

Spring 2025 Semi-Annual Groundwater and Methane Monitoring Report for Phillips Army Airfield Rubble Landfill

Aberdeen Area Aberdeen Proving Ground, Maryland

Prepared for:



**Directorate of Public Works Environmental Division
U.S. Army Garrison
Aberdeen Proving Ground, Maryland 21005**

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ACRONYMS AND ABBREVIATIONS

±	plus or minus
%	percent
<	less than
°C	degrees Celsius
amsl	above mean sea level
APG	Aberdeen Proving Ground
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CoC	Chain-of-Custody
COMAR	Code of Maryland Regulations
DO	dissolved oxygen
EA	EA Engineering, Science and Technology, Inc.
ECC	Environmental Chemical Corporation
GP	General Physics Corporation
HFPO-DA; GenX	Hexafluoropropylene oxide dimer acid
IR	Installation Restoration
LEL	lower explosive limit
MCL	Maximum Contaminant Level
MDE	Maryland Department of the Environment
µg/L	micrograms per liter
ng/L	nanograms per liter
ORP	oxidation/reduction potential
PAAF	Phillips Army Airfield
PFAS	Per- and Polyfluoroalkyl Substances
PFBS	Perfluorobutanesulfonic acid
PFHxS	Perfluorohexanesulfonic acid
PFNA	Perfluorononanoic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic acid
RSJV	Renova-Sovereign Joint Venture
SMCL	secondary MCL
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound

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1.0 INTRODUCTION

Renova-Sovereign Joint Venture (RSJV) has been contracted by the Aberdeen Proving Ground (APG) Directorate of Public Works, Environmental Division under Contract Number W56ZTN-17-D-0009 to perform groundwater monitoring at the Phillips Army Airfield (PAAF) Rubble Landfill, Delivery Order Number W56ZTN-21-F-0139, within the Aberdeen Area of APG, Maryland.

The methane and groundwater monitoring program consists of the following tasks:

- Quarterly methane gas monitoring;
- Quarterly measurement and evaluation of groundwater elevations; and
- Semi-annual sampling of groundwater and evaluation of results.

1.1 Site Background

The PAAF Rubble Landfill is located in the Aberdeen Area of APG, north of the PAAF (**Figure 1**). Disposal operations began in 1971, and the landfill was closed in 2001. Waste accepted at the landfill included concrete, brick, stone, metal, asphalt, plastic, and other construction and land clearing debris. The PAAF Rubble Landfill permit specifically prohibited the disposal of controlled hazardous substances, waste containing free liquids, infectious waste, radioactive materials, animal carcasses, chemical/petroleum oil lubricant spill cleanup material, and drums or tanks, unless the drums and tanks were empty and crushed.

The PAAF Landfill area also consists of several landfills and other areas of interest that have been investigated by APG's Installation Restoration (IR) Program as potential source areas under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) since the 1990s. These sites contain waste materials that pre-date the start of landfilling operations at the PAAF Rubble Landfill. The surficial aquifer groundwater underlying the entire PAAF Landfill area has also been investigated as part of the IR Program's Western Boundary Study Area Operable Unit 2 since the 1990s. CERCLA actions to include development of remedies for the PAAF Landfill Area potential source areas and groundwater are ongoing.

A monitoring program has been implemented for the PAAF Rubble Landfill which originally consisted of quarterly methane gas monitoring, monthly groundwater well gauging to determine groundwater elevations, and annual groundwater sampling to monitor groundwater quality. During 2011, the monitoring program was revised to include quarterly, rather than monthly, groundwater gauging. In addition, the list of wells which are included in the monitoring program was revised and shortened (EA, 2011a). Then in 2018, the monitoring program was revised to include semi-annual, rather than annual groundwater evaluation.

In accordance with the Code of Maryland Regulations (COMAR) 26.04.07.09, 26.04.07.17, 26.04.07.20 and/or 40 CFR Part 258, per- and polyfluoroalkyl substances (PFAS) sampling is required at PAAF Rubble Landfill. PFAS sampling began in 2024. The following six PFAS have been added to the semi-annual groundwater monitoring program: perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS), perfluorohexanesulfonic acid (PFHxS), perfluorononanoic acid (PFNA), perfluorobutanesulfonic acid (PFBS), and hexafluoropropylene oxide dimer acid (HFPO-DA; GenX).

1.2 Purpose

This semi-annual report documents the methodology and results for monitoring activities conducted during the first and second quarters of 2025. Monitoring activities were conducted according to the *Sampling and Analysis Plan for the Phillips Army Airfield Rubble Landfill Methane and Groundwater Monitoring Program* (Bluestone, 2019).

The purpose of methane monitoring is to provide the Maryland Department of the Environment (MDE) with information to ensure that unsafe concentrations of methane gas are not leaving the permitted landfill boundary.

Groundwater sampling is conducted at the PAAF Rubble Landfill, in accordance with the groundwater discharge permit (MDE No. 2019-GWD-3049), to evaluate groundwater trends and to ensure that contaminants are not migrating towards waters of the State.

2.0 SUMMARY OF FIELD ACTIVITIES

Groundwater elevation measurements, groundwater sampling, and methane monitoring were conducted in accordance with the *Sampling and Analysis Plan for the Phillips Army Airfield Rubble Landfill Methane and Groundwater Monitoring Program* (Bluestone, 2019), as discussed in **Section 1.2**.

