 mL

Prepared: 12/30/2022

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0373	0.200	0.599	ug/L	



Haley & Aldrich

3131 Elliott Avenue, Suite 600

Seattle WA, 98121

Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

17-Jan-2023 09:20

CW-1S

22L0377-02 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 10:10

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 01:37

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-02 A 02

Preparation Batch: BKL0699

Filtration Batch: BKL0437

Prepared: 12/29/2022

Sample Size: 25 mL

Final Volume: 25 mL

Filtration Date: 12/16/2022 14:30

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0373	0.200	0.344	ug/L	



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

CW-1D
22L0377-03 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 09:25

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 05:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M
Preparation Batch: BKL0716
Prepared: 12/30/2022

Sample Size: 25 mL
Final Volume: 25 mL

Extract ID: 22L0377-03 A 01

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0373	0.200	0.0610	ug/L	J



Haley & Aldrich

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Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

17-Jan-2023 09:20

CW-1D

22L0377-04 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 09:25

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 01:11

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-04 A 02

Preparation Batch: BKL0699

Filtration Batch: BKL0437

Prepared: 12/29/2022

Sample Size: 25 mL

Final Volume: 25 mL

Filtration Date: 12/16/2022 14:30

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0373	0.200	0.0680	ug/L	J



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Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

17-Jan-2023 09:20

LW-6D

22L0377-05 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 17:10

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 05:40

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-05 A 01

Preparation Batch: BKL0716

Sample Size: 25 mL

Prepared: 12/30/2022

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0373	0.200	9.84	ug/L	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

LW-6D
22L0377-06 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 17:10

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 01:16

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M
Preparation Batch: BKL0699
Prepared: 12/29/2022

Sample Size: 25 mL
Final Volume: 25 mL

Extract ID: 22L0377-06 A 02
Filtration Batch: BKL0437
Filtration Date: 12/16/2022 14:30

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0373	0.200	3.58	ug/L	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

LW-9D
22L0377-07 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM

Sampled: 12/14/2022 13:15

Instrument: NT16 Analyst: KOTT

Analyzed: 12/15/2022 15:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap)
Preparation Batch: BKL0400
Prepared: 12/15/2022

Sample Size: 10 mL
Final Volume: 10 mL

Extract ID: 22L0377-07 B

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	5.01	20.0	470	ng/L	
Surrogate: 1,2-Dichloroethane-d4				80-129 %	98.4	%	
Surrogate: Toluene-d8				80-120 %	87.1	%	
Surrogate: 4-Bromofluorobenzene				75-125 %	93.0	%	



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Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

17-Jan-2023 09:20

LW-9D

22L0377-07 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 13:15

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 05:44

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-07 A 01

Preparation Batch: BKL0716

Sample Size: 25 mL

Prepared: 12/30/2022

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0373	0.200	9.02	ug/L	



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Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

17-Jan-2023 09:20

LW-9D

22L0377-08 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 13:15

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 01:20

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-08 A 02

Preparation Batch: BKL0699

Filtration Batch: BKL0437

Prepared: 12/29/2022

Sample Size: 25 mL

Final Volume: 25 mL

Filtration Date: 12/16/2022 14:30

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0373	0.200	2.93	ug/L	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

LW-9S
22L0377-09 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 11:05

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 05:48

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M
Preparation Batch: BKL0716
Prepared: 12/30/2022

Sample Size: 25 mL
Final Volume: 25 mL

Extract ID: 22L0377-09 A 01

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0373	0.200	0.956	ug/L	



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Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

17-Jan-2023 09:20

LW-9S

22L0377-10 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 11:05

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 01:24

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-10 A 02

Preparation Batch: BKL0699

Filtration Batch: BKL0437

Prepared: 12/29/2022

Sample Size: 25 mL

Final Volume: 25 mL

Filtration Date: 12/16/2022 14:30

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0373	0.200	0.414	ug/L	



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Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

17-Jan-2023 09:20

MW-3I

22L0377-11 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 15:20

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 05:53

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-11 A 01

Preparation Batch: BKL0716

Sample Size: 25 mL

Prepared: 12/30/2022

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0373	0.200	18.1	ug/L	



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Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

17-Jan-2023 09:20

MW-3I

22L0377-12 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 15:20

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 01:29

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-12 A 02

Preparation Batch: BKL0699

Sample Size: 25 mL

Filtration Batch: BKL0437

Prepared: 12/29/2022

Final Volume: 25 mL

Filtration Date: 12/16/2022 14:30

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0373	0.200	1.01	ug/L	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

LW-900D
22L0377-13 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM

Sampled: 12/14/2022 13:45

Instrument: NT16 Analyst: KOTT

Analyzed: 12/15/2022 15:41

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 22L0377-13 B

Preparation Batch: BKL0400

Sample Size: 10 mL

Prepared: 12/15/2022

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	5.01	20.0	462	ng/L	
Surrogate: 1,2-Dichloroethane-d4				80-129 %	97.8	%	
Surrogate: Toluene-d8				80-120 %	87.6	%	
Surrogate: 4-Bromofluorobenzene				75-125 %	92.4	%	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

LW-900D
22L0377-13 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 13:45

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 05:57

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M
Preparation Batch: BKL0716
Prepared: 12/30/2022

Sample Size: 25 mL
Final Volume: 25 mL

Extract ID: 22L0377-13 A 01

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0373	0.200	8.70	ug/L	



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Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

Reported:

17-Jan-2023 09:20

LW-900D

22L0377-14 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 13:45

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 01:33

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-14 A 02

Preparation Batch: BKL0699

Filtration Batch: BKL0437

Prepared: 12/29/2022

Sample Size: 25 mL

Final Volume: 25 mL

Filtration Date: 12/16/2022 14:30

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0373	0.200	2.70	ug/L	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

KWTANK
22L0377-15 (Water)

Volatile Organic Compounds

Method: EPA 8260D

Sampled: 12/14/2022 17:30

Instrument: NT2 Analyst: LH

Analyzed: 12/15/2022 11:48

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap)
Preparation Batch: BKL0388
Prepared: 12/15/2022

Sample Size: 10 mL
Final Volume: 10 mL

Extract ID: 22L0377-15 D

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.27	0.50	ND	ug/L	U
Vinyl Chloride	75-01-4	1	0.08	0.20	ND	ug/L	U
Bromomethane	74-83-9	1	0.74	1.00	ND	ug/L	U
Chloroethane	75-00-3	1	0.18	0.20	ND	ug/L	U
Trichlorofluoromethane	75-69-4	1	0.13	0.20	ND	ug/L	U
Acrolein	107-02-8	1	2.70	5.00	ND	ug/L	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.11	0.20	ND	ug/L	U
Acetone	67-64-1	1	4.33	5.00	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.08	0.20	ND	ug/L	U
Iodomethane	74-88-4	1	0.43	1.00	ND	ug/L	U
Methylene Chloride	75-09-2	1	0.53	1.00	ND	ug/L	U
Acrylonitrile	107-13-1	1	0.40	1.00	ND	ug/L	U
Carbon Disulfide	75-15-0	1	0.12	0.20	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.07	0.20	ND	ug/L	U
Vinyl Acetate	108-05-4	1	0.12	0.20	ND	ug/L	U
1,1-Dichloroethane	75-34-3	1	0.09	0.20	ND	ug/L	U
2-Butanone	78-93-3	1	1.77	5.00	ND	ug/L	U
2,2-Dichloropropane	594-20-7	1	0.11	0.20	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.08	0.20	ND	ug/L	U
Chloroform	67-66-3	1	0.05	0.20	ND	ug/L	U
Bromochloromethane	74-97-5	1	0.09	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.08	0.20	ND	ug/L	U
1,1-Dichloropropene	563-58-6	1	0.09	0.20	ND	ug/L	U
Carbon tetrachloride	56-23-5	1	0.09	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.08	0.20	ND	ug/L	U
Benzene	71-43-2	1	0.05	0.20	ND	ug/L	U
Trichloroethene	79-01-6	1	0.07	0.20	ND	ug/L	U
1,2-Dichloropropane	78-87-5	1	0.07	0.20	ND	ug/L	U
Bromodichloromethane	75-27-4	1	0.09	0.20	ND	ug/L	U
Dibromomethane	74-95-3	1	0.06	0.20	ND	ug/L	U
2-Chloroethyl vinyl ether	110-75-8	1	0.55	1.00	ND	ug/L	U
4-Methyl-2-Pentanone	108-10-1	1	1.90	5.00	ND	ug/L	U
cis-1,3-Dichloropropene	10061-01-5	1	0.09	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.05	0.20	0.08	ug/L	J



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

KWTANK
22L0377-15 (Water)

Volatile Organic Compounds

Method: EPA 8260D

Sampled: 12/14/2022 17:30

Instrument: NT2 Analyst: LH

Analyzed: 12/15/2022 11:48

Analysis by: Analytical Resources, LLC

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
trans-1,3-Dichloropropene	10061-02-6	1	0.09	0.20	ND	ug/L	U
2-Hexanone	591-78-6	1	2.06	5.00	ND	ug/L	U
1,1,2-Trichloroethane	79-00-5	1	0.10	0.20	ND	ug/L	U
1,3-Dichloropropane	142-28-9	1	0.07	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.09	0.20	ND	ug/L	U
Dibromochloromethane	124-48-1	1	0.09	0.20	ND	ug/L	U
1,2-Dibromoethane	106-93-4	1	0.09	0.20	ND	ug/L	U
Chlorobenzene	108-90-7	1	0.06	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.05	0.20	ND	ug/L	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.09	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.14	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.08	0.20	ND	ug/L	U
Xylenes, total	1330-20-7	1	0.22	0.60	ND	ug/L	U
Styrene	100-42-5	1	0.09	0.20	ND	ug/L	U
Bromoform	75-25-2	1	0.15	0.20	ND	ug/L	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.10	0.20	ND	ug/L	U
1,2,3-Trichloropropane	96-18-4	1	0.16	0.50	ND	ug/L	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.60	1.00	ND	ug/L	U
n-Propylbenzene	103-65-1	1	0.07	0.20	ND	ug/L	U
Bromobenzene	108-86-1	1	0.07	0.20	ND	ug/L	U
Isopropyl Benzene	98-82-8	1	0.07	0.20	ND	ug/L	U
2-Chlorotoluene	95-49-8	1	0.06	0.20	ND	ug/L	U
4-Chlorotoluene	106-43-4	1	0.06	0.20	ND	ug/L	U
t-Butylbenzene	98-06-6	1	0.07	0.20	ND	ug/L	U
1,3,5-Trimethylbenzene	108-67-8	1	0.07	0.20	ND	ug/L	U
1,2,4-Trimethylbenzene	95-63-6	1	0.10	0.20	ND	ug/L	U
s-Butylbenzene	135-98-8	1	0.06	0.20	ND	ug/L	U
4-Isopropyl Toluene	99-87-6	1	0.08	0.20	ND	ug/L	U
1,3-Dichlorobenzene	541-73-1	1	0.08	0.20	ND	ug/L	U
1,4-Dichlorobenzene	106-46-7	1	0.10	0.20	ND	ug/L	U
n-Butylbenzene	104-51-8	1	0.18	0.20	ND	ug/L	U
1,2-Dichlorobenzene	95-50-1	1	0.08	0.20	ND	ug/L	U
1,2-Dibromo-3-chloropropane	96-12-8	1	0.39	0.50	ND	ug/L	U
1,2,4-Trichlorobenzene	120-82-1	1	0.21	0.50	ND	ug/L	U
Hexachloro-1,3-Butadiene	87-68-3	1	1.00	2.00	ND	ug/L	U
Naphthalene	91-20-3	1	0.27	0.50	ND	ug/L	U
1,2,3-Trichlorobenzene	87-61-6	1	0.25	0.50	ND	ug/L	U



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

KWTANK
22L0377-15 (Water)

Volatile Organic Compounds

Method: EPA 8260D

Sampled: 12/14/2022 17:30

Instrument: NT2 Analyst: LH

Analyzed: 12/15/2022 11:48

Analysis by: Analytical Resources, LLC

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Dichlorodifluoromethane	75-71-8	1	0.13	0.20	ND	ug/L	U
Methyl tert-butyl Ether	1634-04-4	1	0.14	0.50	ND	ug/L	U
2-Pentanone	107-87-9	1	2.34	5.00	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	118	%	
Surrogate: Toluene-d8				80-120 %	96.2	%	
Surrogate: 4-Bromofluorobenzene				80-120 %	89.1	%	
Surrogate: 1,2-Dichlorobenzene-d4				80-120 %	100	%	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

KWTANK
22L0377-15 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 12/14/2022 17:30

Instrument: FID4 Analyst: AA

Analyzed: 12/19/2022 10:43

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BKL0436
Prepared: 12/16/2022

Sample Size: 500 mL
Final Volume: 1 mL

Extract ID: 22L0377-15 B 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
<i>Surrogate: o-Terphenyl</i>			<i>50-150 %</i>	<i>114</i>	<i>%</i>	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

KWTANK
22L0377-15 (Water)

Metals and Metallic Compounds

Method: EPA 200.8

Sampled: 12/14/2022 17:30

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 20:35

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 22L0377-15 A 01

Preparation Batch: BKL0716

Sample Size: 25 mL

Prepared: 12/30/2022

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chromium	7440-47-3	2	0.520	1.00	1.90	ug/L	D
Lead	7439-92-1	1	0.0513	0.100	2.06	ug/L	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

KWTANK
22L0377-15 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 12/14/2022 17:30

Instrument: ICPMS2 Analyst: MCB

Analyzed: 01/04/2023 06:02

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M
Preparation Batch: BKL0716
Prepared: 12/30/2022

Sample Size: 25 mL
Final Volume: 25 mL

Extract ID: 22L0377-15 A 01

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0373	0.200	8.35	ug/L	



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

Trip Blanks
22L0377-16 (Water)

Volatile Organic Compounds

Method: EPA 8260D

Sampled: 12/14/2022 10:10

Instrument: NT2 Analyst: LH

Analyzed: 12/15/2022 11:28

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 22L0377-16 A

Preparation Batch: BKL0388

Sample Size: 10 mL

Prepared: 12/15/2022

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.27	0.50	ND	ug/L	U
Vinyl Chloride	75-01-4	1	0.08	0.20	ND	ug/L	U
Bromomethane	74-83-9	1	0.74	1.00	ND	ug/L	U
Chloroethane	75-00-3	1	0.18	0.20	ND	ug/L	U
Trichlorofluoromethane	75-69-4	1	0.13	0.20	ND	ug/L	U
Acrolein	107-02-8	1	2.70	5.00	ND	ug/L	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.11	0.20	ND	ug/L	U
Acetone	67-64-1	1	4.33	5.00	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.08	0.20	ND	ug/L	U
Iodomethane	74-88-4	1	0.43	1.00	ND	ug/L	U
Methylene Chloride	75-09-2	1	0.53	1.00	ND	ug/L	U
Acrylonitrile	107-13-1	1	0.40	1.00	ND	ug/L	U
Carbon Disulfide	75-15-0	1	0.12	0.20	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.07	0.20	ND	ug/L	U
Vinyl Acetate	108-05-4	1	0.12	0.20	ND	ug/L	U
1,1-Dichloroethane	75-34-3	1	0.09	0.20	ND	ug/L	U
2-Butanone	78-93-3	1	1.77	5.00	ND	ug/L	U
2,2-Dichloropropane	594-20-7	1	0.11	0.20	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.08	0.20	ND	ug/L	U
Chloroform	67-66-3	1	0.05	0.20	ND	ug/L	U
Bromochloromethane	74-97-5	1	0.09	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.08	0.20	ND	ug/L	U
1,1-Dichloropropene	563-58-6	1	0.09	0.20	ND	ug/L	U
Carbon tetrachloride	56-23-5	1	0.09	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.08	0.20	ND	ug/L	U
Benzene	71-43-2	1	0.05	0.20	ND	ug/L	U
Trichloroethene	79-01-6	1	0.07	0.20	ND	ug/L	U
1,2-Dichloropropane	78-87-5	1	0.07	0.20	ND	ug/L	U
Bromodichloromethane	75-27-4	1	0.09	0.20	ND	ug/L	U
Dibromomethane	74-95-3	1	0.06	0.20	ND	ug/L	U
2-Chloroethyl vinyl ether	110-75-8	1	0.55	1.00	ND	ug/L	U
4-Methyl-2-Pentanone	108-10-1	1	1.90	5.00	ND	ug/L	U
cis-1,3-Dichloropropene	10061-01-5	1	0.09	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.05	0.20	ND	ug/L	U



Haley & Aldrich
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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

Trip Blanks
22L0377-16 (Water)

Volatile Organic Compounds

Method: EPA 8260D

Sampled: 12/14/2022 10:10

Instrument: NT2 Analyst: LH

Analyzed: 12/15/2022 11:28

Analysis by: Analytical Resources, LLC

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
trans-1,3-Dichloropropene	10061-02-6	1	0.09	0.20	ND	ug/L	U
2-Hexanone	591-78-6	1	2.06	5.00	ND	ug/L	U
1,1,2-Trichloroethane	79-00-5	1	0.10	0.20	ND	ug/L	U
1,3-Dichloropropane	142-28-9	1	0.07	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.09	0.20	ND	ug/L	U
Dibromochloromethane	124-48-1	1	0.09	0.20	ND	ug/L	U
1,2-Dibromoethane	106-93-4	1	0.09	0.20	ND	ug/L	U
Chlorobenzene	108-90-7	1	0.06	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.05	0.20	ND	ug/L	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.09	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.14	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.08	0.20	ND	ug/L	U
Xylenes, total	1330-20-7	1	0.22	0.60	ND	ug/L	U
Styrene	100-42-5	1	0.09	0.20	ND	ug/L	U
Bromoform	75-25-2	1	0.15	0.20	ND	ug/L	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.10	0.20	ND	ug/L	U
1,2,3-Trichloropropane	96-18-4	1	0.16	0.50	ND	ug/L	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.60	1.00	ND	ug/L	U
n-Propylbenzene	103-65-1	1	0.07	0.20	ND	ug/L	U
Bromobenzene	108-86-1	1	0.07	0.20	ND	ug/L	U
Isopropyl Benzene	98-82-8	1	0.07	0.20	ND	ug/L	U
2-Chlorotoluene	95-49-8	1	0.06	0.20	ND	ug/L	U
4-Chlorotoluene	106-43-4	1	0.06	0.20	ND	ug/L	U
t-Butylbenzene	98-06-6	1	0.07	0.20	ND	ug/L	U
1,3,5-Trimethylbenzene	108-67-8	1	0.07	0.20	ND	ug/L	U
1,2,4-Trimethylbenzene	95-63-6	1	0.10	0.20	ND	ug/L	U
s-Butylbenzene	135-98-8	1	0.06	0.20	ND	ug/L	U
4-Isopropyl Toluene	99-87-6	1	0.08	0.20	ND	ug/L	U
1,3-Dichlorobenzene	541-73-1	1	0.08	0.20	ND	ug/L	U
1,4-Dichlorobenzene	106-46-7	1	0.10	0.20	ND	ug/L	U
n-Butylbenzene	104-51-8	1	0.18	0.20	ND	ug/L	U
1,2-Dichlorobenzene	95-50-1	1	0.08	0.20	ND	ug/L	U
1,2-Dibromo-3-chloropropane	96-12-8	1	0.39	0.50	ND	ug/L	U
1,2,4-Trichlorobenzene	120-82-1	1	0.21	0.50	ND	ug/L	U
Hexachloro-1,3-Butadiene	87-68-3	1	1.00	2.00	ND	ug/L	U
Naphthalene	91-20-3	1	0.27	0.50	ND	ug/L	U
1,2,3-Trichlorobenzene	87-61-6	1	0.25	0.50	ND	ug/L	U



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

Trip Blanks
22L0377-16 (Water)

Volatile Organic Compounds

Method: EPA 8260D

Sampled: 12/14/2022 10:10

Instrument: NT2 Analyst: LH

Analyzed: 12/15/2022 11:28

Analysis by: Analytical Resources, LLC

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Dichlorodifluoromethane	75-71-8	1	0.13	0.20	ND	ug/L	U
Methyl tert-butyl Ether	1634-04-4	1	0.14	0.50	ND	ug/L	U
2-Pentanone	107-87-9	1	2.34	5.00	ND	ug/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>				<i>80-129 %</i>	<i>111</i>	<i>%</i>	
<i>Surrogate: Toluene-d8</i>				<i>80-120 %</i>	<i>96.0</i>	<i>%</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>				<i>80-120 %</i>	<i>90.6</i>	<i>%</i>	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>				<i>80-120 %</i>	<i>96.7</i>	<i>%</i>	



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Project: Paccar
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Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

Trip Blanks
22L0377-16 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM

Sampled: 12/14/2022 10:10

Instrument: NT16 Analyst: KOTT

Analyzed: 12/15/2022 14:38

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 22L0377-16 B

Preparation Batch: BKL0400

Sample Size: 10 mL

Prepared: 12/15/2022

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	5.01	20.0	ND	ng/L	U
Surrogate: 1,2-Dichloroethane-d4				80-129 %	95.8	%	
Surrogate: Toluene-d8				80-120 %	88.8	%	
Surrogate: 4-Bromofluorobenzene				75-125 %	93.3	%	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BKL0388 - EPA 8260D

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BKL0388-BLK1)						Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 09:19					
Chloromethane	ND	0.27	0.50	ug/L							U
Vinyl Chloride	ND	0.08	0.20	ug/L							U
Bromomethane	ND	0.74	1.00	ug/L							U
Chloroethane	ND	0.18	0.20	ug/L							U
Trichlorofluoromethane	ND	0.13	0.20	ug/L							U
Acrolein	ND	2.70	5.00	ug/L							U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.11	0.20	ug/L							U
Acetone	ND	4.33	5.00	ug/L							U
1,1-Dichloroethene	ND	0.08	0.20	ug/L							U
Iodomethane	ND	0.43	1.00	ug/L							U
Methylene Chloride	ND	0.53	1.00	ug/L							U
Acrylonitrile	ND	0.40	1.00	ug/L							U
Carbon Disulfide	ND	0.12	0.20	ug/L							U
trans-1,2-Dichloroethene	ND	0.07	0.20	ug/L							U
Vinyl Acetate	ND	0.12	0.20	ug/L							U
1,1-Dichloroethane	ND	0.09	0.20	ug/L							U
2-Butanone	ND	1.77	5.00	ug/L							U
2,2-Dichloropropane	ND	0.11	0.20	ug/L							U
cis-1,2-Dichloroethene	ND	0.08	0.20	ug/L							U
Chloroform	ND	0.05	0.20	ug/L							U
Bromochloromethane	ND	0.09	0.20	ug/L							U
1,1,1-Trichloroethane	ND	0.08	0.20	ug/L							U
1,1-Dichloropropene	ND	0.09	0.20	ug/L							U
Carbon tetrachloride	ND	0.09	0.20	ug/L							U
1,2-Dichloroethane	ND	0.08	0.20	ug/L							U
Benzene	ND	0.05	0.20	ug/L							U
Trichloroethene	ND	0.07	0.20	ug/L							U
1,2-Dichloropropane	ND	0.07	0.20	ug/L							U
Bromodichloromethane	ND	0.09	0.20	ug/L							U
Dibromomethane	ND	0.06	0.20	ug/L							U
2-Chloroethyl vinyl ether	ND	0.55	1.00	ug/L							U
4-Methyl-2-Pentanone	ND	1.90	5.00	ug/L							U
cis-1,3-Dichloropropene	ND	0.09	0.20	ug/L							U
Toluene	ND	0.05	0.20	ug/L							U
trans-1,3-Dichloropropene	ND	0.09	0.20	ug/L							U