2.1 Methane Monitoring

Methane monitoring at the PAAF Rubble Landfill was conducted at seven monitoring points (PM-01R to PM-05R, PM-07R, and PM-09R) on 28 January 2025 and 14 April 2025. These methane monitoring points were installed adjacent to the existing monitoring points at the PAAF Rubble Landfill during November 2023 (a separate report detailing the installation will be provided).

Methane monitoring was conducted using the Landtec Gas Analyzer and Extraction Monitor 5000 and Landtec Gas Analyzer and Extraction Monitor 2000, which are hand-held gas meters designed for landfill gas monitoring. The methane probe was calibrated prior to each use. The calibration logs for the probe are included in **Appendix A** and the methane monitoring logs are provided in **Appendix B**. The results of the January and April 2025 methane monitoring events are included in **Table 1**.

2.2 Groundwater Elevation Measurements

Groundwater elevation measurements were collected from nine monitoring wells (PW-8, PW-10, PW-11, PW-12, PW-16, PW-17, PW-19, PW-20, and PW-25) on 28 January and 14 April 2025 (**Figures 2 and 3, respectively**). The gauging events also included an evaluation of monitoring well condition, confirmation of well construction, and an assessment of sediment build-up within each well. Gauging data collected from the wells during the first and second quarter 2025 monitoring events are summarized in **Table 2**.

All monitoring wells were inspected, and structural components of wells PW-8, PW-10, PW-11, PW-12, PW-16, PW-17, PW-19, PW-20, and PW-25 appeared to be in good condition.

2.3 Groundwater Sampling

Six monitoring wells (PW-11, PW-12, PW-16, PW-17, PW-19, and PW-20) were sampled during the second quarter of 2025, on 15 April 2025. Well PW-19 was resampled on 2 June 2025 to verify the PFOA concentration detected above the Maximum Contaminant Level (MCL) during the April event. Low stress (low flow) purging and sampling procedures were used to ensure a representative groundwater sample. The monitoring wells were sampled with Geotech submersible pumps during the April and June 2025 sampling events. All sampling equipment used was PFAS free.

Water quality parameters were monitored in the field during groundwater sampling to ensure well stabilization using a Horiba U-52 Water Quality Meter. Parameters monitored included temperature, conductivity, pH, turbidity, oxidation/reduction potential (ORP), dissolved oxygen (DO), and salinity. Readings were collected at five-minute intervals. Stabilization was defined as three consecutive readings that were within plus or minus ($\pm$) 0.1 for pH, ± 3 percent (%) for conductivity, and $\pm 10\%$ for DO and $\pm 10\%$ or less than ($<$) 10 nephelometric turbidity units for turbidity. The calibration logs for the instruments can be found in **Appendix A** and purge logs from the groundwater sampling are included in **Appendix C**.

Samples were collected in laboratory-supplied sample containers and packed on ice in portable coolers immediately following containerization to maintain a temperature of 4 degrees Celsius ($^{\circ}\text{C}$). Volatile organic compound (VOC) sample containers were stored in the same cooler along with the trip blanks.

Chain-of-Custody (CoC) procedures were maintained to provide a record of samples collected and to document custody transfer of the samples from collection to analysis. Samples were submitted to Advanced Environmental Laboratories in Jacksonville, Florida for the following analyses:

- VOCs (United States Environmental Protection Agency [USEPA] 8260C)
- Total Metals (USEPA 6010C, 6020A, Mercury EPA 7470A)
- Chemical Oxygen Demand (USEPA 410.4)
- Hardness (USEPA 6010C)
- Nitrate (USEPA 300.0)
- Alkalinity (USEPA 310.1)
- Chloride (USEPA 300.0)
- Specific Conductance (SM 2510B)
- Sulfate (USEPA 300.0)
- pH (SM 4500H+B)
- Turbidity (SM 2130B)
- Total Dissolved Solids (SM 2540C)
- Ammonia (USEPA 350.1)
- PFAS [PFOA, PFOS, PFHxS, PFNA, PFBS, and HFPO-DA; GenX] (USEPA 1633)

The laboratory reported analytical results based on the practical quantitation limits defined within the State of Maryland discharge permit for the PAAF Rubble Landfill. A copy of the CoCs provided to the lab are included in **Appendix D**.

2.4 Decontamination Procedures

Decontamination procedures outlined in *Sampling and Analysis Plan for the Phillips Army Airfield Rubble Landfill Methane and Groundwater Monitoring Program* (Bluestone, 2019) were followed during the semi-annual groundwater sampling event.

2.5 Health and Safety

As described in the approved Site Safety and Health Plan (ECC, 2014), a health and safety tailgate meeting was held at the beginning of the workday. The daily tailgate meeting forms are included in **Appendix E**.

3.0 RESULTS

3.1 Methane Monitoring

During the January 2025 monitoring event at the PAAF Rubble Landfill site methane was detected at the following three monitoring points: PM-01R (0.1 %), PM-03R (53 %), and PM-09R (52.1 %).

During the April 2025 monitoring event methane was detected at the following two monitoring points: PM-03R (29.2 %) and PM-09R (50 %).