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BKL0388 - EPA 8260D

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BKL0388-BLK1)						Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 09:19					
2-Hexanone	ND	2.06	5.00	ug/L							U
1,1,2-Trichloroethane	ND	0.10	0.20	ug/L							U
1,3-Dichloropropane	ND	0.07	0.20	ug/L							U
Tetrachloroethene	ND	0.09	0.20	ug/L							U
Dibromochloromethane	ND	0.09	0.20	ug/L							U
1,2-Dibromoethane	ND	0.09	0.20	ug/L							U
Chlorobenzene	ND	0.06	0.20	ug/L							U
Ethylbenzene	ND	0.05	0.20	ug/L							U
1,1,1,2-Tetrachloroethane	ND	0.09	0.20	ug/L							U
m,p-Xylene	ND	0.14	0.40	ug/L							U
o-Xylene	ND	0.08	0.20	ug/L							U
Xylenes, total	ND	0.22	0.60	ug/L							U
Styrene	ND	0.09	0.20	ug/L							U
Bromoform	ND	0.15	0.20	ug/L							U
1,1,2,2-Tetrachloroethane	ND	0.10	0.20	ug/L							U
1,2,3-Trichloropropane	ND	0.16	0.50	ug/L							U
trans-1,4-Dichloro 2-Butene	ND	0.60	1.00	ug/L							U
n-Propylbenzene	ND	0.07	0.20	ug/L							U
Bromobenzene	ND	0.07	0.20	ug/L							U
Isopropyl Benzene	ND	0.07	0.20	ug/L							U
2-Chlorotoluene	ND	0.06	0.20	ug/L							U
4-Chlorotoluene	ND	0.06	0.20	ug/L							U
t-Butylbenzene	ND	0.07	0.20	ug/L							U
1,3,5-Trimethylbenzene	ND	0.07	0.20	ug/L							U
1,2,4-Trimethylbenzene	ND	0.10	0.20	ug/L							U
s-Butylbenzene	ND	0.06	0.20	ug/L							U
4-Isopropyl Toluene	ND	0.08	0.20	ug/L							U
1,3-Dichlorobenzene	ND	0.08	0.20	ug/L							U
1,4-Dichlorobenzene	ND	0.10	0.20	ug/L							U
n-Butylbenzene	ND	0.18	0.20	ug/L							U
1,2-Dichlorobenzene	ND	0.08	0.20	ug/L							U
1,2-Dibromo-3-chloropropane	ND	0.39	0.50	ug/L							U
1,2,4-Trichlorobenzene	ND	0.21	0.50	ug/L							U
Hexachloro-1,3-Butadiene	ND	1.00	2.00	ug/L							U
Naphthalene	ND	0.27	0.50	ug/L							U



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BKL0388 - EPA 8260D

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BKL0388-BLK1)						Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 09:19					
1,2,3-Trichlorobenzene	ND	0.25	0.50	ug/L							U
Dichlorodifluoromethane	ND	0.13	0.20	ug/L							U
Methyl tert-butyl Ether	ND	0.14	0.50	ug/L							U
2-Pentanone	ND	2.34	5.00	ug/L							U
<i>Surrogate: 1,2-Dichloroethane-d4</i>	5.64			ug/L	5.00		113	80-129			
<i>Surrogate: Toluene-d8</i>	4.83			ug/L	5.00		96.6	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	4.55			ug/L	5.00		90.9	80-120			
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	5.06			ug/L	5.00		101	80-120			
LCS (BKL0388-BS1)						Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 07:57					
Chloromethane	8.96	0.27	0.50	ug/L	10.0		89.6	60-138			
Vinyl Chloride	9.89	0.08	0.20	ug/L	10.0		98.9	66-133			
Bromomethane	10.4	0.74	1.00	ug/L	10.0		104	72-131			
Chloroethane	10.3	0.18	0.20	ug/L	10.0		103	60-155			
Trichlorofluoromethane	10.1	0.13	0.20	ug/L	10.0		101	62-141			
Acrolein	47.7	2.70	5.00	ug/L	50.0		95.4	52-190			
1,1,2-Trichloro-1,2,2-Trifluoroethane	11.0	0.11	0.20	ug/L	10.0		110	76-129			
Acetone	53.7	4.33	5.00	ug/L	50.0		107	58-142			
1,1-Dichloroethene	10.5	0.08	0.20	ug/L	10.0		105	69-135			
Iodomethane	11.1	0.43	1.00	ug/L	10.0		111	56-147			
Methylene Chloride	10.4	0.53	1.00	ug/L	10.0		104	65-135			
Acrylonitrile	10.5	0.40	1.00	ug/L	10.0		105	64-134			
Carbon Disulfide	11.0	0.12	0.20	ug/L	10.0		110	78-125			
trans-1,2-Dichloroethene	13.2	0.07	0.20	ug/L	10.0		132	78-128			*, Q
Vinyl Acetate	9.63	0.12	0.20	ug/L	10.0		96.3	55-138			
1,1-Dichloroethane	10.3	0.09	0.20	ug/L	10.0		103	76-124			
2-Butanone	57.5	1.77	5.00	ug/L	50.0		115	61-140			
2,2-Dichloropropane	9.27	0.11	0.20	ug/L	10.0		92.7	66-147			
cis-1,2-Dichloroethene	10.4	0.08	0.20	ug/L	10.0		104	80-121			
Chloroform	10.4	0.05	0.20	ug/L	10.0		104	80-122			
Bromochloromethane	10.0	0.09	0.20	ug/L	10.0		100	80-121			
1,1,1-Trichloroethane	9.86	0.08	0.20	ug/L	10.0		98.6	79-123			
1,1-Dichloropropene	9.81	0.09	0.20	ug/L	10.0		98.1	80-127			
Carbon tetrachloride	8.64	0.09	0.20	ug/L	10.0		86.4	53-137			
1,2-Dichloroethane	9.89	0.08	0.20	ug/L	10.0		98.9	75-123			



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BKL0388 - EPA 8260D

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BKL0388-BS1)						Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 07:57					
Benzene	10.5	0.05	0.20	ug/L	10.0		105	80-120			
Trichloroethene	9.93	0.07	0.20	ug/L	10.0		99.3	80-120			
1,2-Dichloropropane	10.3	0.07	0.20	ug/L	10.0		103	80-120			
Bromodichloromethane	9.63	0.09	0.20	ug/L	10.0		96.3	80-121			
Dibromomethane	9.92	0.06	0.20	ug/L	10.0		99.2	80-120			
2-Chloroethyl vinyl ether	8.01	0.55	1.00	ug/L	10.0		80.1	64-120			
4-Methyl-2-Pentanone	55.8	1.90	5.00	ug/L	50.0		112	67-133			
cis-1,3-Dichloropropene	10.0	0.09	0.20	ug/L	10.0		100	80-124			
Toluene	10.4	0.05	0.20	ug/L	10.0		104	80-120			
trans-1,3-Dichloropropene	9.83	0.09	0.20	ug/L	10.0		98.3	71-127			
2-Hexanone	53.1	2.06	5.00	ug/L	50.0		106	69-133			
1,1,2-Trichloroethane	10.5	0.10	0.20	ug/L	10.0		105	80-121			
1,3-Dichloropropane	9.86	0.07	0.20	ug/L	10.0		98.6	80-120			
Tetrachloroethene	9.87	0.09	0.20	ug/L	10.0		98.7	80-120			
Dibromochloromethane	9.25	0.09	0.20	ug/L	10.0		92.5	65-135			
1,2-Dibromoethane	10.3	0.09	0.20	ug/L	10.0		103	80-121			
Chlorobenzene	9.98	0.06	0.20	ug/L	10.0		99.8	80-120			
Ethylbenzene	9.94	0.05	0.20	ug/L	10.0		99.4	80-120			
1,1,1,2-Tetrachloroethane	9.19	0.09	0.20	ug/L	10.0		91.9	80-120			
m,p-Xylene	20.1	0.14	0.40	ug/L	20.0		100	80-121			
o-Xylene	9.74	0.08	0.20	ug/L	10.0		97.4	80-121			
Xylenes, total	29.8	0.22	0.60	ug/L	30.0		99.4	76-127			
Styrene	10.3	0.09	0.20	ug/L	10.0		103	80-124			
Bromoform	9.10	0.15	0.20	ug/L	10.0		91.0	51-134			
1,1,2,2-Tetrachloroethane	9.92	0.10	0.20	ug/L	10.0		99.2	77-123			
1,2,3-Trichloropropane	9.58	0.16	0.50	ug/L	10.0		95.8	76-125			
trans-1,4-Dichloro 2-Butene	9.02	0.60	1.00	ug/L	10.0		90.2	55-129			
n-Propylbenzene	10.2	0.07	0.20	ug/L	10.0		102	78-130			
Bromobenzene	9.78	0.07	0.20	ug/L	10.0		97.8	80-120			
Isopropyl Benzene	9.99	0.07	0.20	ug/L	10.0		99.9	80-128			
2-Chlorotoluene	9.98	0.06	0.20	ug/L	10.0		99.8	78-122			
4-Chlorotoluene	9.94	0.06	0.20	ug/L	10.0		99.4	80-121			
t-Butylbenzene	9.49	0.07	0.20	ug/L	10.0		94.9	78-125			
1,3,5-Trimethylbenzene	9.98	0.07	0.20	ug/L	10.0		99.8	80-129			
1,2,4-Trimethylbenzene	10.0	0.10	0.20	ug/L	10.0		100	80-127			



Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle WA, 98121

Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BKL0388 - EPA 8260D

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BKL0388-BS1)											
						Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 07:57					
s-Butylbenzene	9.73	0.06	0.20	ug/L	10.0		97.3	78-129			
4-Isopropyl Toluene	9.81	0.08	0.20	ug/L	10.0		98.1	79-130			
1,3-Dichlorobenzene	9.91	0.08	0.20	ug/L	10.0		99.1	80-120			
1,4-Dichlorobenzene	9.82	0.10	0.20	ug/L	10.0		98.2	80-120			
n-Butylbenzene	9.67	0.18	0.20	ug/L	10.0		96.7	74-129			
1,2-Dichlorobenzene	9.70	0.08	0.20	ug/L	10.0		97.0	80-120			
1,2-Dibromo-3-chloropropane	8.30	0.39	0.50	ug/L	10.0		83.0	62-123			
1,2,4-Trichlorobenzene	8.91	0.21	0.50	ug/L	10.0		89.1	64-124			
Hexachloro-1,3-Butadiene	8.09	1.00	2.00	ug/L	10.0		80.9	58-123			
Naphthalene	8.84	0.27	0.50	ug/L	10.0		88.4	50-134			
1,2,3-Trichlorobenzene	8.84	0.25	0.50	ug/L	10.0		88.4	49-133			
Dichlorodifluoromethane	8.87	0.13	0.20	ug/L	10.0		88.7	48-147			
Methyl tert-butyl Ether	10.5	0.14	0.50	ug/L	10.0		105	71-132			
2-Pentanone	51.1	2.34	5.00	ug/L	50.0		102	69-134			
Surrogate: 1,2-Dichloroethane-d4	5.22			ug/L	5.00		104	80-129			
Surrogate: Toluene-d8	5.04			ug/L	5.00		101	80-120			
Surrogate: 4-Bromofluorobenzene	4.87			ug/L	5.00		97.4	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	4.98			ug/L	5.00		99.6	80-120			
LCS Dup (BKL0388-BS1)											
						Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 08:38					
Chloromethane	10.0	0.27	0.50	ug/L	10.0		100	60-138	11.00	30	
Vinyl Chloride	10.2	0.08	0.20	ug/L	10.0		102	66-133	3.23	30	
Bromomethane	10.6	0.74	1.00	ug/L	10.0		106	72-131	1.96	30	
Chloroethane	10.7	0.18	0.20	ug/L	10.0		107	60-155	3.40	30	
Trichlorofluoromethane	11.9	0.13	0.20	ug/L	10.0		119	62-141	15.80	30	
Acrolein	50.9	2.70	5.00	ug/L	50.0		102	52-190	6.52	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	11.3	0.11	0.20	ug/L	10.0		113	76-129	2.31	30	
Acetone	52.9	4.33	5.00	ug/L	50.0		106	58-142	1.47	30	
1,1-Dichloroethene	11.0	0.08	0.20	ug/L	10.0		110	69-135	4.58	30	
Iodomethane	11.7	0.43	1.00	ug/L	10.0		117	56-147	4.92	30	
Methylene Chloride	10.8	0.53	1.00	ug/L	10.0		108	65-135	3.48	30	
Acrylonitrile	11.0	0.40	1.00	ug/L	10.0		110	64-134	4.12	30	
Carbon Disulfide	11.5	0.12	0.20	ug/L	10.0		115	78-125	4.39	30	
trans-1,2-Dichloroethene	10.0	0.07	0.20	ug/L	10.0		100	78-128	27.10	30	Q
Vinyl Acetate	10.3	0.12	0.20	ug/L	10.0		103	55-138	7.05	30	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BKL0388 - EPA 8260D

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BKL0388-BSD1)						Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 08:38					
1,1-Dichloroethane	10.9	0.09	0.20	ug/L	10.0		109	76-124	5.31	30	
2-Butanone	57.9	1.77	5.00	ug/L	50.0		116	61-140	0.74	30	
2,2-Dichloropropane	10.0	0.11	0.20	ug/L	10.0		100	66-147	7.75	30	
cis-1,2-Dichloroethene	10.8	0.08	0.20	ug/L	10.0		108	80-121	4.03	30	
Chloroform	10.9	0.05	0.20	ug/L	10.0		109	80-122	4.48	30	
Bromochloromethane	10.7	0.09	0.20	ug/L	10.0		107	80-121	5.88	30	
1,1,1-Trichloroethane	10.3	0.08	0.20	ug/L	10.0		103	79-123	4.61	30	
1,1-Dichloropropene	10.1	0.09	0.20	ug/L	10.0		101	80-127	2.64	30	
Carbon tetrachloride	9.02	0.09	0.20	ug/L	10.0		90.2	53-137	4.31	30	
1,2-Dichloroethane	10.0	0.08	0.20	ug/L	10.0		100	75-123	1.29	30	
Benzene	10.9	0.05	0.20	ug/L	10.0		109	80-120	3.37	30	
Trichloroethene	10.2	0.07	0.20	ug/L	10.0		102	80-120	2.85	30	
1,2-Dichloropropane	10.7	0.07	0.20	ug/L	10.0		107	80-120	3.07	30	
Bromodichloromethane	9.96	0.09	0.20	ug/L	10.0		99.6	80-121	3.36	30	
Dibromomethane	10.0	0.06	0.20	ug/L	10.0		100	80-120	0.80	30	
2-Chloroethyl vinyl ether	8.11	0.55	1.00	ug/L	10.0		81.1	64-120	1.22	30	
4-Methyl-2-Pentanone	56.4	1.90	5.00	ug/L	50.0		113	67-133	1.08	30	
cis-1,3-Dichloropropene	10.2	0.09	0.20	ug/L	10.0		102	80-124	1.41	30	
Toluene	10.5	0.05	0.20	ug/L	10.0		105	80-120	1.02	30	
trans-1,3-Dichloropropene	9.92	0.09	0.20	ug/L	10.0		99.2	71-127	0.88	30	
2-Hexanone	54.8	2.06	5.00	ug/L	50.0		110	69-133	3.18	30	
1,1,2-Trichloroethane	10.5	0.10	0.20	ug/L	10.0		105	80-121	0.37	30	
1,3-Dichloropropane	10.3	0.07	0.20	ug/L	10.0		103	80-120	3.99	30	
Tetrachloroethene	10.3	0.09	0.20	ug/L	10.0		103	80-120	3.98	30	
Dibromochloromethane	9.60	0.09	0.20	ug/L	10.0		96.0	65-135	3.69	30	
1,2-Dibromoethane	10.2	0.09	0.20	ug/L	10.0		102	80-121	0.69	30	
Chlorobenzene	10.4	0.06	0.20	ug/L	10.0		104	80-120	4.30	30	
Ethylbenzene	10.3	0.05	0.20	ug/L	10.0		103	80-120	3.80	30	
1,1,1,2-Tetrachloroethane	9.50	0.09	0.20	ug/L	10.0		95.0	80-120	3.37	30	
m,p-Xylene	20.9	0.14	0.40	ug/L	20.0		105	80-121	4.16	30	
o-Xylene	10.2	0.08	0.20	ug/L	10.0		102	80-121	4.70	30	
Xylenes, total	31.2	0.22	0.60	ug/L	30.0		104	76-127	4.33	30	
Styrene	10.9	0.09	0.20	ug/L	10.0		109	80-124	5.51	30	
Bromoform	9.34	0.15	0.20	ug/L	10.0		93.4	51-134	2.64	30	
1,1,2,2-Tetrachloroethane	10.4	0.10	0.20	ug/L	10.0		104	77-123	4.46	30	



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BKL0388 - EPA 8260D

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BKL0388-BSD1)						Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 08:38					
1,2,3-Trichloropropane	10.1	0.16	0.50	ug/L	10.0		101	76-125	5.30	30	
trans-1,4-Dichloro 2-Butene	9.41	0.60	1.00	ug/L	10.0		94.1	55-129	4.26	30	
n-Propylbenzene	10.7	0.07	0.20	ug/L	10.0		107	78-130	4.74	30	
Bromobenzene	10.4	0.07	0.20	ug/L	10.0		104	80-120	6.14	30	
Isopropyl Benzene	10.4	0.07	0.20	ug/L	10.0		104	80-128	3.88	30	
2-Chlorotoluene	10.4	0.06	0.20	ug/L	10.0		104	78-122	4.44	30	
4-Chlorotoluene	10.4	0.06	0.20	ug/L	10.0		104	80-121	4.59	30	
t-Butylbenzene	10.1	0.07	0.20	ug/L	10.0		101	78-125	6.18	30	
1,3,5-Trimethylbenzene	10.5	0.07	0.20	ug/L	10.0		105	80-129	5.53	30	
1,2,4-Trimethylbenzene	10.6	0.10	0.20	ug/L	10.0		106	80-127	5.18	30	
s-Butylbenzene	10.3	0.06	0.20	ug/L	10.0		103	78-129	5.34	30	
4-Isopropyl Toluene	10.3	0.08	0.20	ug/L	10.0		103	79-130	4.64	30	
1,3-Dichlorobenzene	10.4	0.08	0.20	ug/L	10.0		104	80-120	4.57	30	
1,4-Dichlorobenzene	10.4	0.10	0.20	ug/L	10.0		104	80-120	5.45	30	
n-Butylbenzene	10.2	0.18	0.20	ug/L	10.0		102	74-129	5.42	30	
1,2-Dichlorobenzene	10.2	0.08	0.20	ug/L	10.0		102	80-120	5.46	30	
1,2-Dibromo-3-chloropropane	8.58	0.39	0.50	ug/L	10.0		85.8	62-123	3.32	30	
1,2,4-Trichlorobenzene	9.61	0.21	0.50	ug/L	10.0		96.1	64-124	7.63	30	
Hexachloro-1,3-Butadiene	9.13	1.00	2.00	ug/L	10.0		91.3	58-123	12.00	30	
Naphthalene	9.50	0.27	0.50	ug/L	10.0		95.0	50-134	7.21	30	
1,2,3-Trichlorobenzene	9.29	0.25	0.50	ug/L	10.0		92.9	49-133	4.99	30	
Dichlorodifluoromethane	9.15	0.13	0.20	ug/L	10.0		91.5	48-147	3.04	30	
Methyl tert-butyl Ether	10.9	0.14	0.50	ug/L	10.0		109	71-132	4.43	30	
2-Pentanone	51.4	2.34	5.00	ug/L	50.0		103	69-134	0.62	30	
Surrogate: 1,2-Dichloroethane-d4	5.34			ug/L	5.00		107	80-129			
Surrogate: Toluene-d8	4.96			ug/L	5.00		99.2	80-120			
Surrogate: 4-Bromofluorobenzene	4.88			ug/L	5.00		97.5	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	4.97			ug/L	5.00		99.5	80-120			



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - SIM - Quality Control

Batch BKL0400 - EPA 8260D-SIM

Instrument: NT16 Analyst: KOTT

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Blank (BKL0400-BLK1)					Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 13:06					
Vinyl chloride	ND	5.01	20.0	ng/L						U
Surrogate: 1,2-Dichloroethane-d4	4560			ng/L	5000	91.1	80-129			
Surrogate: Toluene-d8	4510			ng/L	5000	90.1	80-120			
Surrogate: 4-Bromofluorobenzene	4720			ng/L	5000	94.3	75-125			
LCS (BKL0400-BS1)					Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 11:35					
Vinyl chloride	2140	5.01	20.0	ng/L	2000	107	62-141			
Surrogate: 1,2-Dichloroethane-d4	4590			ng/L	5000	91.8	80-129			
Surrogate: Toluene-d8	4720			ng/L	5000	94.4	80-120			
Surrogate: 4-Bromofluorobenzene	5080			ng/L	5000	102	75-125			
LCS Dup (BKL0400-BS1)					Prepared: 15-Dec-2022 Analyzed: 15-Dec-2022 12:16					
Vinyl chloride	1970	5.01	20.0	ng/L	2000	98.5	62-141	8.09	30	
Surrogate: 1,2-Dichloroethane-d4	4610			ng/L	5000	92.3	80-129			
Surrogate: Toluene-d8	4750			ng/L	5000	95.0	80-120			
Surrogate: 4-Bromofluorobenzene	5110			ng/L	5000	102	75-125			



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Project: Paccar
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Reported:
17-Jan-2023 09:20

Analysis by: Analytical Resources, LLC

Petroleum Hydrocarbons - Quality Control

Batch BKL0436 - NWTPH-Dx

Instrument: FID4 Analyst: AA

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Blank (BKL0436-BLK1)		Prepared: 16-Dec-2022 Analyzed: 19-Dec-2022 10:04							
Diesel Range Organics (C12-C24)	ND	0.100	mg/L						U
Motor Oil Range Organics (C24-C38)	ND	0.200	mg/L						U
Surrogate: <i>o</i> -Terphenyl	0.195		mg/L	0.225	86.5	50-150			
LCS (BKL0436-BS1)		Prepared: 16-Dec-2022 Analyzed: 19-Dec-2022 10:23							
Diesel Range Organics (C12-C24)	2.94	0.100	mg/L	3.00	98.0	56-120			
Surrogate: <i>o</i> -Terphenyl	0.250		mg/L	0.225	111	50-150			