The regulatory level of concern for the site is 1.25 % methane in air, which is 25 % of the lower explosive limit (LEL). There were two exceedances of the action level during January 2025 at monitoring points PM-03R (53 %) and PM-09R (52.1 %) and there were two exceedances during April 2025 at monitoring points PM-03R (29.2 %) PM-09R (50 %).

The quarterly methane monitoring results are shown in **Table 1**. Historical results (2010 - 2025) of methane monitoring are summarized in **Appendix F**.

3.2 Groundwater Monitoring

3.2.1 Groundwater Elevation Measurements

Groundwater elevations at PAAF Rubble Landfill site ranged from 26.04 to 31.52 feet above mean sea level (amsl) during the January 2025 gauging event and ranged from 27.39 to 34.40 feet amsl during the April 2025 gauging event (**Table 2**). Groundwater elevations at the PAAF Rubble Landfill exhibit slight seasonal fluctuations compared to historical groundwater elevations.

Groundwater elevation gauging data is used to determine the direction of groundwater flow during each monitoring event. The quarterly groundwater elevations were used to form groundwater contour maps for the landfill (**Figures 2 and 3**). Groundwater at the site flows to the south and southeast with minimal variation during the year. Since the landfill type is area fill, the landfill bottom is the original ground surface elevation (GP 2009).

3.2.2 April and June 2025 Sampling Events

Analytes detected in groundwater were compared to primary or secondary MCLs for drinking water supplies from <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations> and <https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals> (USEPA, 2025). The analytes detected in exceedance of the MCLs or secondary MCLs (SMCLs) during the April 2025 groundwater monitoring event is summarized in **Table 3** and a summary of the detected compound results are shown in **Table 4**. The complete laboratory analytical data packages for the April and June 2025 sampling events are included in **Appendix G**. All analytical results below the reporting limit that could be estimated by the laboratory are reported with a “J” qualifier.

During the April 2025 groundwater sampling event, vinyl chloride was detected above the MCL of 2 micrograms per liter (µg/L) in monitoring well PW-12 (2.9 µg/L) and below the MCL in well PW-16 (1.5 µg/L). Trichloroethene (TCE) was detected in monitoring wells PW-12 (3.9 µg/L) and PW-16 (3.1 µg/L) below the MCL of 5 µg/L. Additional VOCs detected in the groundwater below the respective MCL values were acetone, chlorobenzene, chloromethane, cis-1,2-dichloroethene, tetrachloroethene, and trichlorofluoromethane.

Several metals were also detected at low levels (i.e., estimated/J-qualified values) in groundwater at the PAAF Rubble Landfill during the April 2025 sampling event. Although no metals were detected above the MCLs, three metals (aluminum, iron, and manganese) were detected above the SMCL values in groundwater at the site. SMCLs were exceeded for total aluminum in wells PW-11, PW-17, and PW-19, for total iron in wells PW-11, PW-12, PW-16, PW-17, and PW-19, and for total manganese in wells PW-11, PW-12, PW-16, and PW-17.

During the April 2025 groundwater sampling event several PFAS were detected. PFOA was detected above the MCL of 4 nanograms per liter (ng/L) in all six monitoring wells: PW-11 (260 ng/L), PW-12 (9.2 ng/L), PW-16 (39 ng/L), PW-17 (51 ng/L), PW-19 (4.1 ng/L) and PW-20 (18 ng/L). Re-sampling of well PW-19 on 2 June 2025 confirmed that the detection of PFOA during the April 2025 sampling event was above the MCL. PFOA was detected at 6.8 ng/L in June 2025. PFOS exceeded the MCL of 4 ng/L in PW-11 at 150 ng/L, PW-16 at 19 ng/L, PW-17 at 19 ng/L, and PW-20 at 29 ng/L and was detected below the MCL in PW-19 at 3.3 ng/L. PFHxS was detected above the MCL (10 ng/L) in the following three wells: PW-11 (85 ng/L), PW-16 (25 ng/L), and PW-17 (16 ng/L) and was detected below the MCL in the following three wells: PW-12 (1.1 J ng/L), PW-19 (1.7 J ng/L), and PW-20 (9.6 ng/L). PFNA was detected below the MCL of 10 ng/L in PW-11 at 2.4 ng/L, PW-16 at 2.8 ng/L, PW-17 at 6.9 ng/L, PW-19 at 2.2 ng/L, and PW-20 at 3.6 ng/L. HFPO-DA was detected below the MCL (10 ng/L) in wells PW-11 (0.31 J ng/L) and PW-16 (0.28 J ng/L). PFBS, which does not have an individual MCL, was detected in all six wells: PW-11 (9.5 ng/L), PW-12 (0.66 J ng/L), PW-16 (6.9 ng/L), PW-17 (9.2 ng/L), PW-19 (0.95 J ng/L), and PW-20 (2.9 ng/L).