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Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds - Quality Control

Batch BKL0716 - EPA 200.8

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BKL0716-BLK1)			Prepared: 30-Dec-2022 Analyzed: 03-Jan-2023 16:16									
Chromium	52	ND	0.260	0.500	ug/L							U
Lead	208	ND	0.0513	0.100	ug/L							U
Arsenic	75a	ND	0.0373	0.200	ug/L							U
LCS (BKL0716-BS1)			Prepared: 30-Dec-2022 Analyzed: 03-Jan-2023 16:21									
Chromium	52	26.7	0.260	0.500	ug/L	25.0		107	80-120			
Lead	208	27.3	0.0513	0.100	ug/L	25.0		109	80-120			
Arsenic	75a	25.8	0.0373	0.200	ug/L	25.0		103	80-120			



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Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds (dissolved) - Quality Control

Batch BKL0699 - EPA 200.8 UCT-KED

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BKL0699-BLK1)			Prepared: 29-Dec-2022 Analyzed: 03-Jan-2023 17:26									
Arsenic, Dissolved	75a	ND	0.0373	0.200	ug/L							U
LCS (BKL0699-BS1)			Prepared: 29-Dec-2022 Analyzed: 03-Jan-2023 17:30									
Arsenic, Dissolved	75a	24.7	0.0373	0.200	ug/L	25.0		98.8	80-120			
Duplicate (BKL0699-DUP1)			Source: 22L0377-02		Prepared: 29-Dec-2022 Analyzed: 04-Jan-2023 01:42							
Arsenic, Dissolved	75a	0.309	0.0373	0.200	ug/L		0.344			10.70	20	
Matrix Spike (BKL0699-MS1)			Source: 22L0377-02		Prepared: 29-Dec-2022 Analyzed: 04-Jan-2023 01:48							
Arsenic, Dissolved	75a	25.7	0.0373	0.200	ug/L	25.0	0.344	101	75-125			

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



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Project: Paccar
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17-Jan-2023 09:20

Certified Analyses included in this Report

Analyte	Certifications
EPA 200.8 in Water	
Chromium-52	NELAP,WADOE,WA-DW,DoD-ELAP
Chromium-53	NELAP,WADOE,WA-DW,DoD-ELAP
Lead-208	NELAP,WADOE,WA-DW,DoD-ELAP
EPA 200.8 UCT-KED in Water	
Arsenic-75a	NELAP,WADOE,WA-DW,DoD-ELAP
Arsenic-75a	NELAP,WADOE,WA-DW,DoD-ELAP
EPA 8260D in Water	
Chloromethane	DoD-ELAP,ADEC,NELAP,WADOE
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,WADOE
Bromomethane	DoD-ELAP,ADEC,NELAP,WADOE
Chloroethane	DoD-ELAP,ADEC,NELAP,WADOE
Trichlorofluoromethane	DoD-ELAP,ADEC,NELAP,WADOE
Acrolein	DoD-ELAP,NELAP,WADOE
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,NELAP,WADOE
Acetone	DoD-ELAP,ADEC,NELAP,WADOE
1,1-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Iodomethane	DoD-ELAP,NELAP,WADOE
Methylene Chloride	DoD-ELAP,ADEC,NELAP,WADOE
Acrylonitrile	DoD-ELAP,NELAP,WADOE
Carbon Disulfide	DoD-ELAP,NELAP,WADOE
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Vinyl Acetate	DoD-ELAP,NELAP,WADOE
1,1-Dichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
2-Butanone	DoD-ELAP,NELAP,WADOE
2,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,WADOE
Bromochloromethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1-Dichloropropene	DoD-ELAP,ADEC,NELAP,WADOE
Carbon tetrachloride	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
Benzene	DoD-ELAP,ADEC,NELAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,NELAP,WADOE



Haley & Aldrich

3131 Elliott Avenue, Suite 600

Seattle WA, 98121

Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

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1,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
Bromodichloromethane	DoD-ELAP,ADEC,NELAP,WADOE
Dibromomethane	DoD-ELAP,ADEC,NELAP,WADOE
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,NELAP,WADOE
4-Methyl-2-Pentanone	DoD-ELAP,NELAP,WADOE
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,WADOE
Toluene	DoD-ELAP,ADEC,NELAP,WADOE
trans-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,WADOE
2-Hexanone	DoD-ELAP,NELAP,WADOE
1,1,2-Trichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Dibromochloromethane	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dibromoethane	DoD-ELAP,NELAP,WADOE
Chlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,NELAP,WADOE
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,WADOE
m,p-Xylene	DoD-ELAP,ADEC,NELAP,WADOE
o-Xylene	DoD-ELAP,ADEC,NELAP,WADOE
Styrene	DoD-ELAP,NELAP,WADOE
Bromoform	DoD-ELAP,NELAP,WADOE
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,NELAP,WADOE
n-Propylbenzene	DoD-ELAP,NELAP,WADOE
Bromobenzene	DoD-ELAP,NELAP,WADOE
Isopropyl Benzene	DoD-ELAP,NELAP,WADOE
2-Chlorotoluene	DoD-ELAP,ADEC,NELAP,WADOE
4-Chlorotoluene	DoD-ELAP,ADEC,NELAP,WADOE
t-Butylbenzene	DoD-ELAP,NELAP,WADOE
1,3,5-Trimethylbenzene	DoD-ELAP,NELAP,WADOE
1,2,4-Trimethylbenzene	DoD-ELAP,NELAP,WADOE
s-Butylbenzene	DoD-ELAP,NELAP,WADOE
4-Isopropyl Toluene	DoD-ELAP,NELAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
n-Butylbenzene	DoD-ELAP,NELAP,WADOE
1,2-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,NELAP,WADOE



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Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

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1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,NELAP,WADOE
Naphthalene	DoD-ELAP,ADEC,NELAP,WADOE
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
Dichlorodifluoromethane	DoD-ELAP,ADEC,NELAP,WADOE
Methyl tert-butyl Ether	DoD-ELAP,ADEC,NELAP,WADOE
n-Hexane	WADOE
2-Pentanone	WADOE

EPA 8260D-SIM in Water

Acrylonitrile	NELAP,WADOE
Vinyl chloride	NELAP,WADOE
1,1-Dichloroethene	NELAP,WADOE
cis-1,2-Dichloroethene	NELAP,WADOE
trans-1,2-Dichloroethene	NELAP,WADOE
Trichloroethene	NELAP,WADOE
Tetrachloroethene	NELAP,WADOE
1,1,2,2-Tetrachloroethane	NELAP,WADOE
1,2-Dichloroethane	NELAP,WADOE
Benzene	NELAP,WADOE

NWTPH-Dx in Water

Diesel Range Organics (C12-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C25)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C12-C22)	DoD-ELAP
Diesel Range Organics (C12-C25)	DoD-ELAP
Motor Oil Range Organics (C24-C38)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C40)	DoD-ELAP,NELAP,WADOE
Residual Range Organics (C23-C32)	DoD-ELAP
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP,WADOE
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,NELAP,WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP,WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP,WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP,WADOE



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Project: Paccar

Project Number: [none]

Project Manager: Haley Aldrich

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Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP,WADOE

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



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Project: Paccar
Project Number: [none]
Project Manager: Haley Aldrich

Reported:
17-Jan-2023 09:20

Notes and Definitions

*	Flagged value is not within established control limits.
B	This analyte was detected in the method blank.
D	The reported value is from a dilution
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
J	Estimated concentration value detected below the reporting limit.
Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

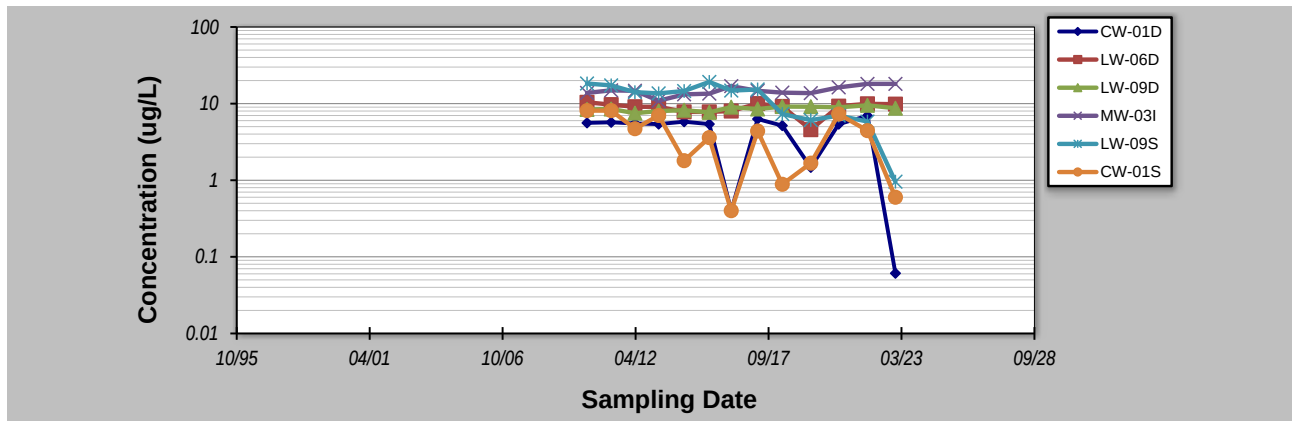
APPENDIX C

Groundwater Quality Summary Charts

Evaluation Date:	4-Dec-22	Job ID:	9999			
Facility Name:	PACCAR Renton	Constituent:	Arsenic			
Conducted By:	Andrew Nakahara/REJ	Concentration Units:	ug/L			
Sampling Point ID:	CW-01D	LW-06D	LW-09D	MW-03I	LW-09S	CW-01S

Sampling Event	Sampling Date	ARSENIC CONCENTRATION (ug/L)					
1	4/2/10	5.6	10.4	8.4	13.8	18.3	8.1
2	3/31/11	5.7	9.7	8.5	14.9	17.3	8.1
3	3/23/12	5.5	9.1	7.5	14.7	14.1	4.7
4	3/14/13	5.4	9.1	8	10.9	13.6	7
5	4/2/14	5.8	7.8	8.2	13.2	14.6	1.8
6	4/15/15	5.4	7.8	7.7	13.5	19.2	3.6
7	3/10/16	0.4	8.0	9.0	16.9	14.8	0.4
8	4/11/17	6.29	10.0	8.5	14.7	15.3	4.39
9	4/17/18	5.16	9.2	9.16	13.9	7.31	0.884
10	6/20/19	1.47	4.57	9.12	13.7	6.1	1.67
11	8/13/20	5.39	9.26	8.95	16.3	6.98	7.3
12	10/19/21	6.94	9.94	9.51	18.1	5.83	4.44
13	12/14/22	0.061	9.84	8.7	18.1	0.956	0.599
14							
15							
16							
17							
18							
19							
20							

Coefficient of Variation:	0.50	0.17	0.07	0.14	0.48	0.70	
Mann-Kendall Statistic (S):	-21	0	38	30	-48	-31	
Confidence Factor:	88.6%	47.6%	98.9%	96.2%	99.9%	96.7%	
Concentration Trend:	Stable	Stable	Increasing	Increasing	Decreasing	Decreasing	



Notes:

- At least four independent sampling events per well are required for calculating the trend. Methodology is valid for 4 to 40 samples.
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing ($S > 0$) or decreasing ($S < 0$): $> 95\%$ = Increasing or Decreasing; $\geq 90\%$ = Probably Increasing or Probably Decreasing; $< 90\%$ and $S > 0$ = No Trend; $< 90\%$, $S \leq 0$, and $COV \geq 1$ = No Trend; $< 90\%$ and $COV < 1$ = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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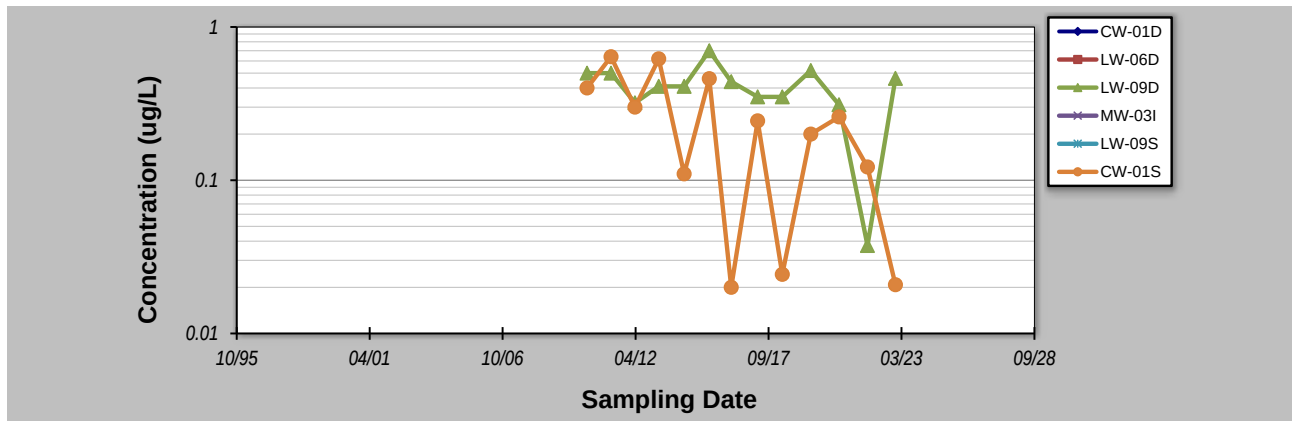
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GSI MANN-KENDALL TOOLKIT

for Constituent Trend Analysis

Evaluation Date: Dec 4 2022	Job ID: 9999
Facility Name: PACCAR Renton	Constituent: VC
Conducted By: Andrew Nakahara	Concentration Units: ug/L
Sampling Point ID: CW-01D LW-06D LW-09D MW-03I LW-09S CW-01S	

Sampling Event	Sampling Date	VC CONCENTRATION (ug/L)			
1	4/2/10		0.5		0.4
2	3/29/11		0.5		0.64
3	3/23/12		0.32		0.3
4	3/15/13		0.41		0.62
5	4/2/14		0.41		0.11
6	4/15/15		0.7		0.46
7	3/10/16		0.44		<0.02
8	4/11/17		0.35		0.244
9	4/17/18		0.35		0.0243
10	6/20/19		0.52		<0.2
11	8/17/20		0.311		0.259
12	10/19/21		0.0375		0.122
13	12/14/22		0.462		0.0208
14					
15					
16					
17					
18					
19					
20					
Coefficient of Variation:			0.37		0.81
Mann-Kendall Statistic (S):			-19		-36
Confidence Factor:			86.1%		98.5%
Concentration Trend:			Stable		Decreasing



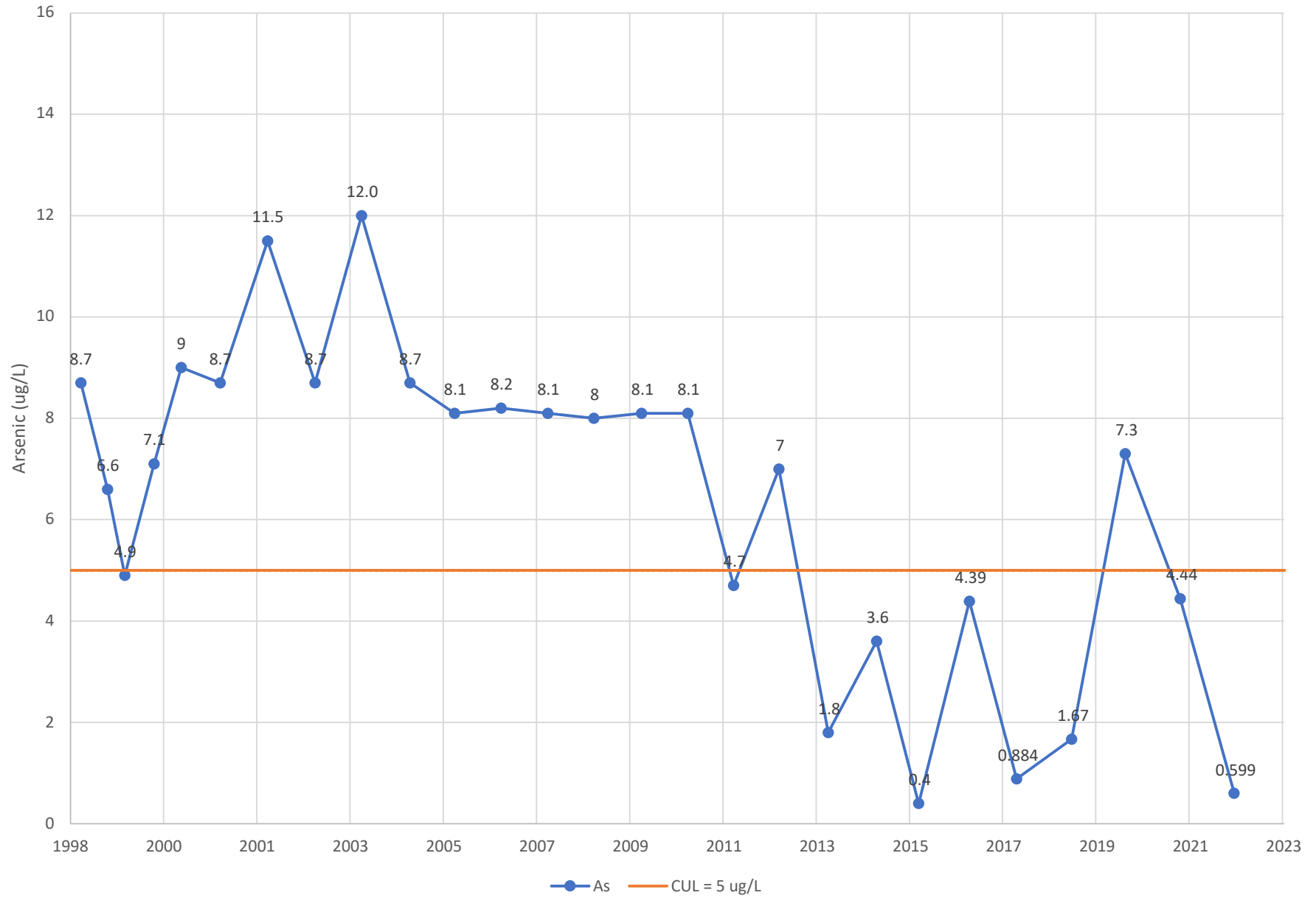
Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

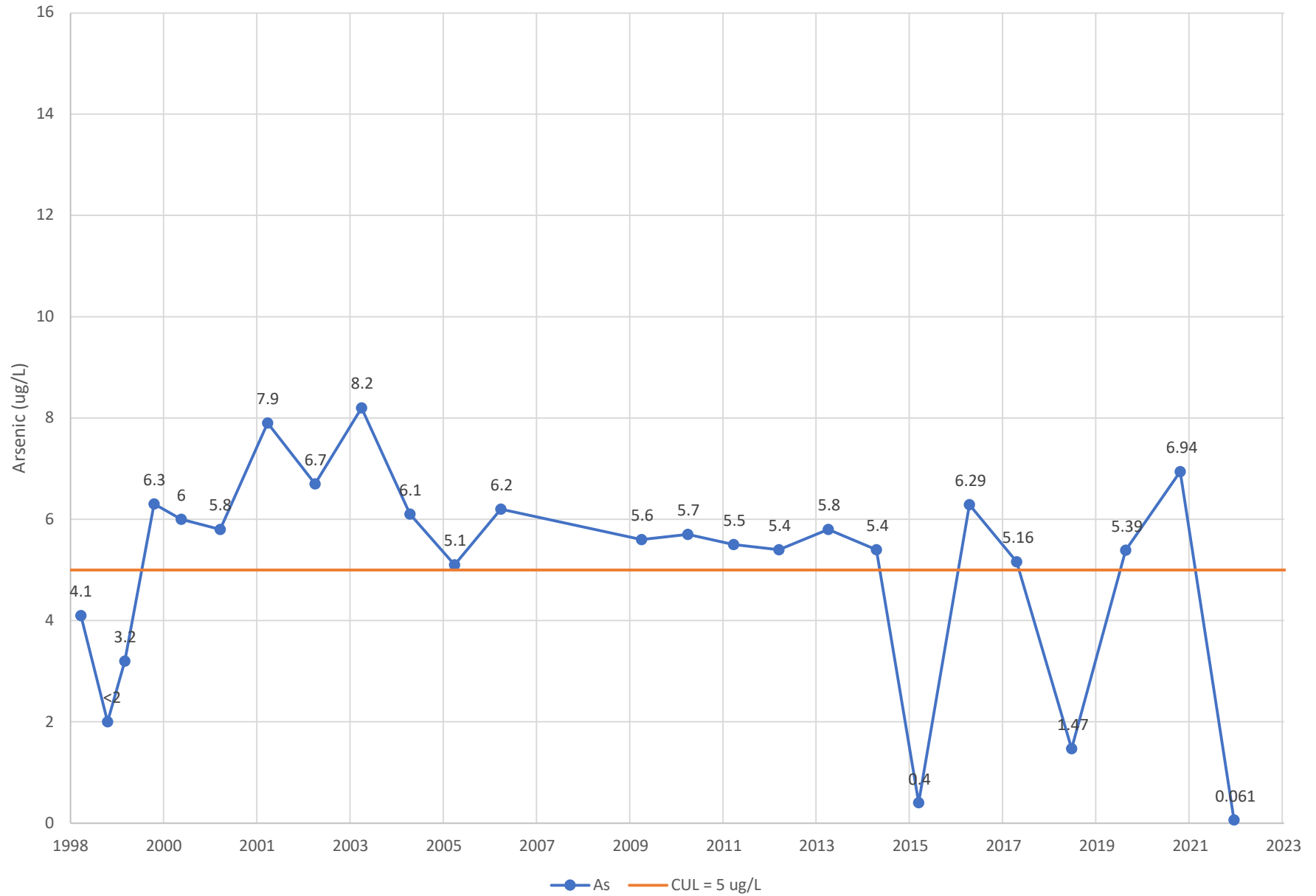
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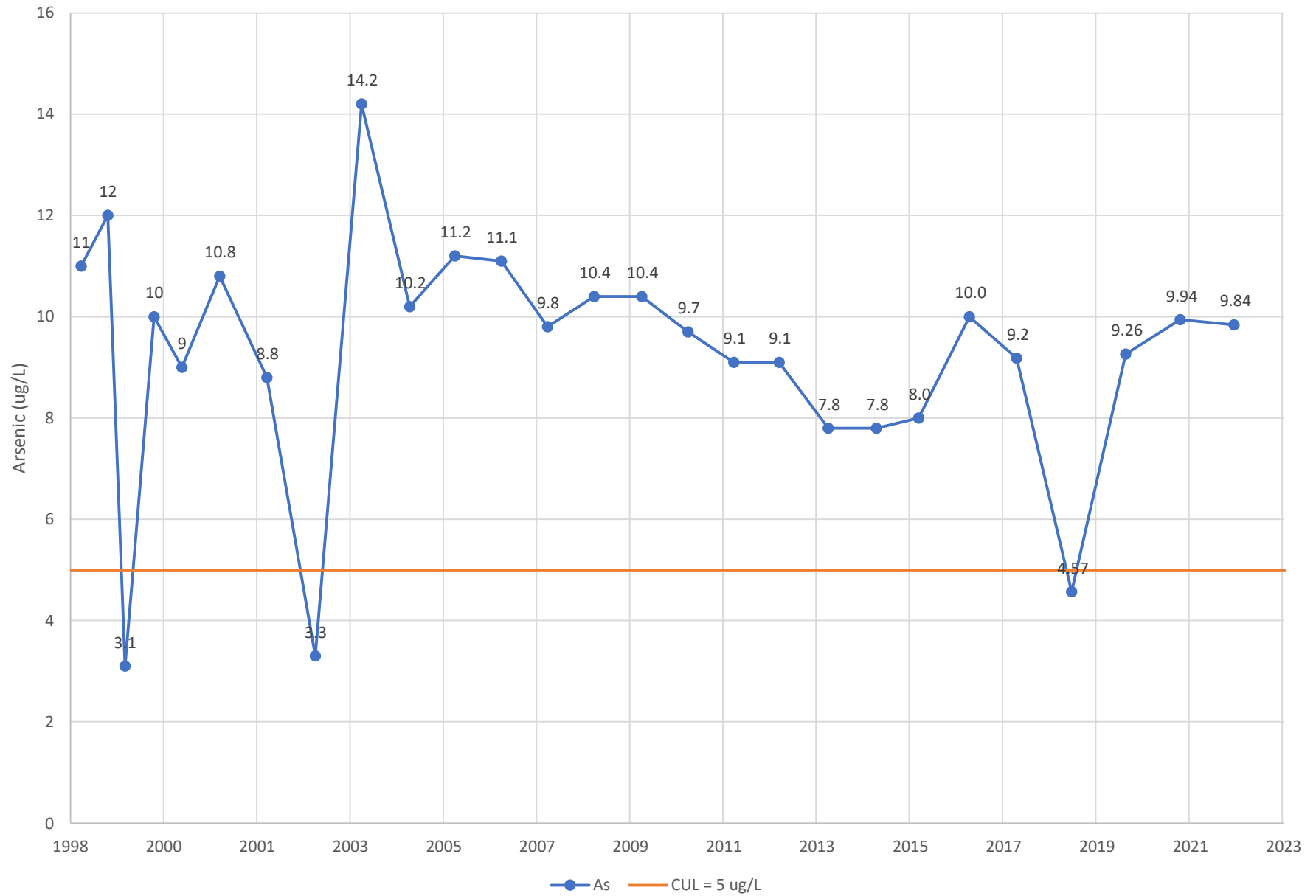
CW-01S - Arsenic