3.2.3 Historical Monitoring Data

Historical groundwater monitoring data (since March 1999) is included in **Appendix H**. Historical data were compared to MCLs and SMCLs, and USEPA Guidance Levels where no MCLs were available. The only VOCs to exceed MCLs during long-term monitoring at the PAAF Landfill were dichloromethane, vinyl chloride, and TCE. Dichloromethane was detected sporadically at five wells at levels exceeding the MCL of 5 µg/L. The most recent occurrence of dichloromethane above the MCL was March 2007 in monitoring well PW-12 at 6.3 µg/L. The remainder of the dichloromethane detections were reported at higher concentrations, but only during the September 2000 and March 2004 sampling events. Vinyl chloride was detected slightly above the MCL (2 µg/L) in well PW-12 (2.9 µg/L) and below the MCL in well PW-16 (1.5 µg/L) during April 2025. Wells PW-12 and PW-16 also contained low-level detections of TCE, below the MCL of 5 µg/L. TCE and vinyl chloride have been detected sporadically at PW-16 over the last 26 years and recent detections in downgradient well PW-12 may be an indication that migration of these constituents is occurring. However, the recent detections of TCE and vinyl chloride in well PW-12 may also be the result of impacts to groundwater from landfilled waste material in close proximity to the two wells. This waste material is located within separate source areas not associated with the PAAF Rubble Landfill. Development of remedies for the separate potential source areas not associated with the PAAF Rubble Landfill Area and groundwater are ongoing under CERCLA.

Detections above MCLs of six metals, arsenic, beryllium, cadmium, lead, mercury, and nickel, have been reported since the start of landfill monitoring in 1999. These detections have varied between non-detect and levels above the MCL values (i.e. are not sustained) and show no distinct patterns of migration at the site. Cadmium has only been detected at a level above its MCL once, within well PW-12 in September 2004. Within well PW-19, arsenic, beryllium, lead, and nickel have been detected once in November 2015 above their MCLs. Mercury concentrations have exceeded the MCL value three times at PW-11 during 2015 and once within well PW-20 during 2002. The metals aluminum, iron, manganese, and sodium have been routinely detected in groundwater above SMCLs and USEPA Guidance levels during the 26 years of long-term monitoring at the PAAF Rubble Landfill. SMCLs and USEPA Guidance levels are non-enforceable advisory standards related to aesthetics and physical characteristics (e.g., turbidity, taste, color,

odor, etc.) of drinking water. The presence of these four metals in groundwater underlying a construction debris landfill is commonly expected.

The following metals were detected above MCLs or SMCLs (location and date of most recent exceedance noted):

- Aluminum (PW-16 during October 2023; PW-12 during April 2024; PW-20 during November 2024; and PW-11, PW-17, and PW-19 during April 2025)
- Arsenic (PW-19 during November 2015)
- Beryllium (PW-19 during November 2015)
- Cadmium (PW-12 during September 2004)
- Iron (PW-20 during April 2022; and PW-11, PW-12, PW-16, PW-17, and PW-19 during April 2025)
- Lead (PW-19 during November 2015)
- Manganese (PW-20 during April 2022; PW-19 during November 2024; and PW-11, PW-12, PW-16, and PW-17 during April 2025)
- Mercury (PW-11 during January 2015; PW-20 during August 2002)
- Nickel (PW-19 during November 2015)

4.0 CONCLUSIONS

The overall groundwater flow direction at the PAAF Rubble Landfill is to the southeast, and consistent with past groundwater flow trends at the site (GP 2008; GP 2009; EA 2010; and EA 2011b). Groundwater elevations ranged from 26.04 to 31.52 feet amsl during the January 2025 gauging event and ranged from 27.39 to 34.40 feet amsl during the April 2025 gauging event.

There were two exceedances of the methane action level (1.25 % methane in air [25 % of the LEL]) at the PAAF Rubble Landfill during January 2025 at monitoring points PM-03R (53 %) and PM-09R (52.1 %). There were also two exceedances during April 2025 at monitoring points PM-03R (29.2 %) PM-09R (50 %).

Based on groundwater monitoring performed at the PAAF Rubble Landfill since 1999, the release of contaminants from the landfill to groundwater has been minimal with few exceedances of MCLs. The only VOCs to exceed the MCLs from 1999 to October 2014 were dichloromethane and TCE. Dichloromethane was detected sporadically at multiple wells (PW-12, PW-16, PW-17, PW-19, and PW-20) at levels exceeding the MCL of 5 µg/L. The most recent occurrence of dichloromethane above the MCL occurred in March 2007 (PW-12). Dichloromethane was not detected in groundwater samples collected from 2008 to 2025. TCE concentrations have fluctuated in wells PW-11, PW-12, PW-16, and PW-17 between non-detect and levels slightly above the MCL of 5 µg/L between 1999 and 2025. Beginning in September 2005 through April 2025, vinyl chloride concentrations have also fluctuated in wells PW-12 and PW-16 between non-detect and above the MCL of 2 µg/L. In April 2025, vinyl chloride was detected slightly above the MCL in well PW-12. Groundwater monitoring efforts during 2025 have also detected additional chlorinated VOCs below the respective MCL values in one or more of the following downgradient wells: PW-11, PW-12, PW-16, and PW-17.

Metals were detected above MCLs infrequently during historical monitoring of groundwater at the PAAF Rubble Landfill. The metals detected in groundwater reflect typical regional conditions, and recent exceedances were only of SMCLs for aluminum, iron, and manganese.

PFOA was detected above the MCL of 4 ng/L in all six monitoring wells. Re-sampling of well PW-19 in June 2025 confirmed that the detection of PFOA during the April 2025 sampling event was above the MCL. PFOS exceeded the MCL of 4 ng/L in the following wells: PW-11, PW-16, PW-17 and PW-20 and was detected below the MCL at well PW-19. PFHxS was detected above the MCL of 10 ng/L in PW-11, PW-16, and PW-17 and below the MCL in PW-12, PW-19, and PW-20. PFNA was detected below the MCL of 10 ng/L in wells PW-11, PW-16, PW-17, PW-19, and PW-20. HFPO-DA was detected below the MCL (10 ng/L) in wells PW-11 and PW-16. PFBS (no individual MCL) was detected in all six monitoring wells.