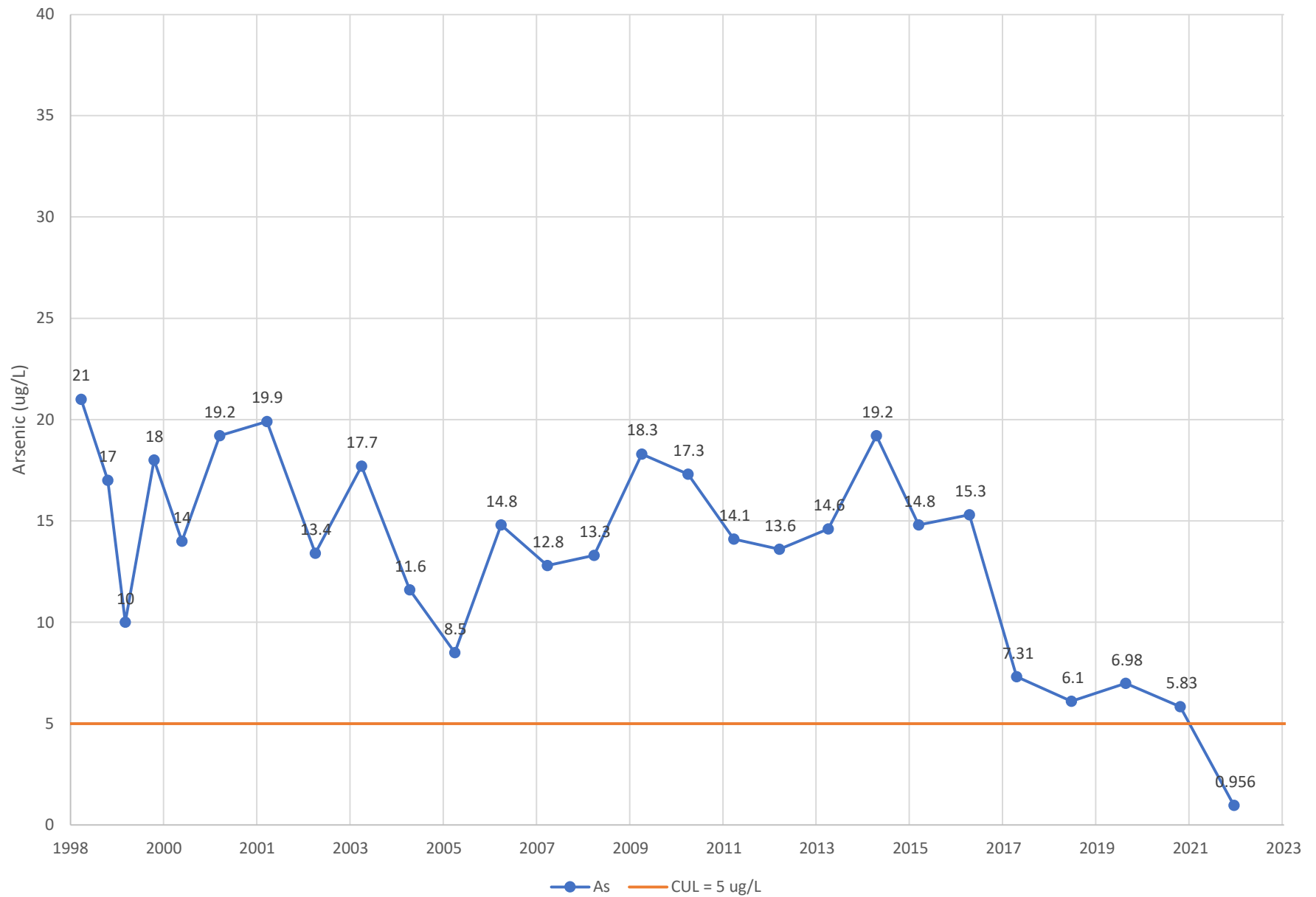
CW-01D - Arsenic



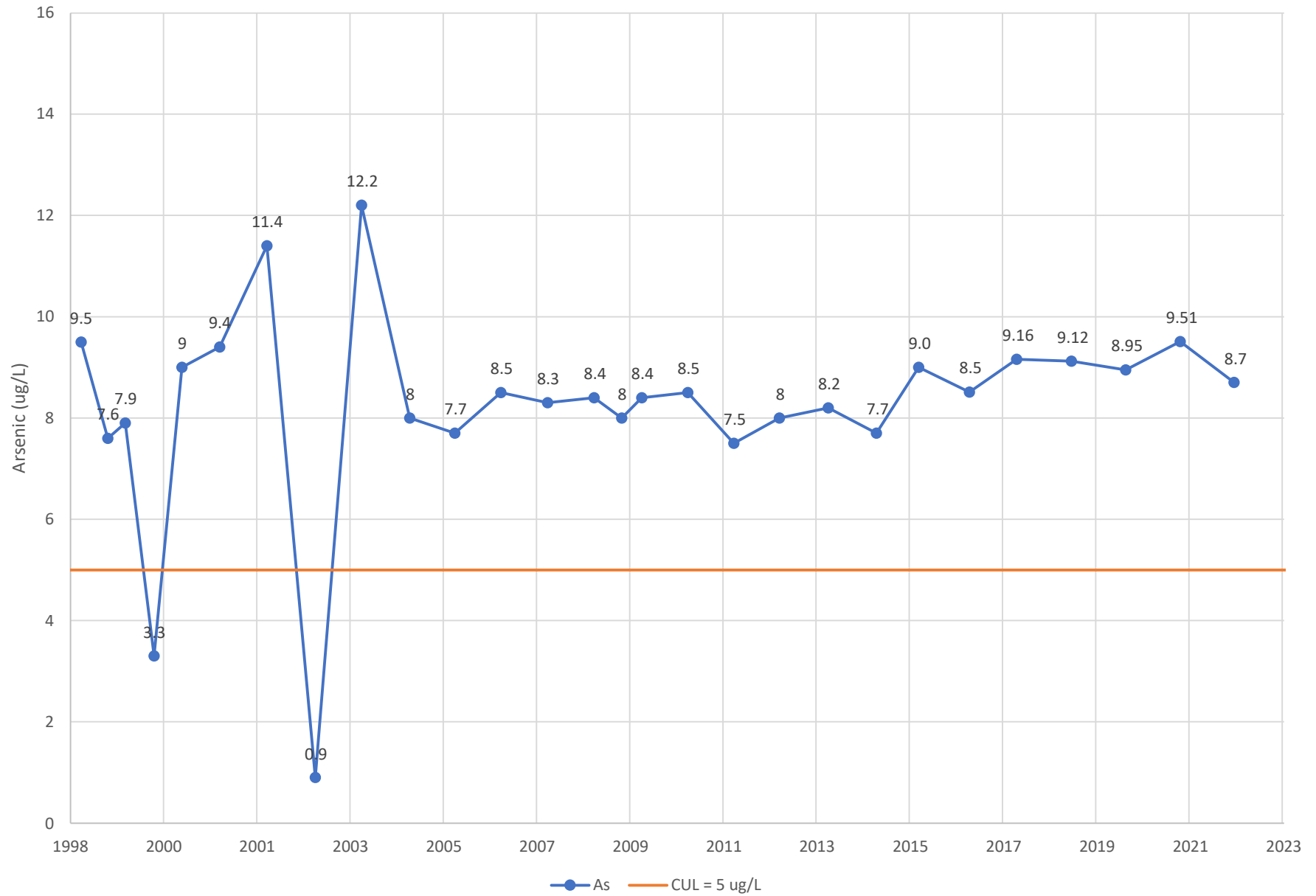
LW-06D - Arsenic



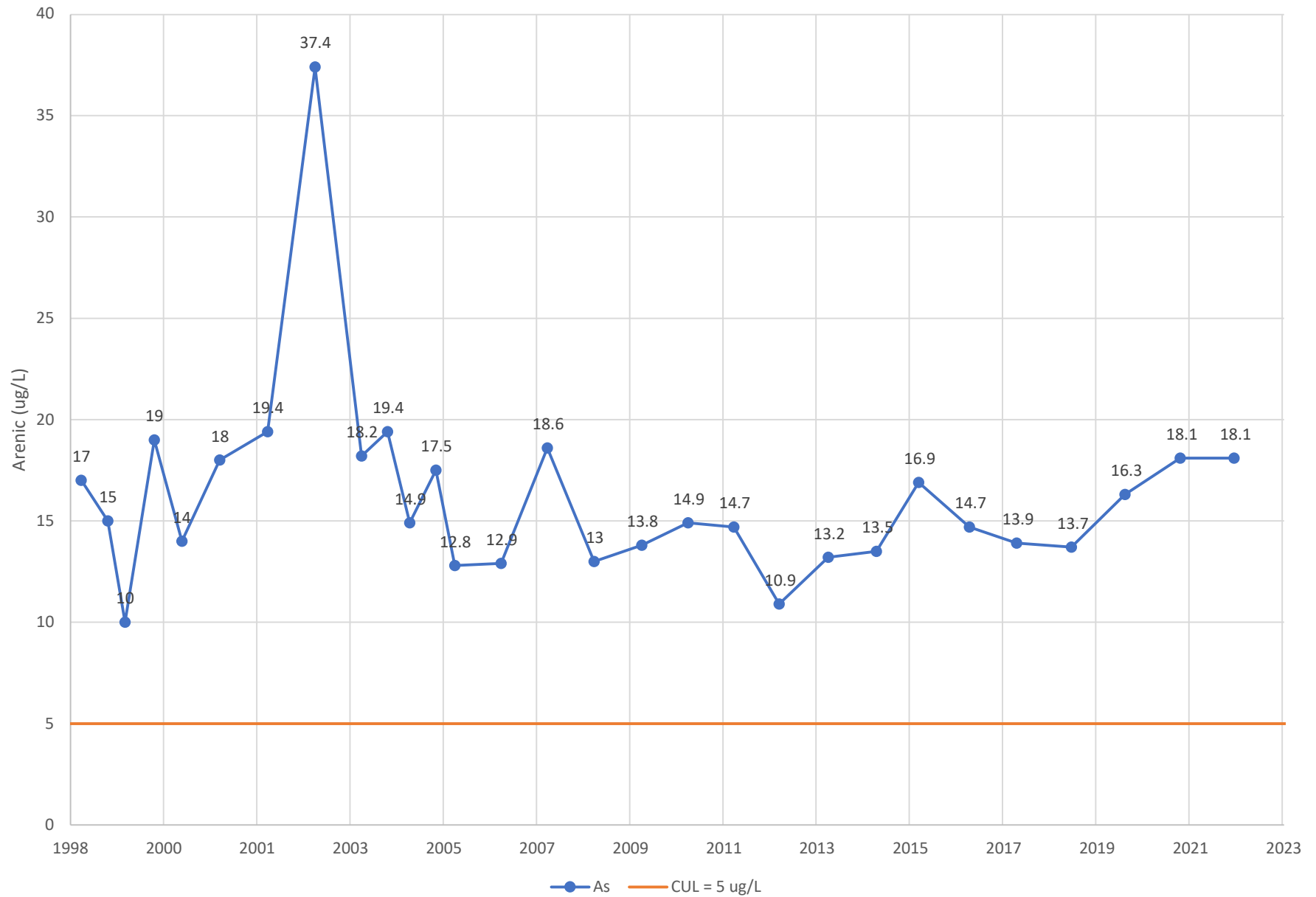
LW-09S - Arsenic



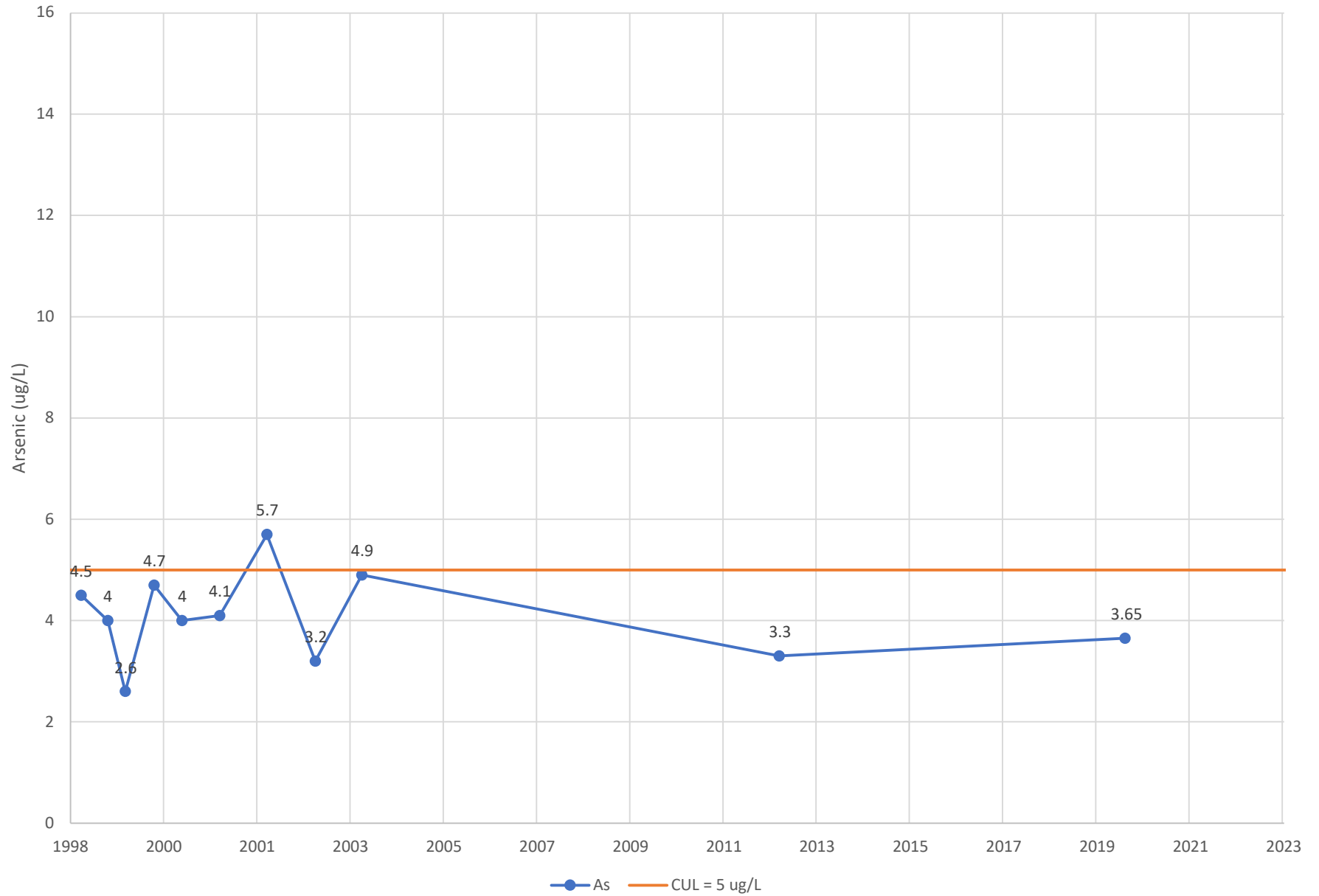
LW-09D - Arsenic



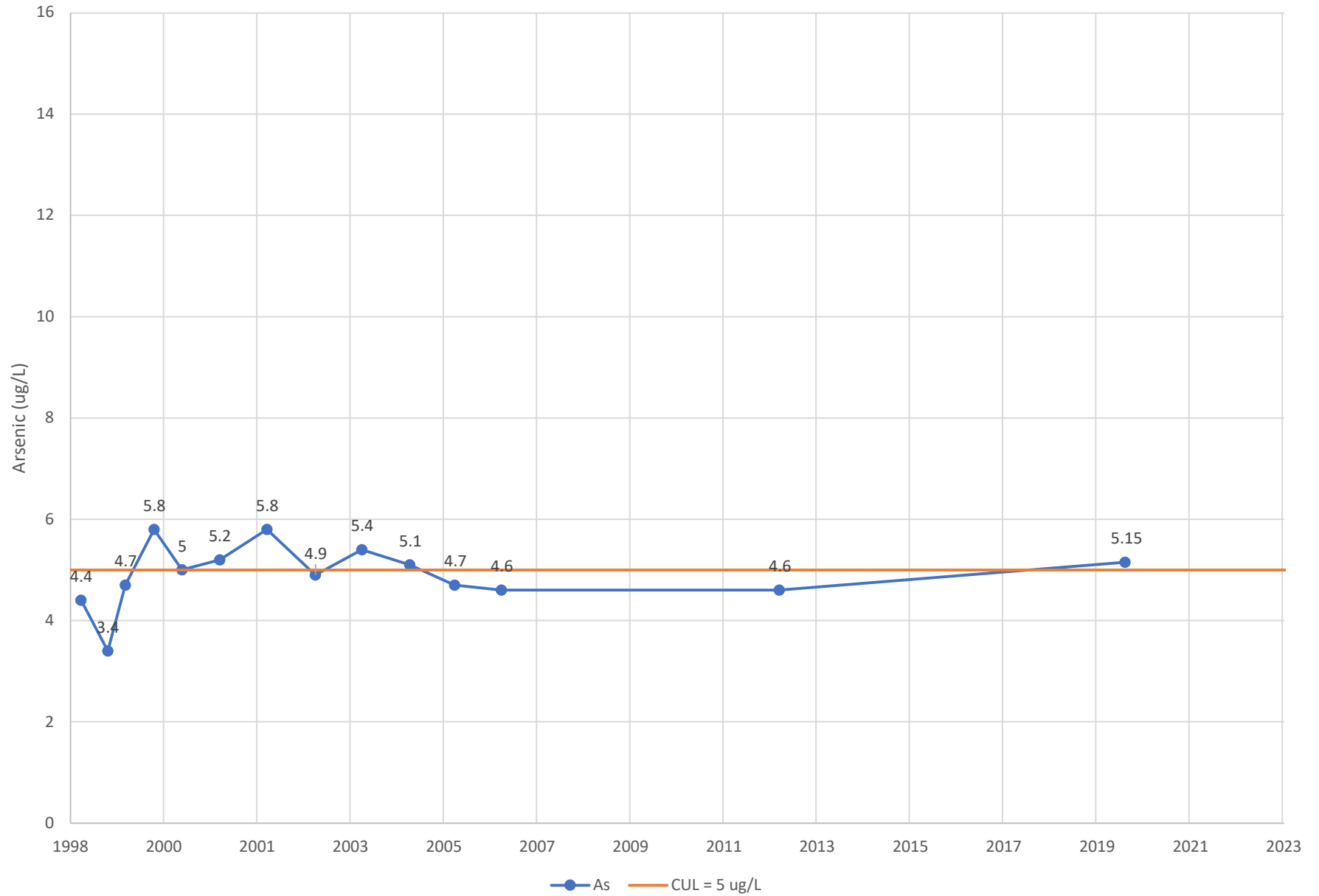
MW-03I - Arsenic



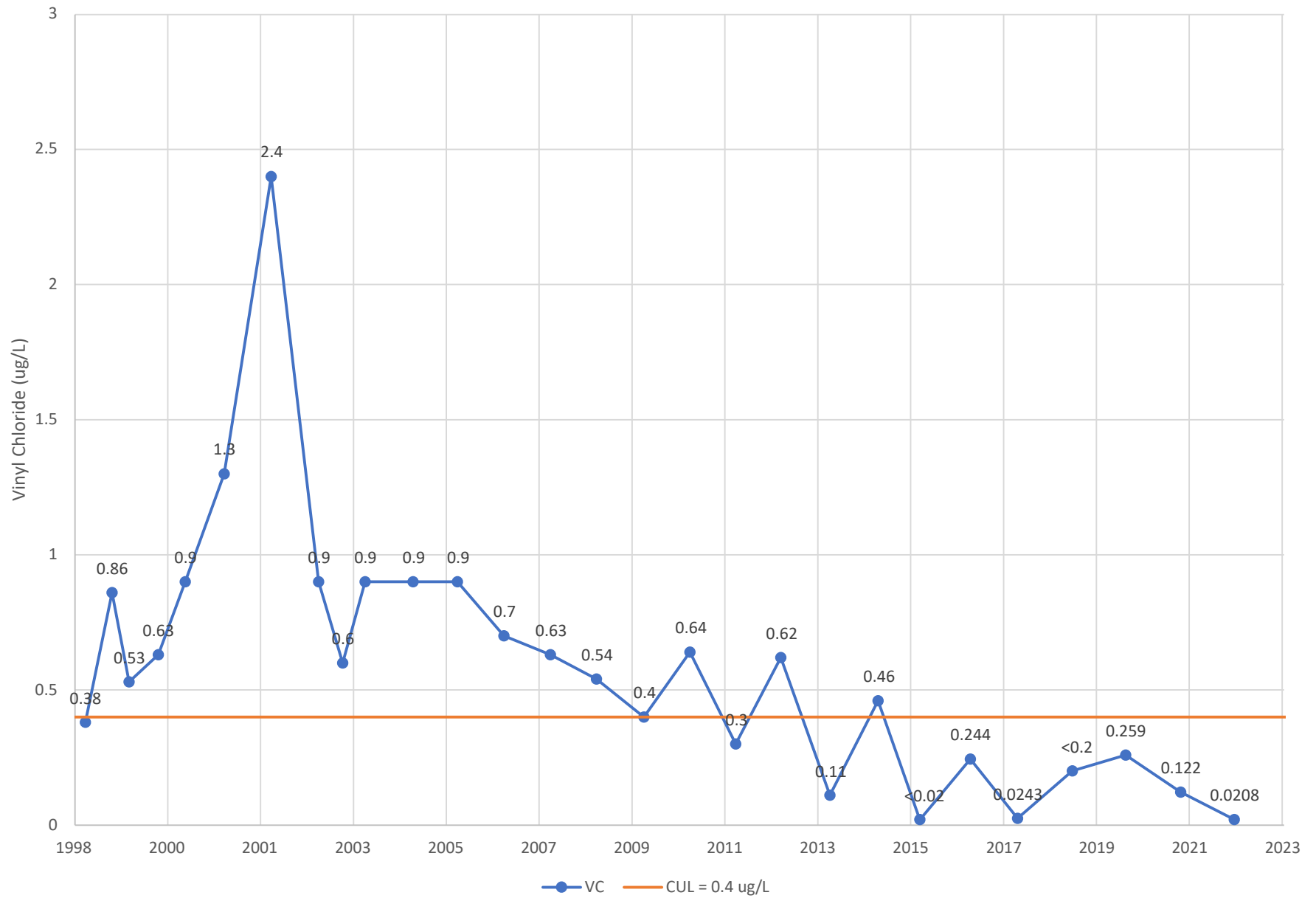
SC-02S - Arsenic



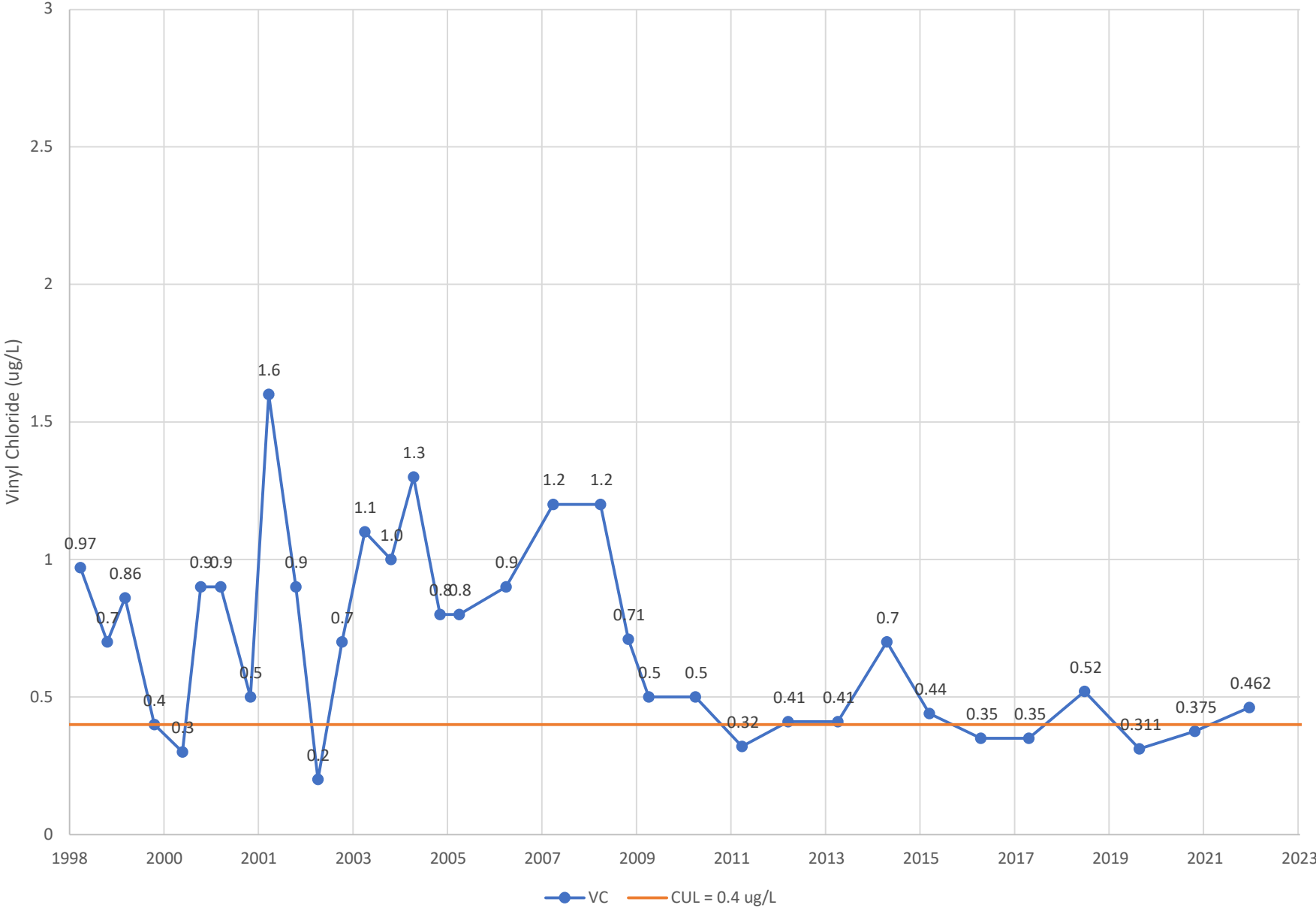
SC-01S - Arsenic



CW-01S - Vinyl Chloride



LW-09D - Vinyl Chloride



APPENDIX D
Surface Water Quality Summary Charts

GSI MANN-KENDALL TOOLKIT

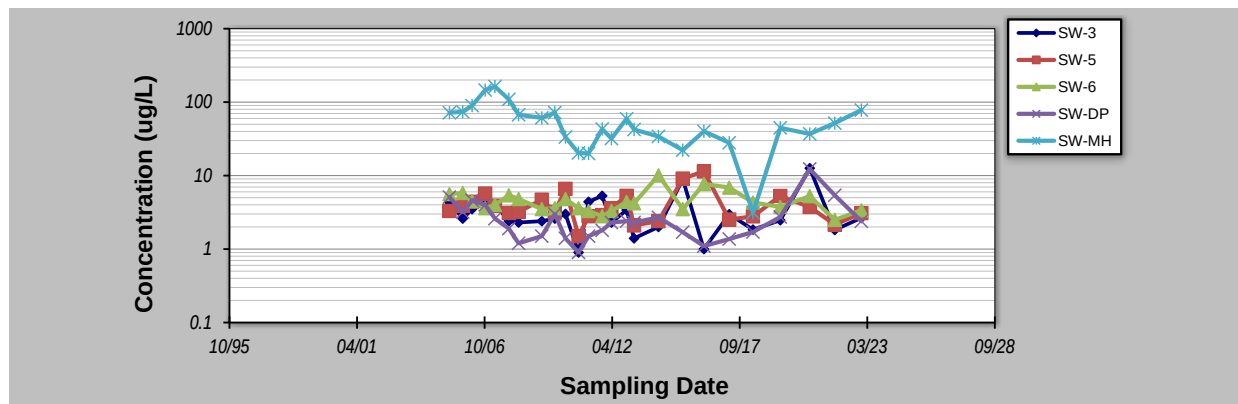
for Constituent Trend Analysis

Evaluation Date: April 18 2023	Job ID: 9999
Facility Name: PACCAR Renton	Constituent: Copper
Conducted By: Andrew Nakahara/REJ	Concentration Units: ug/L

Sampling Point ID:	SW-3	SW-5	SW-6	SW-DP	SW-MH		
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Sampling Event	Sampling Date	COPPER CONCENTRATION (ug/L)					
1	4/7/2005	4.3	3.3	5.6	5.1	71.7	
2	11/1/2005	2.6	3.9	5.8	3.2	73.9	
3	3/28/2006	3.5	4.4	4.5	4.6	89.8	
4	10/19/2006	4.2	5.7	3.6	4	146	
5	3/22/2007	4.1	3.9	4	2.6	163	
6	10/25/2007	2.4	3.1	5.4	1.9	109	
7	3/26/2008	2.3	3.2	4.8	1.2	67.3	
8	3/25/2009	2.4	4.7	3.5	1.5	61	
9	10/15/2009	2.6	3.2	3.6	3	72	
10	3/31/2010	3	6.6	4.8	1.4	33.4	
11	10/22/2010	0.9	1.5	3.6	0.9	20.3	
12	3/28/2011	4.4	2.8	3.3	1.5	20	
13	10/28/2011	5.3	2.9	2.8	1.8	43	
14	3/21/2012	2.3	3.6	3.3	2.3	32	
15	11/13/2012	3.4	5.3	4.4	2.4	59.4	
16	3/11/2013	1.4	2.1	4.2	2.3	42.4	
17	3/28/2014	2	2.4	10.1	2.7	34.1	
18	4/13/2015	8.9	9.1	3.5	1.7	22.2	
19	3/10/2016	1	11.4	7.7	1.1	40.1	
20	4/11/2017	2.98	2.52	6.87	1.37	28	
21	4/18/2018	1.84	2.79	4.31	1.71	3.14	
22	6/20/2019	2.47	5.28	3.75	2.73	44.7	
23	9/24/2020	12.6	3.74	5.25	12.3	36.9	
24	10/21/2021	1.82	2.15	2.5	5.4	51.7	
25	12/13/2022	2.66	3.09	3.37	2.39	78	
26							
27							
28							
29							
30							

Coefficient of Variation:	0.74	0.54	0.37	0.81	0.66	
Mann-Kendall Statistic (S):	-43	-40	-48	-20	-106	
Confidence Factor:	83.5%	81.7%	86.2%	67.0%	99.3%	
Concentration Trend:	Stable	Stable	Stable	Stable	Decreasing	



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing ($S > 0$) or decreasing ($S < 0$): $> 95\%$ = Increasing or Decreasing; $\geq 90\%$ = Probably Increasing or Probably Decreasing; $< 90\%$ and $S > 0$ = No Trend; $< 90\%$, $S \leq 0$, and $COV \geq 1$ = No Trend; $< 90\%$ and $COV < 1$ = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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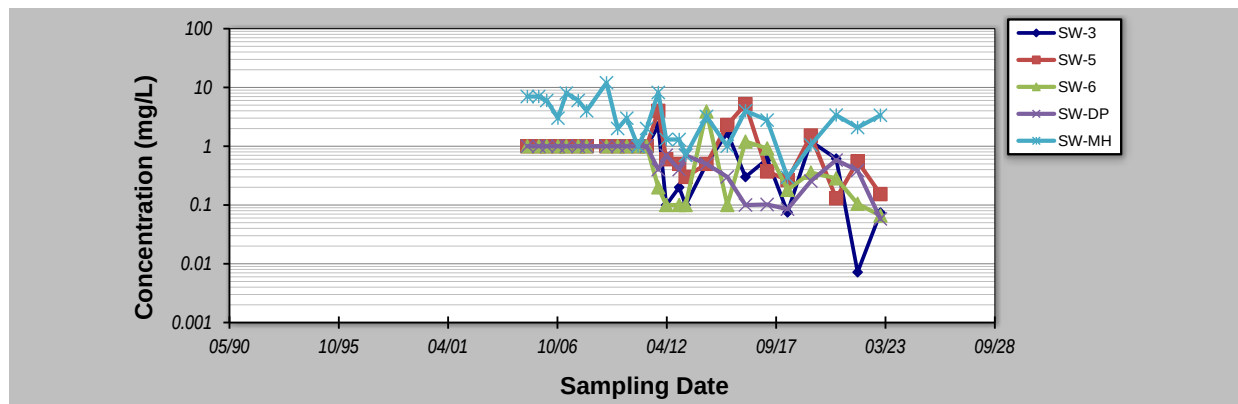
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GSI MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: April 18 2023	Job ID: 9999
Facility Name: PACCAR Renton	Constituent: Lead
Conducted By: Andrew Nakahara	Concentration Units: ug/L

Sampling Point ID:	SW-3	SW-5	SW-6	SW-DP	SW-MH		
--------------------	-------------	-------------	-------------	--------------	--------------	--	--

Sampling Event	Sampling Date	LEAD CONCENTRATION (ug/L)							
1	4/7/2005	1.00	1.00	1.00	1.00	7.00			
2	11/1/2005	1.00	1.00	1.00	1.00	7.00			
3	3/28/2006	1.00	1.00	1.00	1.00	6.00			
4	10/19/2006	1.00	1.00	1.00	1.00	3.00			
5	3/22/2007	1.00	1.00	1.00	1.00	8.00			
6	10/25/2007	1.00	1.00	1.00	1.00	6.00			
7	3/26/2008	1.00	1.00	1.00	1.00	4.00			
8	3/25/2009	1.00	1.00	1.00	1.00	12.00			
9	10/15/2009	1.00	1.00	1.00	1.00	2.00			
10	3/31/2010	1.00	1.00	1.00	1.00	3.00			
11	10/22/2010	1.00	1.00	1.00	1.00	1.00			
12	3/28/2011	1.00	1.00	1.00	1.00	2.00			
13	10/28/2011	2.20	4.00	0.20	0.40	8.20			
14	3/21/2012	0.10	0.60	0.10	0.70	1.30			
15	11/13/2012	0.20	0.50	0.10	0.40	1.30			
16	3/11/2013	0.10	0.30	0.10	0.70	0.70			
17	3/28/2014	0.50	0.50	3.90	0.50	3.20			
18	4/13/2015	1.70	2.30	0.10	0.30	1.00			
19	3/10/2016	0.30	5.20	1.20	0.10	4.00			
20	4/11/2017	0.61	0.37	0.92	0.10	2.78			
21	4/18/2018	0.08	0.27	0.18	0.09	0.30			
22	6/20/2019	1.21	1.52	0.36	0.26	1.05			
23	9/24/2020	0.614	0.13	0.284	0.581	3.380			
24	10/21/2021	0.0072	0.551	0.105	0.387	2.08			
25	12/13/2022	0.074	0.153	0.066	0.058	3.360			
26									
27									
28									
29									
30									
Coefficient of Variation:		0.68	1.02	0.99	0.55	0.78			
Mann-Kendall Statistic (S):		-99	-87	-112	-188	-105			
Confidence Factor:		99.0%	97.8%	99.6%	>99.9%	99.3%			
Concentration Trend:		Decreasing	Decreasing	Decreasing	Decreasing	Decreasing			



Notes:

- At least four independent sampling events per well are required for calculating the trend. Methodology is valid for 4 to 40 samples.
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing ($S > 0$) or decreasing ($S < 0$): $>95\%$ = Increasing or Decreasing; $\geq 90\%$ = Probably Increasing or Probably Decreasing; $< 90\%$ and $S > 0$ = No Trend; $< 90\%$, $S \leq 0$, and $COV \geq 1$ = No Trend; $< 90\%$ and $COV < 1$ = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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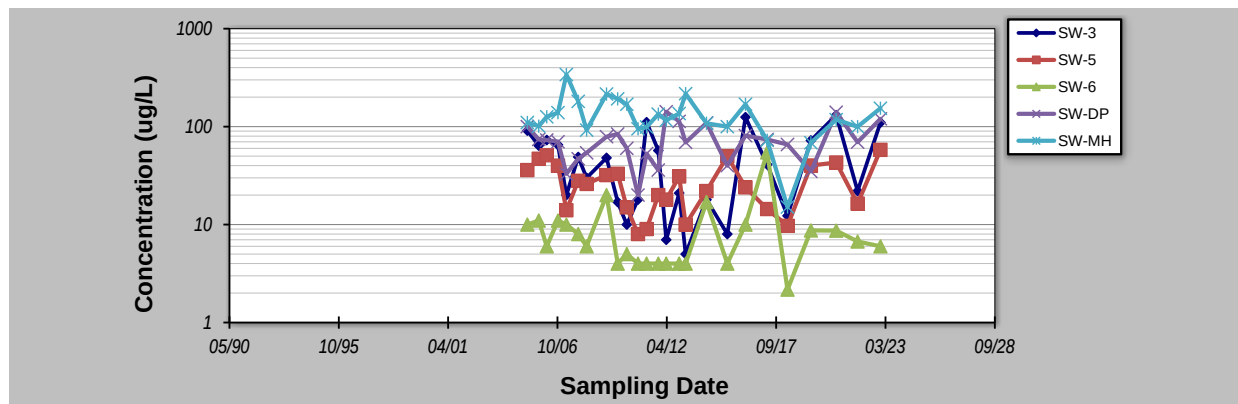
GSI MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: April 18 2023	Job ID: 9999
Facility Name: PACCAR Renton	Constituent: Zinc
Conducted By: Andrew Nakahara	Concentration Units: ug/L

Sampling Point ID:	SW-3	SW-5	SW-6	SW-DP	SW-MH		
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Sampling Event	Sampling Date	ZINC CONCENTRATION (ug/L)					
1	4/7/2005	91	36	10	100	110	
2	11/1/2005	64	47	11	74	101	
3	3/28/2006	73	51	6	73	126	
4	10/19/2006	65	40	11	70	139	
5	3/22/2007	20	14	10	33	340	
6	10/25/2007	49	28	8	47	181	
7	3/26/2008	30	26	6	54	92	
8	3/25/2009	48	32	20	79	215	
9	10/15/2009	17	33	4	84	192	
10	3/31/2010	10	15	5	60	169	
11	10/22/2010	18	8	4	20	95	
12	3/28/2011	111	9	4	53	99	
13	10/28/2011	57	20	4	36	134	
14	3/21/2012	7	18	4	142	116	
15	11/13/2012	21	31	4	113	136	
16	3/11/2013	5	10	4	69	217	
17	3/28/2014	18	22	17	109	108	
18	4/13/2015	8	50	4	40	100	
19	3/10/2016	125	24	10	81	169	
20	4/11/2017	41	14.4	55	73.9	73	
21	4/18/2018	12	9.72	2	65.7	15	
22	6/20/2019	72	40.1	9	34.9	69	
23	9/24/2020	131	43	9	140	118	
24	10/21/2021	22	16.4	7	69.4	100	
25	12/13/2022	110	57.9	6	120	154	
26							
27							
28							
29							
30							

Coefficient of Variation:	0.81	0.53	1.11	0.44	0.47	
Mann-Kendall Statistic (S):	-21	-24	-51	24	-59	
Confidence Factor:	67.8%	70.3%	87.7%	70.3%	91.1%	
Concentration Trend:	Stable	Stable	No Trend	No Trend	Prob. Decreasing	



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing ($S > 0$) or decreasing ($S < 0$): $> 95\%$ = Increasing or Decreasing; $\geq 90\%$ = Probably Increasing or Probably Decreasing; $< 90\%$ and $S > 0$ = No Trend; $< 90\%$, $S \leq 0$, and $COV \geq 1$ = No Trend; $< 90\%$ and $COV < 1$ = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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Analyte	Date	SW-3	SW-3D	SW-5	SW-6	SW-6D	SW-DP	SW-MH	SW-MHD		
Copper	3/23/1998	6.5	0	4.7	9.8	0.0075	18	31			
Copper	10/28/1998	5.2	0	84	86		8.2	12	11		
Copper	3/3/1999	6.2	0	2.7	12		7.6	11	11		
Copper	10/29/1999	2.4	0	3.7	5.7		19	7.4			
Copper	5/26/2000	4.4	0	3	2.9		4.6	27.4	26.4		
Copper	10/16/2000	44.6	43	9.9	5.8		52.1	14.2			
Copper	3/13/2001	9	0	7.1	6.6		10.6	25.2	24.5		
Copper	10/30/2001	11.7	11.5	6.2	11.6		14.1	111			
Copper	3/28/2002	12.2	0	5.8	10		22.1	108	118		
Copper	11/6/2002	33.7	0	5.2	16.5		46.5	135	140		
Copper	4/7/2003	30.7	0	5.7	10.6		16.6	85	77.2		
Copper	10/8/2003	25.9	0	9.5	53.9		6.3	205	201		
Copper	3/30/2004	11.4	0	5.4	3.5		4.4	137	135		
Copper	11/2/2004	2.4	0	3.6	5.4		4.2	64.3	64.5		
Copper	4/7/2005	4.3	0	3.3	5.6		5.1	71.7	72.5		
Copper	11/1/2005	2.6	0	3.9	5.8		3.2	73.9	76.2		
Copper	3/28/2006	3.5	0	4.4	4.5		4.6	89.8	95.1		
Copper	10/19/2006	4.2	0	5.7	3.6		4	146	138		
Copper	3/22/2007	4.1	0	3.9	4		2.6	163	170		
Copper	10/25/2007	2.4	0	3.1	5.4		1.9	109	170		
Copper	3/26/2008	2.3	0	3.2	4.8		1.2	67.3	65		
Copper	3/25/2009	2.4	0	4.7	3.5		1.5	61	61.9		
Copper	10/15/2009	2.6	0	3.2	3.6		3	72	61.9		
Copper	3/31/2010	3	0	6.6	4.8		1.4	33.4	33.8		
Copper	10/22/2010	0.9	0	1.5	3.6		0.9	20.3	19.9		
Copper	3/28/2011	4.4	0	2.8	3.3		1.5	20	19.9		
Copper	10/28/2011	5.3	0	2.9	2.8		1.8	43	45.8		
Copper	3/21/2012	2.3	0	3.6	3.3		2.3	32	32		
Copper	11/13/2012	3.4	0	5.3	4.4		2.4	59.4	59.1		
Copper	3/11/2013	1.4	0	2.1	4.2		2.3	42.4	42.2		
Copper	3/28/2014	2	0	2.4	10.1		2.7	34.1	34.4		
Copper	4/13/2015	8.9	8.9	9.1	3.5		1.7	22.2			
Copper	3/10/2016	1	0	11.4	7.7		1.1	40.1	39.5		
Copper	4/11/2017	2.98	0	2.52	6.87		1.37	28			
Copper	4/18/2018	1.84	0	2.79	4.31		1.71	3.14			
Copper	6/20/2019	2.47	0	5.28	3.75		2.73	44.7			
Copper	9/24/2020	12.6	0	3.74	5.25		12.3	36.9			
Copper	10/21/2021	1.82	0	2.15	2.5		5.4	51.7	53		
Copper	12/13/2022	2.66	0	3.09	3.7		2.39	78000	82.4		
Mean		7.479		6.645	9.107		7.831	2059.963	72.707		
Median		3.500		3.900	4.800		3.200	44.700	61.900		
Std Dev		9.781		12.916	15.114		11.238	12480.232	51.439		
GeoMean		4.638		4.604	6.134		4.268	43.830	55.237		

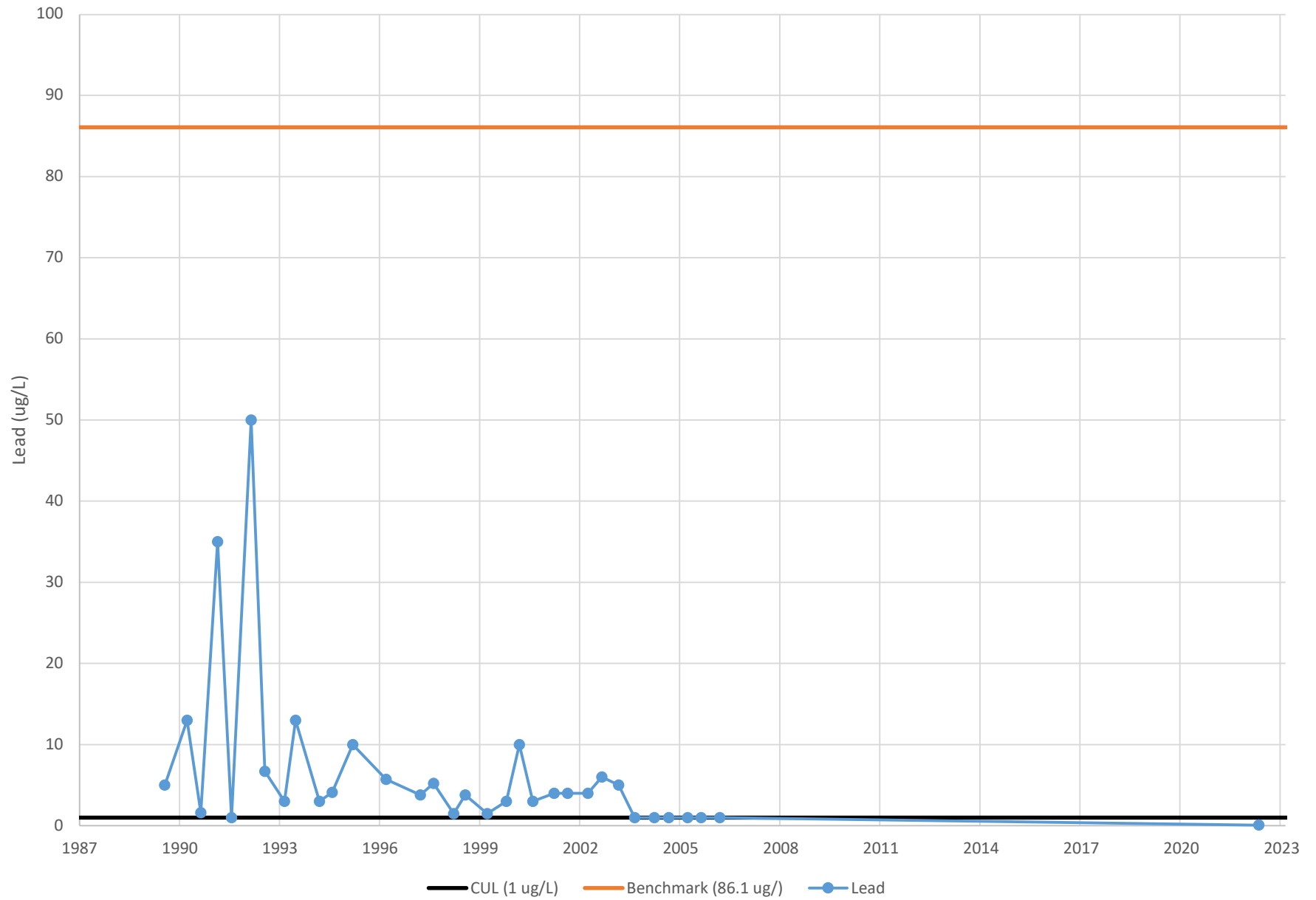
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Count		39		39	39		39	39	30		
Min		0.9		1.5	2.5		0.9	3.14	11		
Max		44.6		84	86		52.1	78000	201		
# Greater CUL		39		39	39		39	39	30		
Hexavalent Chromium	3/23/1998	10 U		10 U	10 U	0.01 U	10 U	10 U			
Hexavalent Chromium	10/28/1998	10 U		10 U	10 U		10 U	10 U	10 U		
Hexavalent Chromium	3/3/1999	10 U		10 U	10 U		10 U	10 U	10 U		
Hexavalent Chromium	10/29/1999	10 U		10 U	10 U		10 U	10 U			
Hexavalent Chromium	5/26/2000	20 U		20 U	10 U		20 U	60 U	60 U		
Hexavalent Chromium	10/16/2000	110 U	110 U	10 U	10 U		230 U	10 U	0		
Hexavalent Chromium	3/13/2001	10 U		10 U	10 U		10 U	10 U	10 U		
Hexavalent Chromium	10/30/2001	0.01 U	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U			
Hexavalent Chromium	3/28/2002	5 U		5 U	5 U		14	5 U	5 U		
Hexavalent Chromium	11/6/2002	60 U		10 U	10 U		60 U	10 U	10 U		
Hexavalent Chromium	4/7/2003	11 U		11 U	11 U		11 U	11 U	11 U		
Hexavalent Chromium	10/8/2003	11 U		11 U	11 U		11 U	11 U	11 U		
Hexavalent Chromium	3/30/2004	11 U		11 U	11 U		11 U	11 U	11 U		
Hexavalent Chromium	11/2/2004	11 U		11 U	11 U		11 U	11 U	11 U		
Hexavalent Chromium	4/7/2005	0.6		0.6	0.5		0.8	4.9	3.7		
Hexavalent Chromium	11/1/2005	11 U		11 U	11 U		11 U	11 U	11 U		
Hexavalent Chromium	3/28/2006	11 U		11 U	11 U		11 U	19	11 U		
Hexavalent Chromium	10/19/2006	11 U		11 U	11 U		11 U	26	17		
Hexavalent Chromium	3/22/2007	11 U		11 U	11 U		11 U	11 U	12		
Hexavalent Chromium	10/25/2007	11 U		11 U	11 U		11 U	11 U	11 U		
Hexavalent Chromium	3/26/2008	12 U		12 U	12 U		12 U	12 U	12 U		
Hexavalent Chromium	3/25/2009	10 UJ		10 U	10 U		10 U	10 U	10 U		
Hexavalent Chromium	10/15/2009	10 UJ		10 U	10 U		10 U	10 U	10 U		
Hexavalent Chromium	3/31/2010	10 U		10 U	10 U		10 U	10 U	10 U		
Hexavalent Chromium	10/22/2010	10 UJ		10 U	10 U		10 U	10 U	10 U		
Hexavalent Chromium	3/28/2011	10 U		10 U	10 U		10 U	10 U	10 U		
Hexavalent Chromium	10/28/2011	10 UJ		10 U	10 U		10 U	10 U	10 U		
Hexavalent Chromium	3/21/2012	10 U		10 U	10 U		10 U	10 U	10 U		
Hexavalent Chromium	11/13/2012	10 UJ		10 U	10 U		10 U	10 U	10 U		
Hexavalent Chromium	3/11/2013	10 U		10 U	10 U		10 U	10 U	10 U		
Hexavalent Chromium	3/28/2014	10 U		10 U	10 U		10 U	10 U	10 U		
Hexavalent Chromium	4/13/2015	10 U	10 U	10 U	10 U		10 U	10 U			
Hexavalent Chromium	3/10/2016	10 U		10 U	10 U		10 U	10 U	10 U		
Hexavalent Chromium	10/21/2021	13 U		13 U	13 U		13 U	13 U	13 U		
Hexavalent Chromium	12/13/2022	13 U		13 U	13 U		13 U	13 U	13 U		

Analyte	Date	SW-3	SW-3D	SW-5	SW-6	SW-6D	SW-DP	SW-MH	SW-MHD		
Mean		14.360		9.989	9.691		18.200	11.968	11.657		
Std Dev		18.926		3.187	2.662		38.509	9.336	9.569		
GeoMean		8.830		7.807	7.608		9.381	8.939	#NUM!		
Count		34		34	34		34	34	30		
Min		0.01		0.01	0.01		0.01	0.01	0		
Max		110		20	13		230	60	60		
# Greater CUL		33		33	33		33	33	29		
Lead	3/23/1998	5.2		2	3.3	3.3	2.7	33			
Lead	10/28/1998	1.5		1.6	1.9		1.9	5.9	5.5		
Lead	3/3/1999	3.8		1 U	16		2.7	6.7	6.1		
Lead	10/29/1999	1.5		1 U	1.1		4	1 U			
Lead	5/26/2000	3		2	1 U		7	12	11		
Lead	10/16/2000	10	9	14	7		17	10			
Lead	3/13/2001	3		1	1 U		2	24	26		
Lead	10/30/2001	4	3	5	3		7	10			
Lead	3/28/2002	4		4	7		3	12	11		
Lead	11/6/2002	4		2	4		6	10	10		
Lead	4/7/2003	6		2	2		3	16	15		
Lead	10/8/2003	5		5	22		2	7	7		
Lead	3/30/2004	1		1 U	1 U		1	9	10		
Lead	11/2/2004	1 U		1 U	1 U		1 U	7	7		
Lead	4/7/2005	1 U		1 U	1 U		1 U	7	7		
Lead	11/1/2005	1		1	1 U		1	7	7		
Lead	3/28/2006	1 U		1 U	1 U		1 U	6	6		
Lead	10/19/2006	1 U		1 U	1 U		1 U	3	3		
Lead	3/22/2007	1 U		1 U	1 U		1 U	8	8		
Lead	10/25/2007	1 U		1 U	1		1 U	6	8		
Lead	3/26/2008	1 U		1 U	1 U		1 U	4	4		
Lead	3/25/2009	1 U		1	1 U		1 U	12	12		
Lead	10/15/2009	1 U		1 U	1 U		1 U	2	2		
Lead	3/31/2010	1 U		1	1 U		1 U	3	3		
Lead	10/22/2010	1 U		1 U	1 U		1 U	1	1		
Lead	3/28/2011	1		1 U	1 U		1 U	2	2		
Lead	10/28/2011	2.2		4	0.2		0.4	8.2	8.4		
Lead	3/21/2012	0.1		0.6	0.1 U		0.7	1.3	1.3		
Lead	11/13/2012	0.2		0.5	0.1 U		0.4	1.3	1.2		
Lead	3/11/2013	0.1 U		0.3	0.1 U		0.7	0.7	0.7		
Lead	3/28/2014	0.5		0.5	3.9		0.5	3.2	3.1		
Lead	4/13/2015	1.7	1.8	2.3	0.1 U		0.3	1			
Lead	3/10/2016	0.3		5.2	1.2		0.1 U	4	4.1		
Lead	4/11/2017	0.605		0.372	0.917		0.102	2.78			

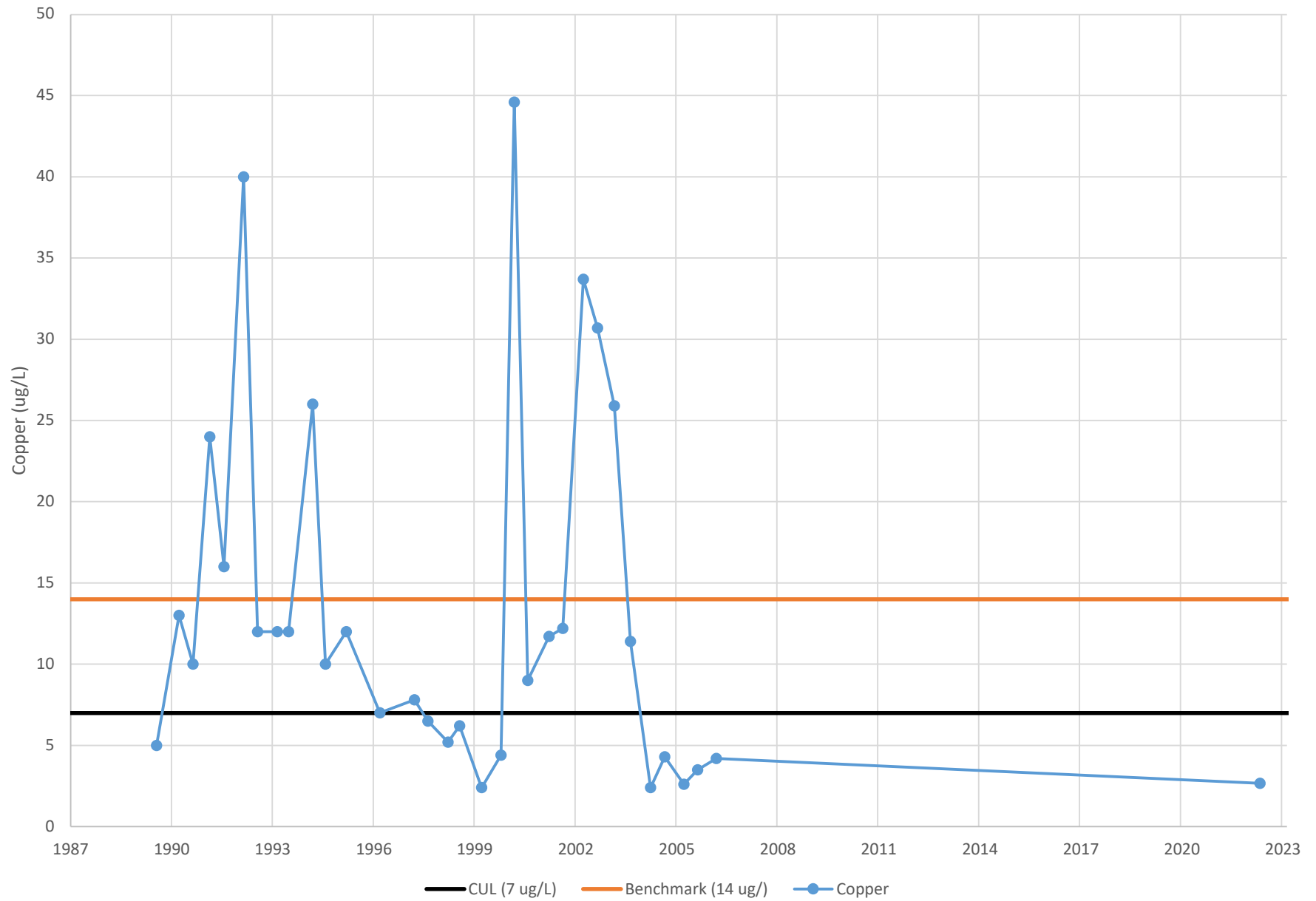
Analyte	Date	SW-3	SW-3D	SW-5	SW-6	SW-6D	SW-DP	SW-MH	SW-MHD		
Lead	4/18/2018	0.075		0.265	0.181		0.085	0.295			
Lead	6/20/2019	1.21		1.52	0.356		0.255	1.05			
Lead	9/24/2020	0.614		0.13	0.284		0.581	3.38			
Lead	10/21/2021	0.072 J		0.551	0.105		0.387	2.08	2.28		
Lead	12/13/2022	0.074 J		0.153	0.6 U		0.058	3.36	2.67		
Mean		1.865		1.820	2.345		1.971	6.596	6.512		
Std Dev		2.062		2.409	4.300		3.026	6.544	5.247		
GeoMean		1.083		1.193	0.980		1.047	4.221	4.827		
Count		39		39	39		39	39	30		
Min		0.072		0.13	0.1		0.058	0.295	0.7		
Max		10		14	22		17	33	26		
# Greater CUL		39		39	39		39	39	30		
		SW-3	SW-3D	SW-5	SW-6	SW-6D	SW-DP	SW-MH	SW-MHD		
Zinc	3/23/1998	59		53	45	57	110	230			
Zinc	10/28/1998	23		23	31		56	230	210		
Zinc	3/3/1999	62		20	34		69	150	140		
Zinc	10/29/1999	25		81	23		160	140			
Zinc	5/26/2000	64		60	5		75	170	160		
Zinc	10/16/2000	115	112	143	23		129	80			
Zinc	3/13/2001	55		71	11		60	142	139		
Zinc	10/30/2001	215	198	57	57		102	129			
Zinc	3/28/2002	78		60	40		70	340	380		
Zinc	11/6/2002	119		71	37		151	145	145		
Zinc	4/7/2003	80		54	41		100	160	130		
Zinc	10/8/2003	73		215	122		70	203	202		
Zinc	3/30/2004	50		19	4		48	196	201		
Zinc	11/2/2004	56		29	5		56	88	86		
Zinc	4/7/2005	91		36	10		100	110	120		
Zinc	11/1/2005	64		47	11		74	101	103		
Zinc	3/28/2006	73		51	6		73	126	141		
Zinc	10/19/2006	65		40	11		70	139	129		
Zinc	3/22/2007	20		14	10		33	340	380		
Zinc	10/25/2007	49		28	8		47	181	380		
Zinc	3/26/2008	30		26	6		54	92	90		
Zinc	3/25/2009	48		32	20		79	215	250		
Zinc	10/15/2009	17		33	4 U		84	192	192		
Zinc	3/31/2010	10		15	5		60	169	169		
Zinc	10/22/2010	18		8	4 U		20	95	92		
Zinc	3/28/2011	111		9	4 U		53	99	98		
Zinc	10/28/2011	57		20	4 U		36	134	137		
Zinc	3/21/2012	7		18	4 U		142	116	118		

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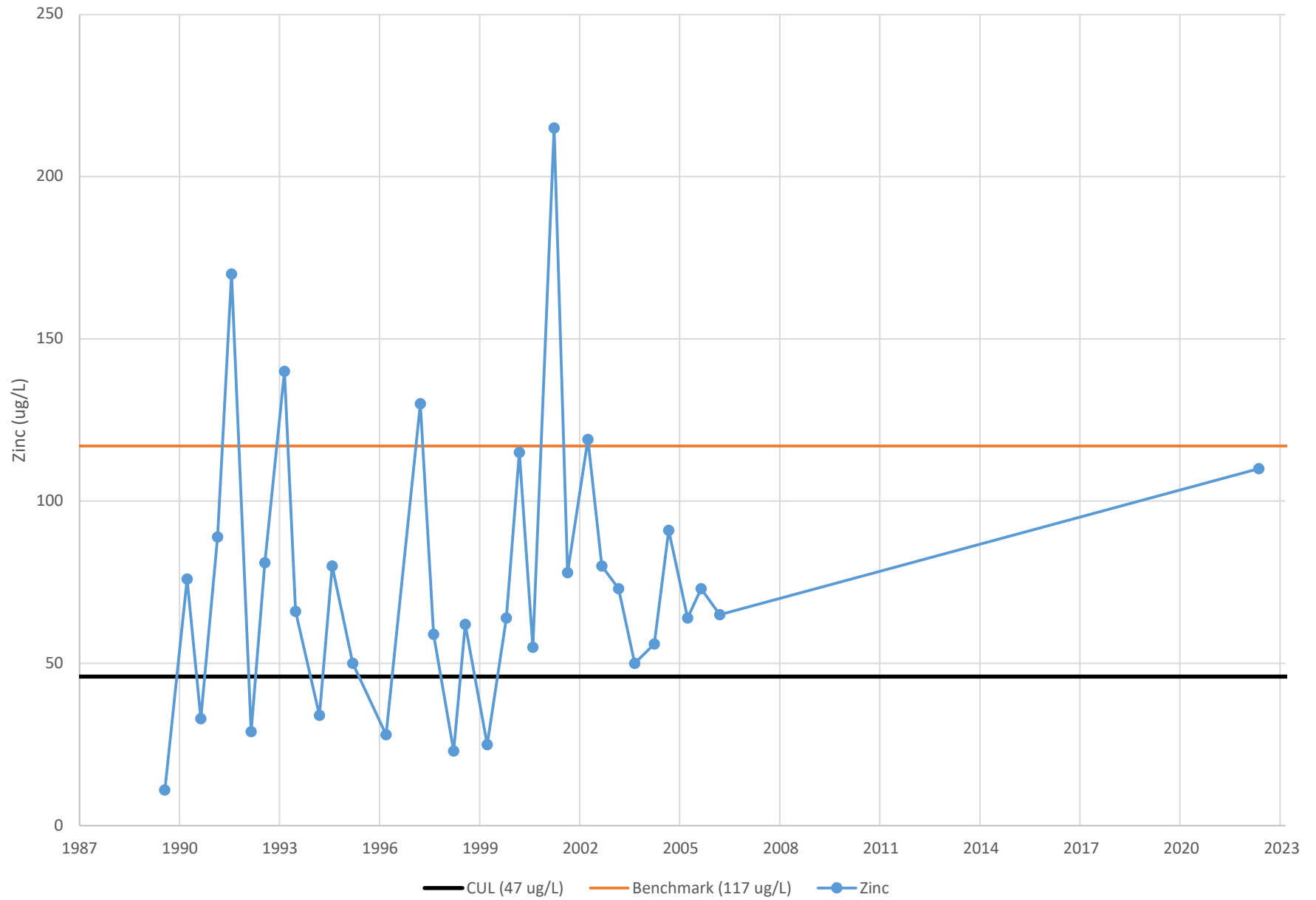
SW-3 Lead