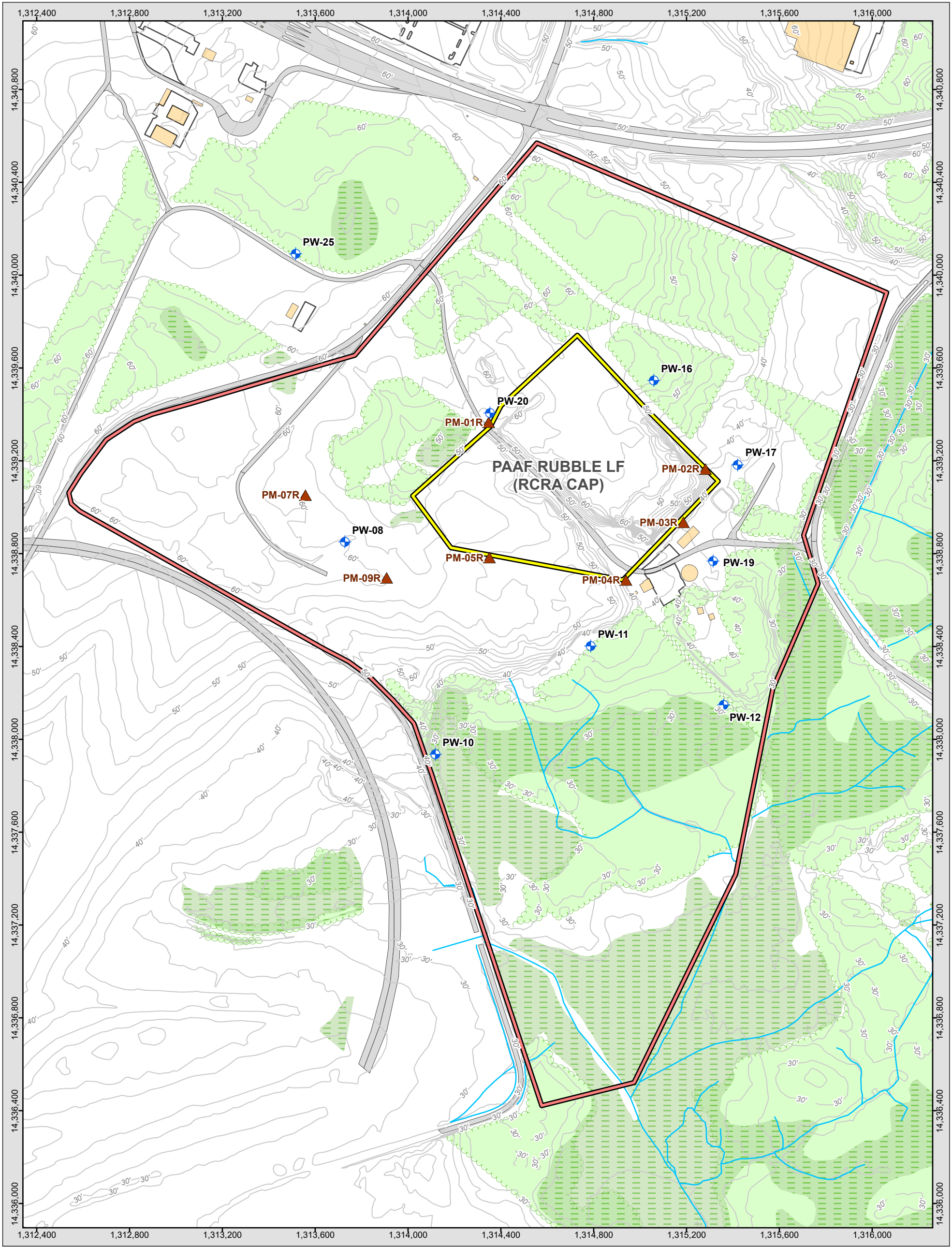
It is recommended that the current methane and groundwater monitoring program for the PAAF Rubble Landfill be continued, with the next semi-annual sampling event planned for Fall 2025.

5.0 REFERENCES

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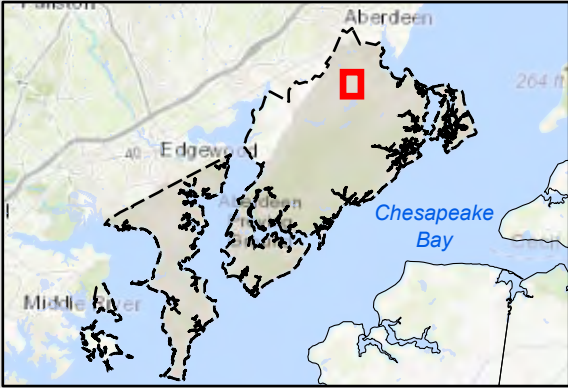
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FIGURES



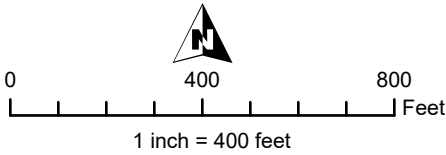
LEGEND

- | | | | |
|--|--------------------------------------|--|-------------------------------------|
| | Monitoring Well | | Topographic Contour (2 ft interval) |
| | Methane Monitoring Point | | Wetlands |
| | PAAF Rubble Landfill Area (RCRA Cap) | | Vegetated Area |
| | PAAF Area | | Paved Roadway |
| | Building | | Parking Area |
| | Surface Water | | Installation Boundary |



- NOTES**
1. Coordinate System: WGS 84 UTM Zone 18N, US Feet
 2. Basemap data from Directorate of Public Works at Aberdeen Proving Ground (APG)
 3. Map Size: B-size (17" x 11")
 4. Revision Date: 6/25/2025

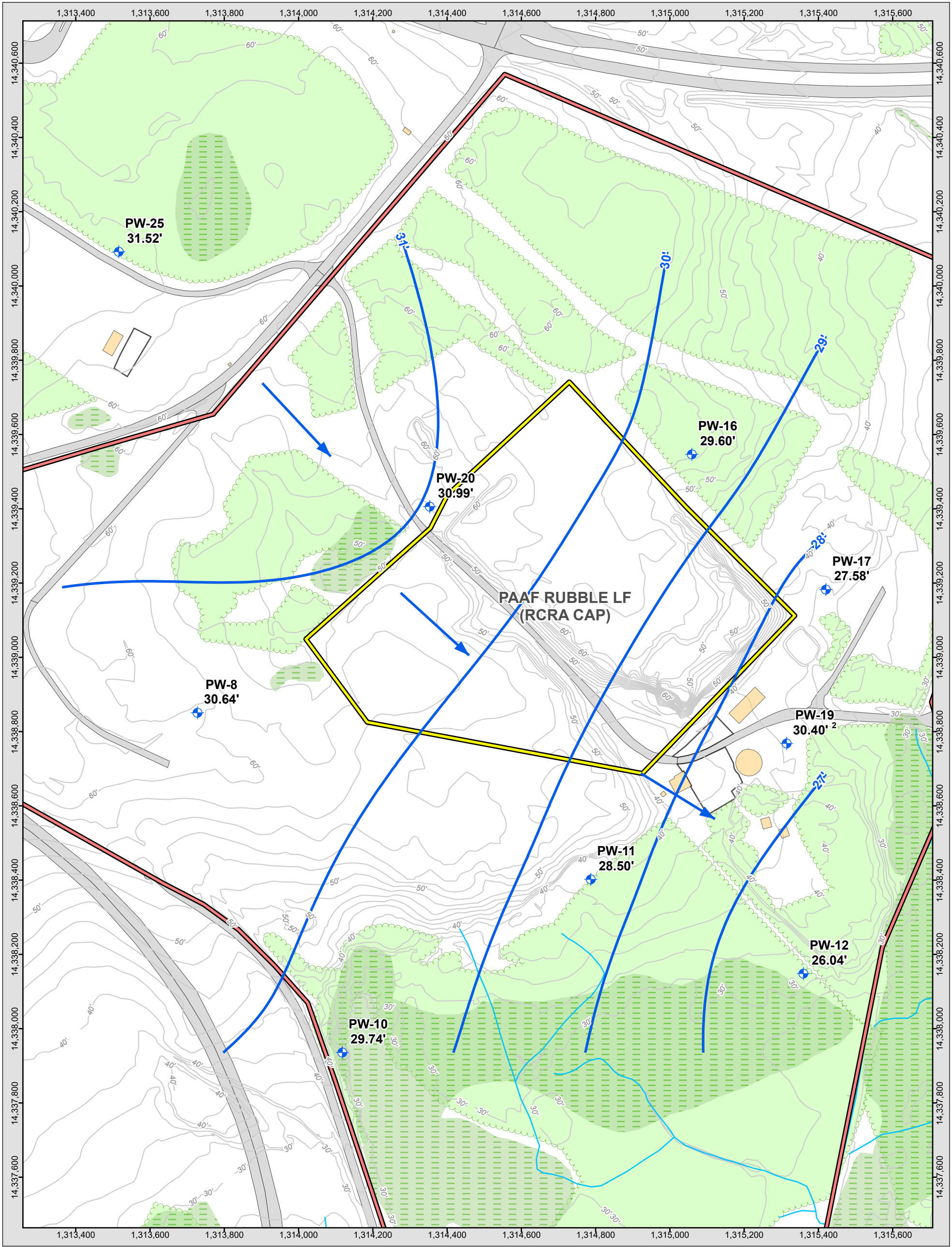
**FIGURE 1
SITE MAP
PAAF RUBBLE LANDFILL
Aberdeen Proving Ground**



**U.S. Army
Aberdeen Proving Ground**



DISCLAIMER: The data represent the results of data collection/processing for a specific Aberdeen Proving Ground activity and indicates the general existing conditions. As such, it is only valid for its intended use, content, time, and accuracy specifications. The user is responsible for the results of any application of the data for other than its intended purpose.