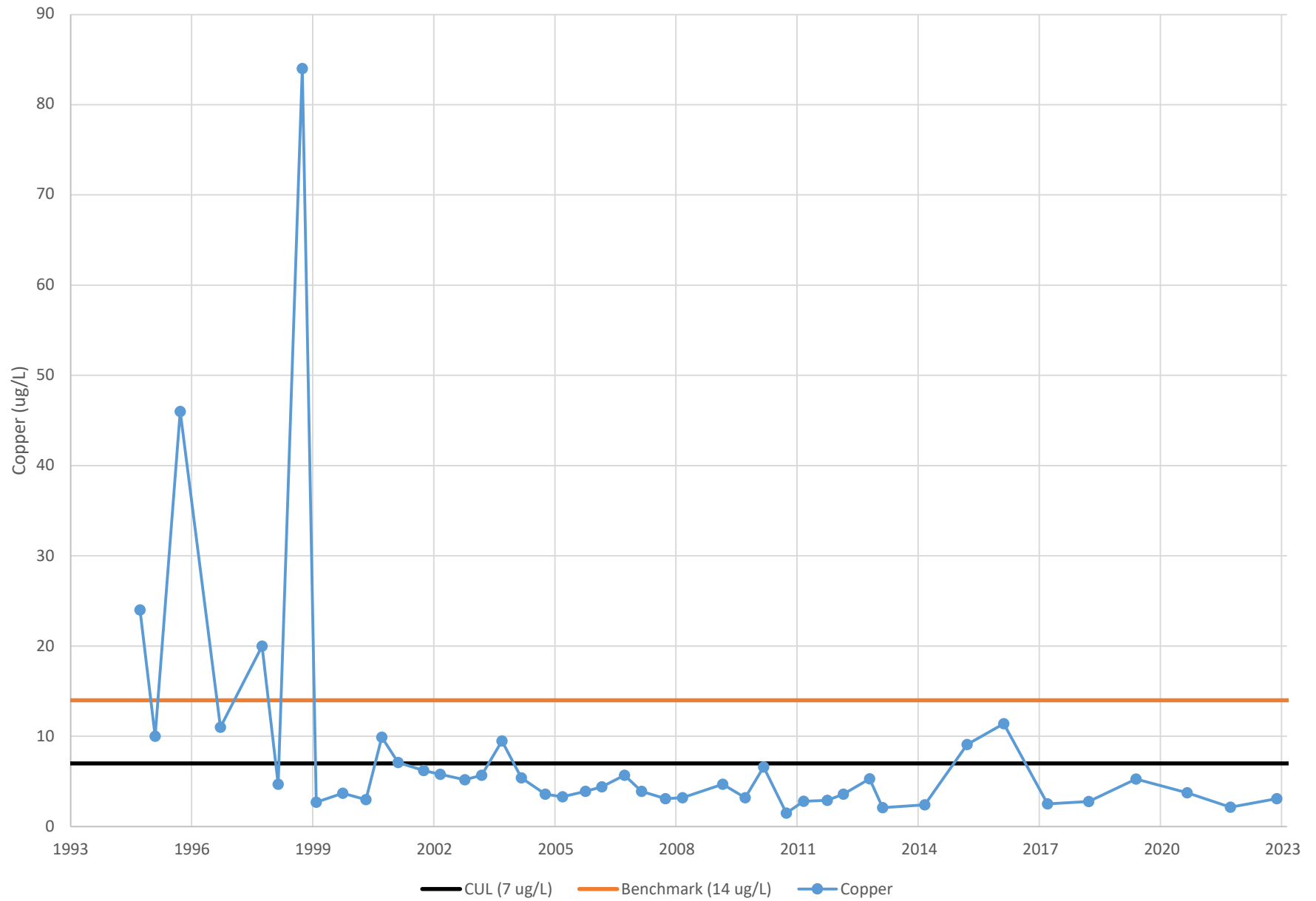
SW-3 Copper



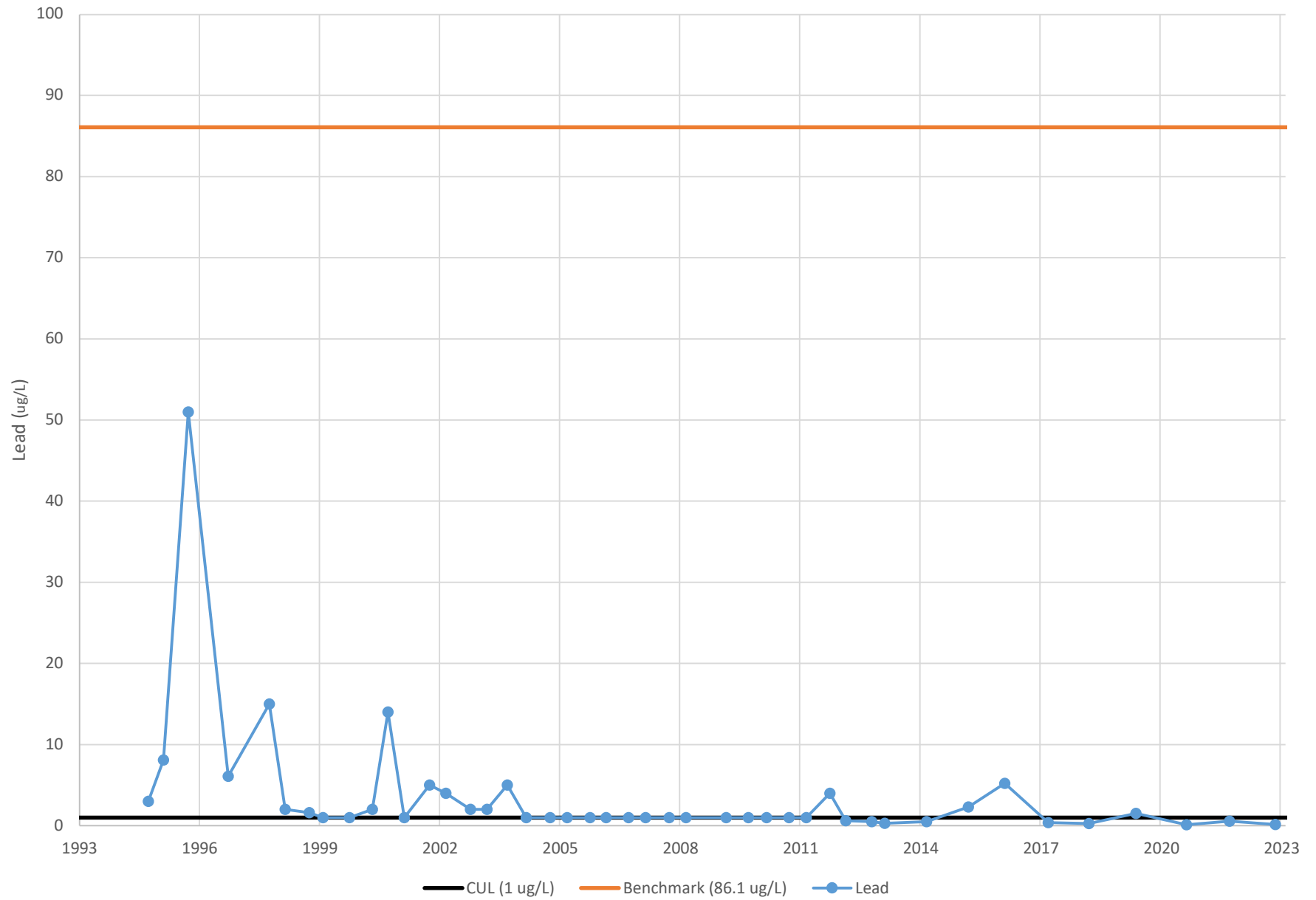
SW-3 Zinc



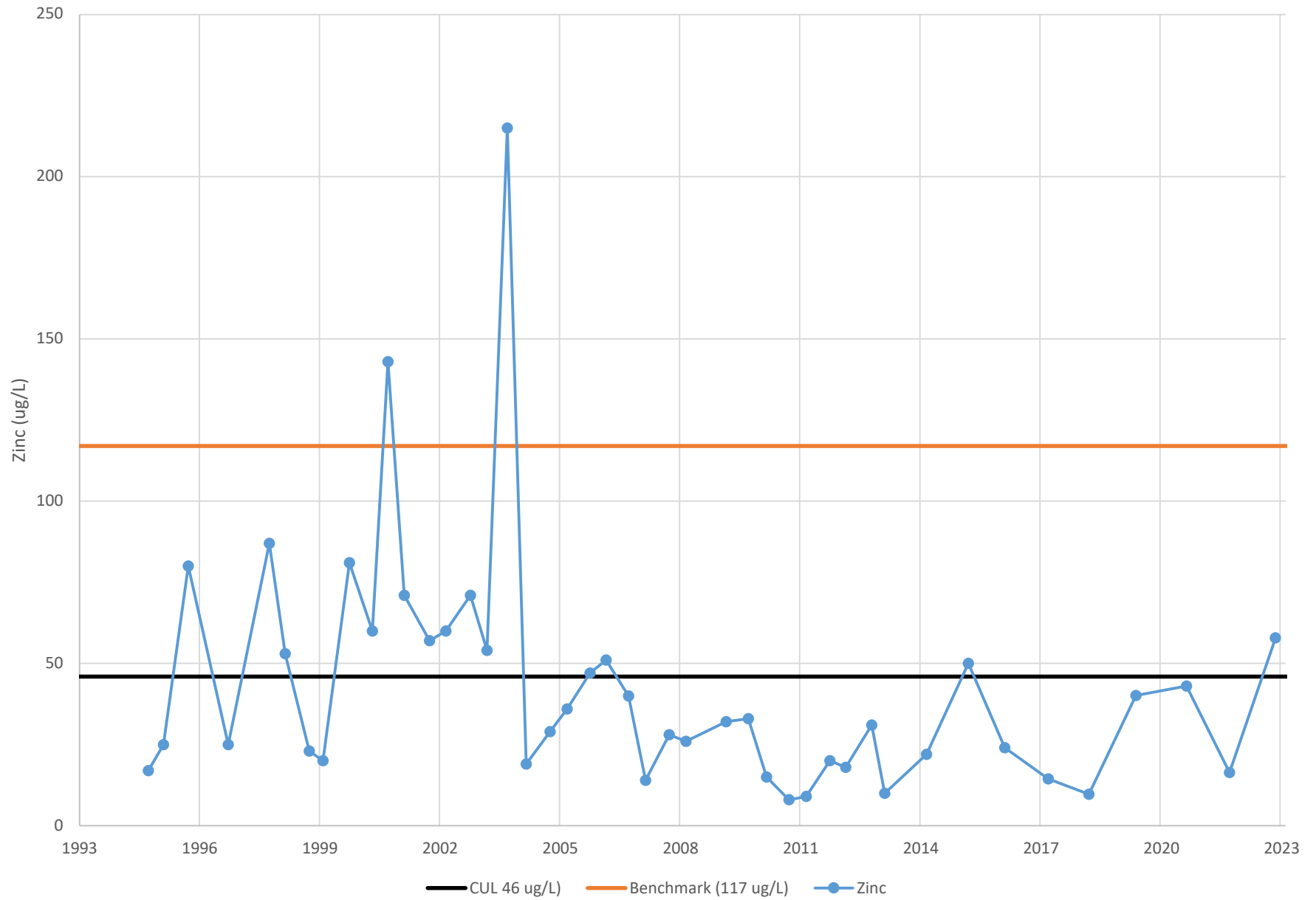
SW-5 Copper



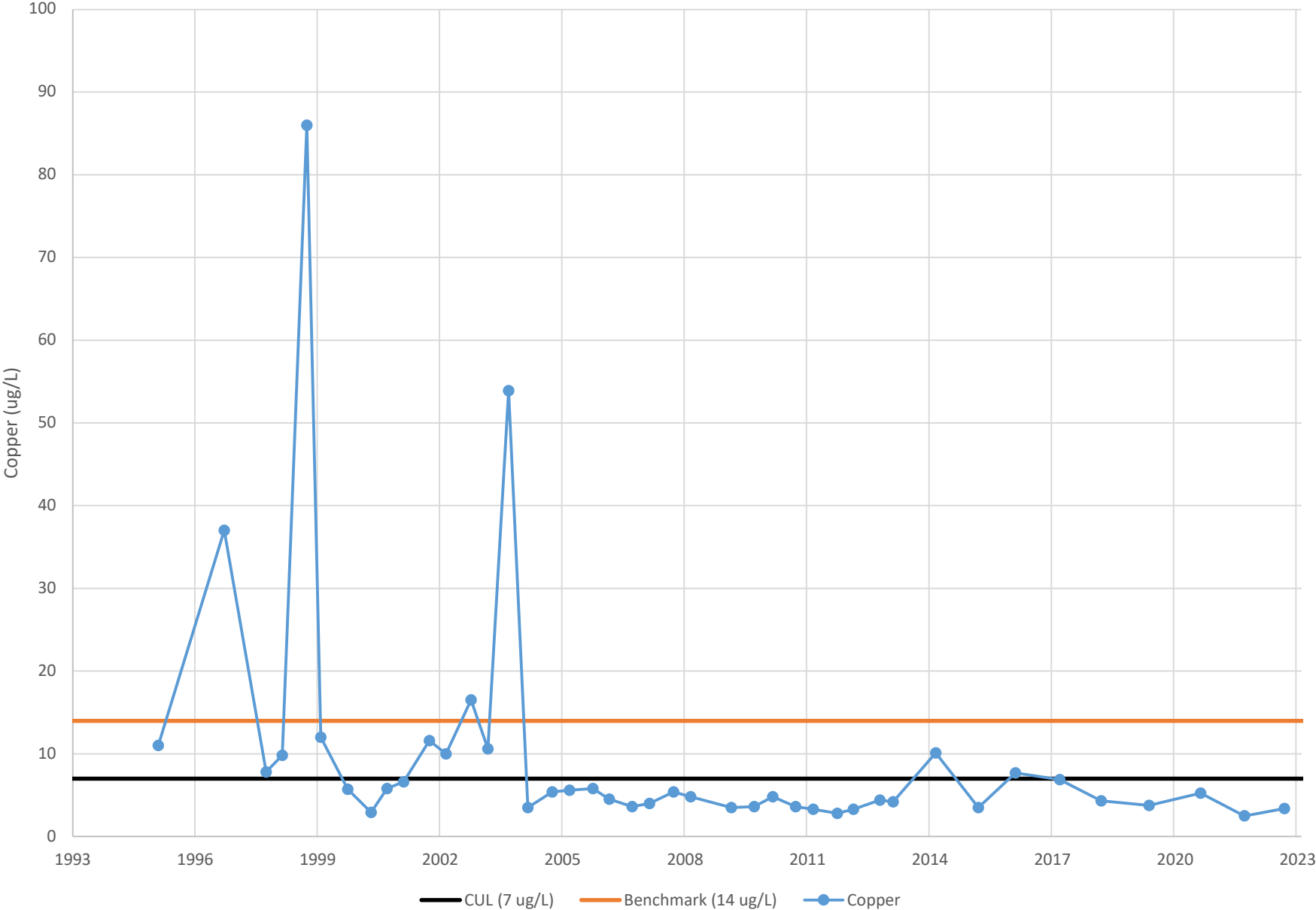
SW-5 Lead



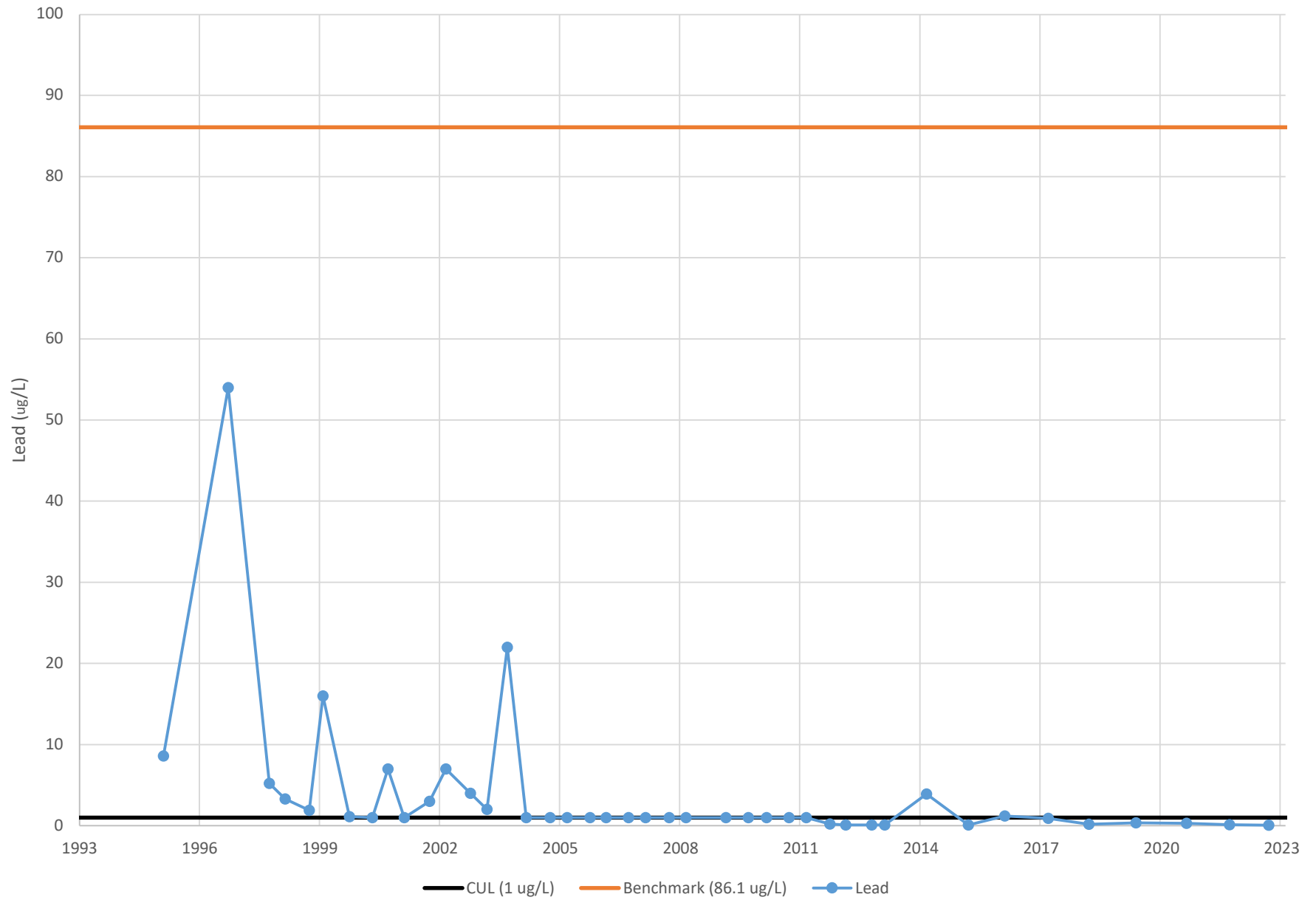
SW-5 Zinc



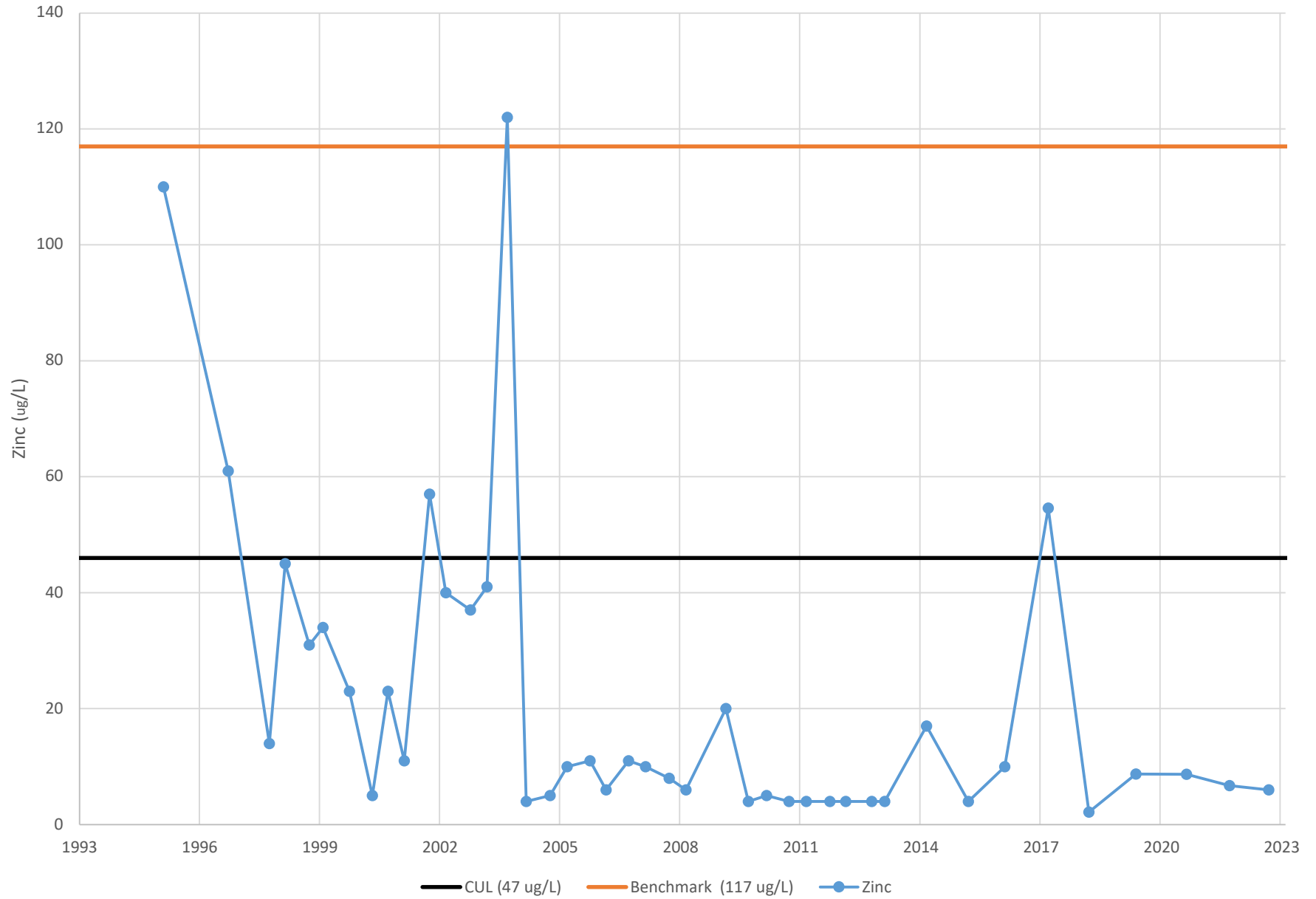
SW-6 Copper



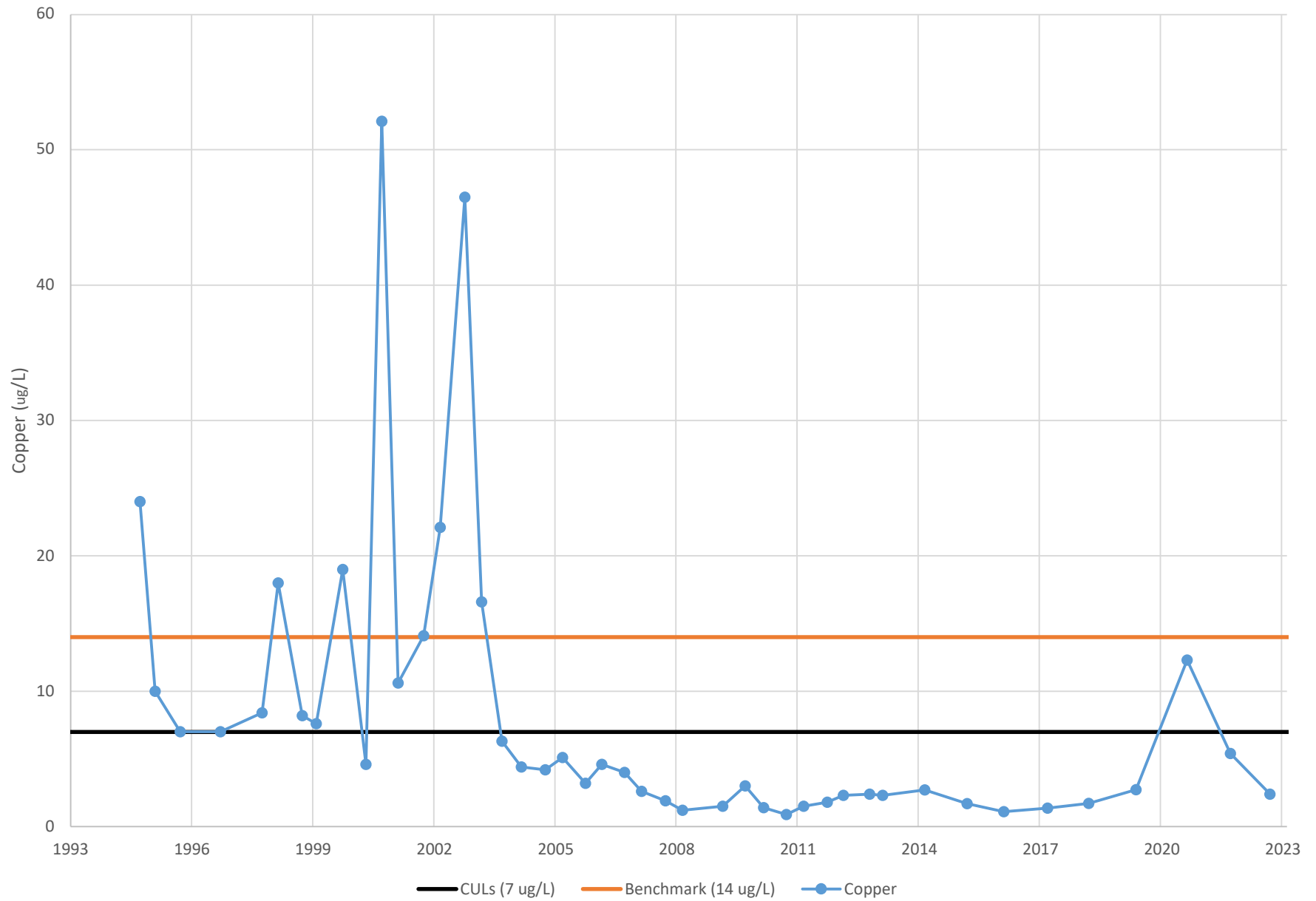