LEGEND

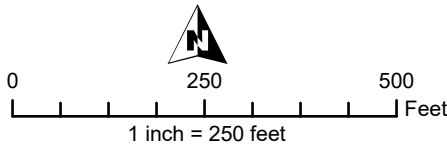
- | | | | |
|--|---|--|--|
| | Monitoring Well | | Topographic Contour
(2 ft interval) |
| | Potentiometric Contours
(January 2025) | | Wetlands |
| | Groundwater Flow Direction | | Vegetated Area |
| | PAAF Rubble Landfill Area
(RCRA Cap) | | Surface Water |
| | PAAF Area | | Paved Roadway |
| | Installation Boundary | | Parking Area |
| | | | Building |

NOTES

1. Wells were gauged on 01/28/2025.
2. Water elevations for PW-19 was not used for contouring.
3. Coordinate System: WGS 84 UTM Zone 18N, US Feet
4. Basemap data from Directorate of Public Works at Aberdeen Proving Ground (APG)
5. Map Size: B-size (17" x11")
6. Revision Date: 6/25/2025

FIGURE 2
GROUNDWATER
POTENTIOMETRIC CONTOURS
JANUARY 2025
PAAF RUBBLE LANDFILL

Aberdeen Proving Ground

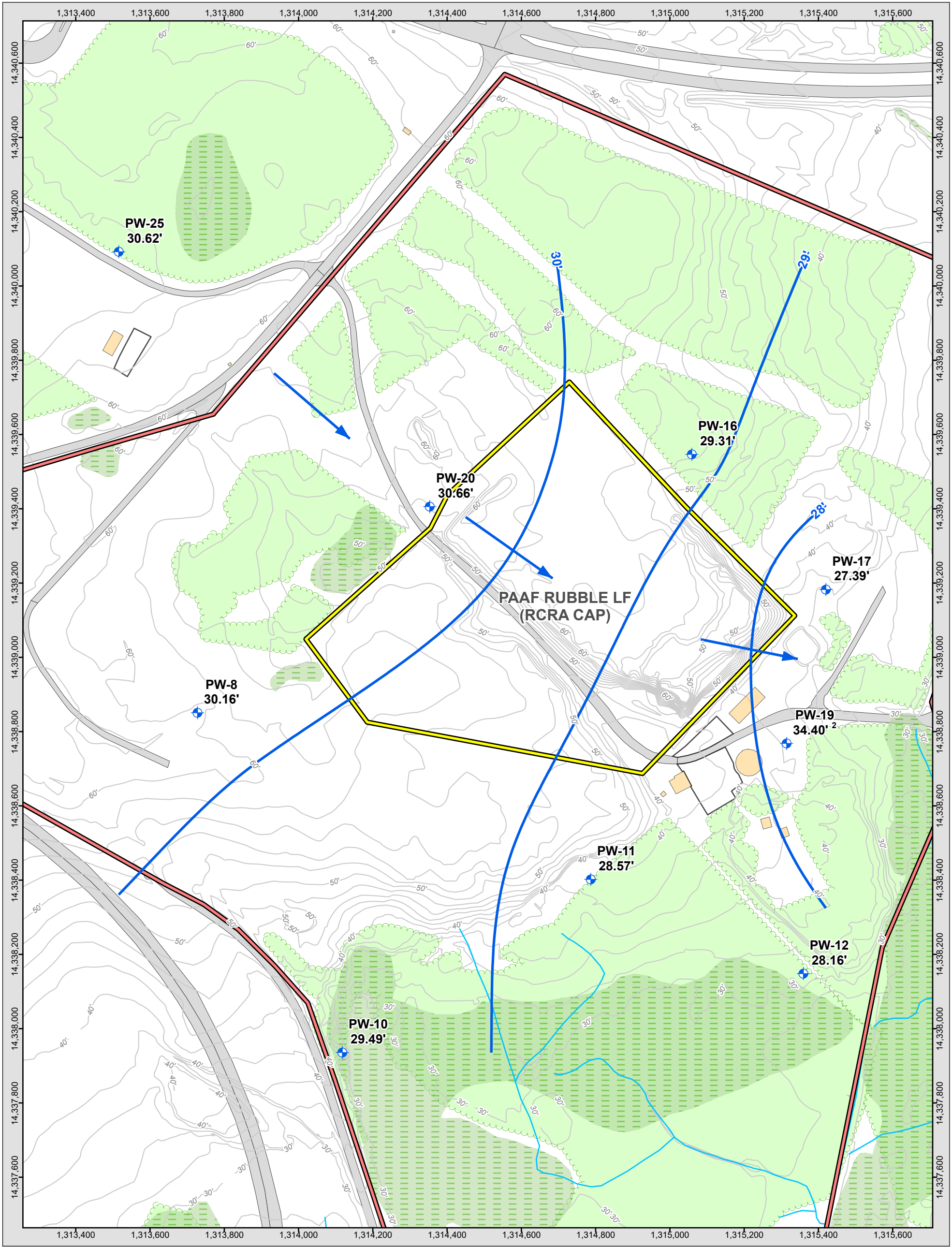


U.S. Army
Aberdeen Proving Ground



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PW-8 Groundwater elevation reading
30.64' (measured from top of riser)



LEGEND

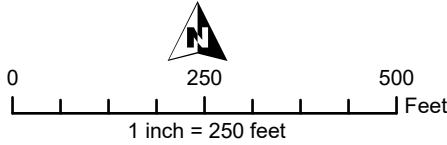
- Monitoring Well
- Potentiometric Contours (April 2025)
- Groundwater Flow Direction
- PAAF Rubble Landfill Area (RCRA Cap)
- PAAF Area
- Installation Boundary
- Topographic Contour (2 ft interval)
- Wetlands
- Vegetated Area
- Surface Water
- Paved Roadway
- Parking Area
- Building