SW-6 Lead



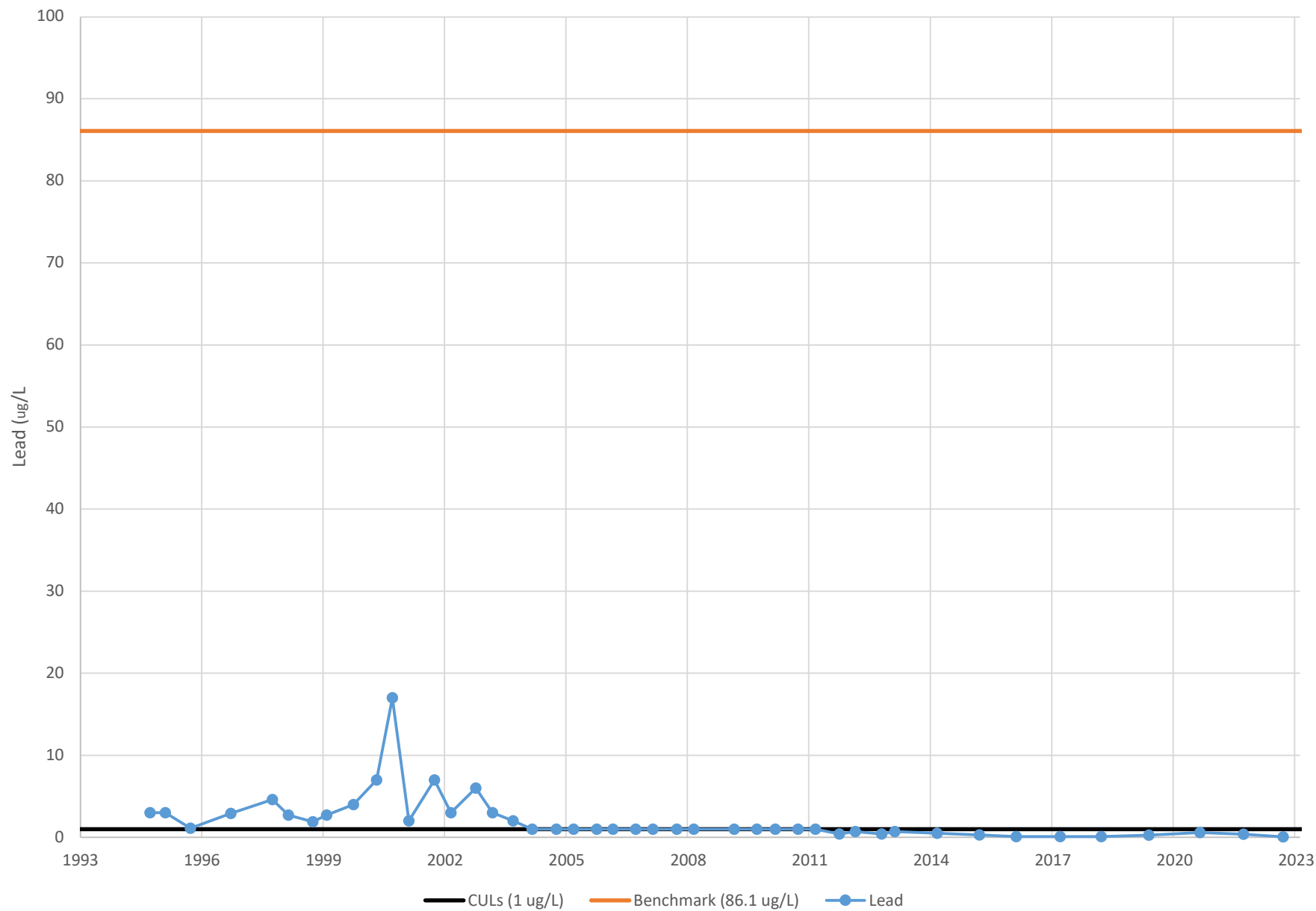
SW-6 Zinc



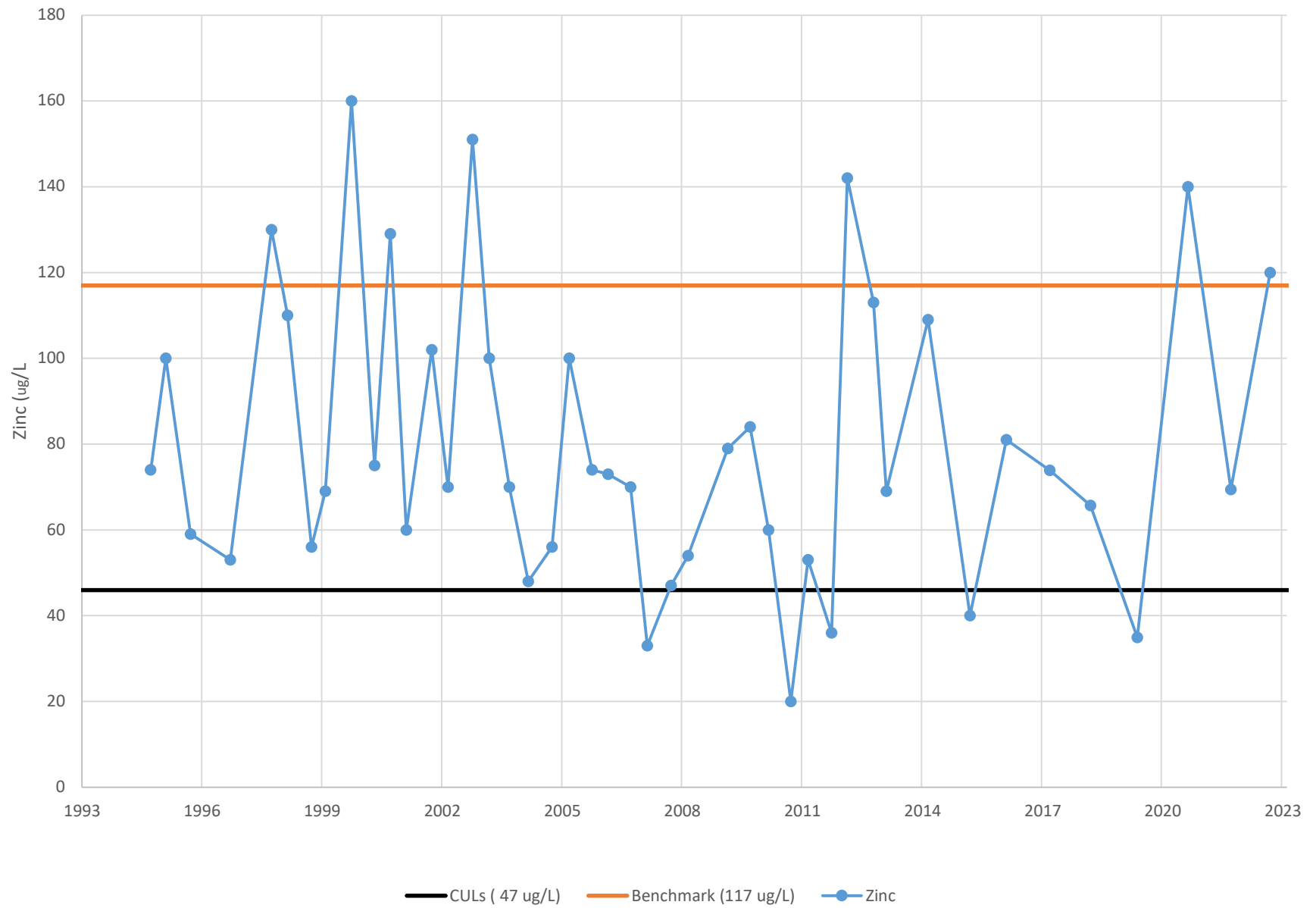
SW-DP Copper



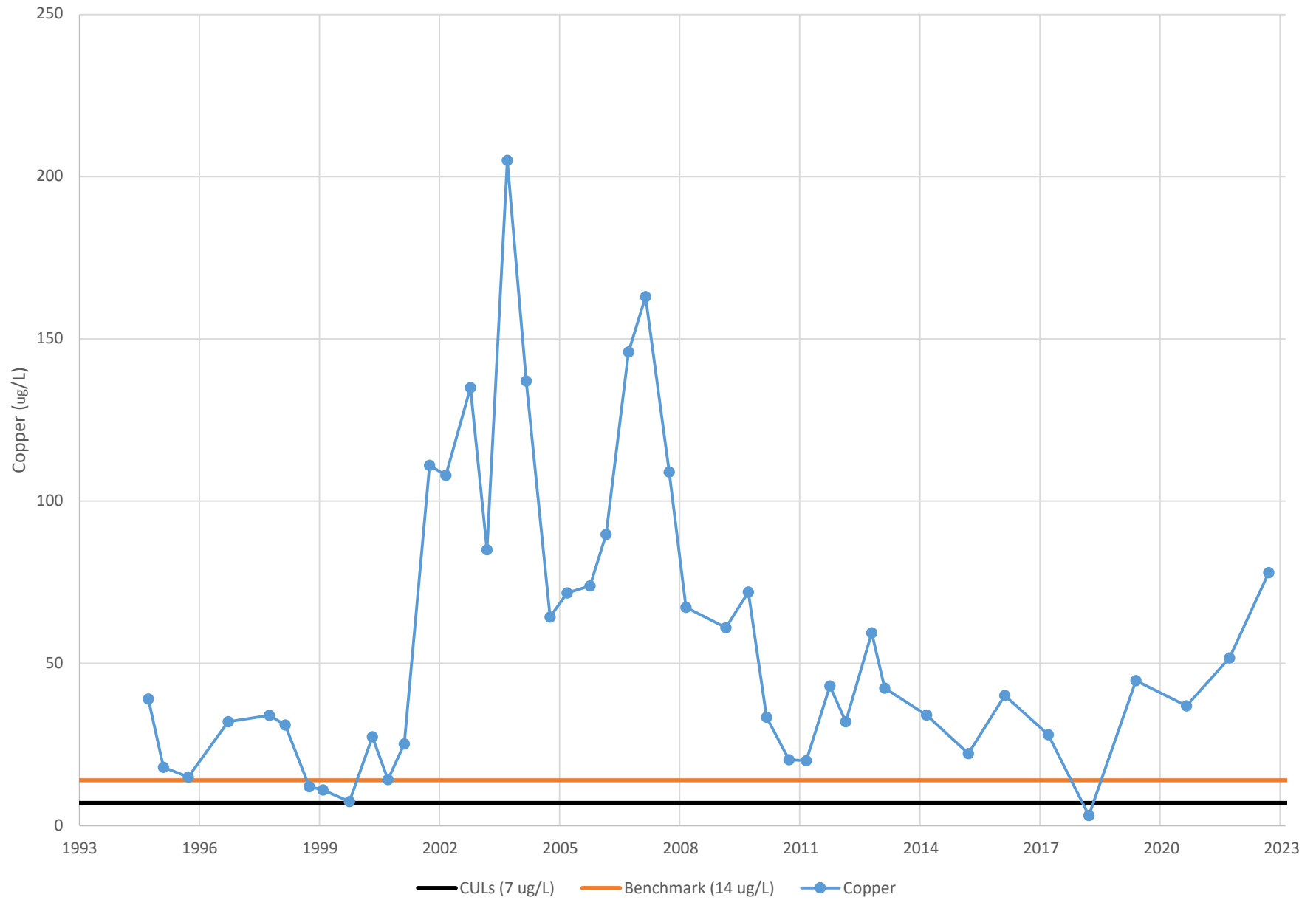
SW-DP Lead



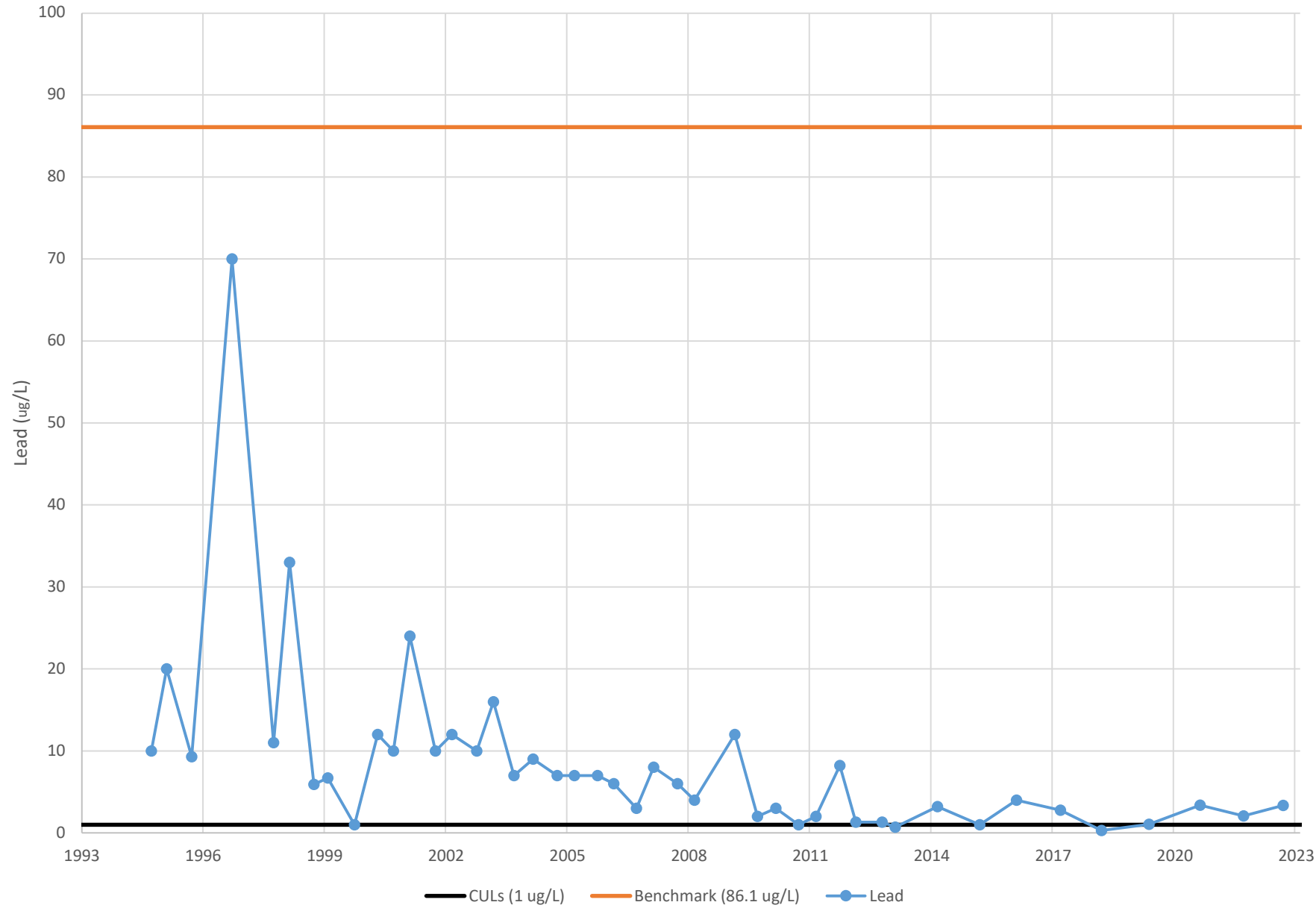
SW-DP Zinc



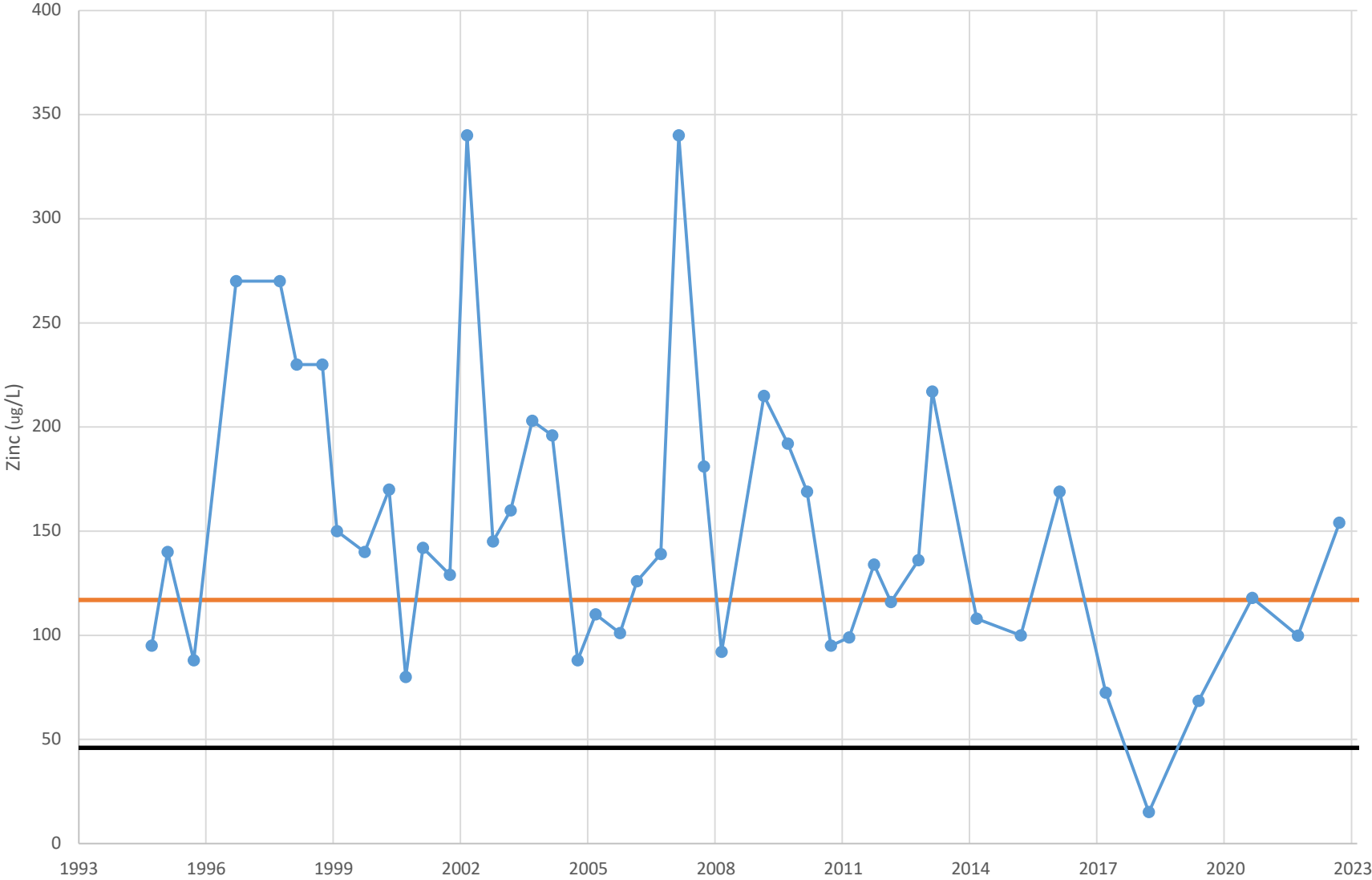
SW-MH Copper



SW-MH Lead



SW-MH Zinc



CULs (47 ug/L) Benchmark (117 ug/L) Zinc