NOTES

1. Wells were gauged on 04/14/2025.
2. Water elevations for PW-19 was not used for contouring.
3. Coordinate System: WGS 84 UTM Zone 18N, US Feet
4. Basemap data from Directorate of Public Works at Aberdeen Proving Ground (APG)
5. Map Size: B-size (17" x11")
6. Revision Date: 6/25/2025

FIGURE 3
GROUNDWATER
POTENTIOMETRIC CONTOURS
APRIL 2025
PAAF RUBBLE LANDFILL

Aberdeen Proving Ground



U.S. Army
Aberdeen Proving Ground



DISCLAIMER: The data represent the results of data collection/processing for a specific Aberdeen Proving Ground activity and indicates the general existing conditions. As such, it is only valid for its intended use, content, time, and accuracy specifications. The user is responsible for the results of any application of the data for other than its intended purpose.

PW-8 Groundwater elevation reading
30.16' (measured from top of riser)

TABLES

Table 1

Methane Monitoring Results (28 January 2025)

Methane Monitoring Location ¹	Concentration (%)				Barometric Pressure
	CH4			O2	
	Maximum Value ²	Stabilized Value ³	% LEL		
PM-01R	0.1	0.2	2.0	25	29.62
PM-02R	0.0	0.0	0.0	24.1	29.62
PM-03R	69.6	53	1,060	5.7	29.62
PM-04R	0.0	0.0	0.5	24.6	29.65
PM-05R	0.7	0.0	12.7	3.2	29.65
PM-07R	0.0	0.3	0.0	20.9	29.61
PM-09R	52.1	52.1	1,042	0.2	29.61

Methane Monitoring Results (14 April 2025)

Methane Monitoring Location ¹	Concentration (%)				Barometric Pressure
	CH4			O2	
	Maximum Value ²	Stabilized Value ³	% LEL		
PM-01R	0.3	0.0	0.0	20.9	29.85
PM-02R	2	0.0	0.0	20.5	29.85
PM-03R	35.9	29.2	584	6.3	29.85
PM-04R	24	0.0	0.0	20.8	29.85
PM-05R	1.2	0.0	0.0	5.7	29.85
PM-07R	0.0	0.0	0.0	20.3	29.90
PM-09R	50	50	1,000	0.0	29.90

Notes:

¹ = Seven new replacement methane monitoring points (PM-01R to PM-05R, PM-07R, and PM-09R) were installed during November 2023. Monitoring points PM-06 and PM-08 was removed from the monitoring program (MDE approval letter dated 11 April 2023).

² = The maximum value is the peak reading observed upon opening valve.

³ = The stabilized value is recorded after the Landtec meter pump runs for 3 minutes after opening valve to purge the probe.

Highlighted values indicate the methane concentration is above the Action Level of 25 % LEL (1.25 % methane)

% = percent

CH₄ = methane

LEL = 100 % lower explosive limit (5 % methane); Calculated using the stabilized methane concentration.

O₂ = oxygen

Table 2**Groundwater Elevation Data (28 January 2025)**

Well ID	Top of Riser (ft amsl)	Depth to Water (ft TOC)	Depth to Bottom (ft TOC)	Elevation (ft amsl)
PW-8	63.69	33.05	39.26	30.64
PW-10	34.54	4.80	22.85	29.74
PW-11	41.24	12.74	22.70	28.50
PW-12	33.35	7.31	30.02	26.04
PW-16	58.43	28.83	48.97	29.60
PW-17	39.28	11.70	32.64	27.58
PW-19	40.60	10.20	16.41	30.40
PW-20	56.00	25.01	31.87	30.99
PW-25	67.16	35.64	41.92	31.52

Groundwater Elevation Data (14 April 2025)

Well ID	Top of Riser (ft amsl)	Depth to Water (ft TOC)	Depth to Bottom (ft TOC)	Elevation (ft amsl)
PW-8	63.69	33.53	39.15	30.16
PW-10	34.54	5.05	22.75	29.49
PW-11	41.24	12.67	22.65	28.57
PW-12	33.35	5.19	29.95	28.16
PW-16	58.43	29.12	48.91	29.31
PW-17	39.28	11.89	32.51	27.39
PW-19	40.60	6.20	16.29	34.40
PW-20	56.00	25.34	31.74	30.66
PW-25	67.16	36.54	41.82	30.62

Notes:

ft = feet

amsl = above mean sea level

TOC = top of casing

Table 3

**Summary of Groundwater Sampling Results above MCLs
(15 April 2025)**

Analyte	Result (µg/L)	MCL (µg/L)
PW-11		
Aluminum	170	50-200 (s)
Iron	370 J	300 (s)
Manganese	720	50 (s)
Perfluorooctanoic acid (PFOA)	260 (ng/L)	4 (ng/L)
Perfluorooctanesulfonic acid (PFOS)	150 (ng/L)	4 (ng/L)
Perfluorohexanesulfonic acid (PFHxS)	85 (ng/L)	10 (ng/L)
PW-12		
Iron	73,000	300 (s)
Manganese	2,000	50 (s)
Vinyl Chloride	2.9	2
Perfluorooctanoic acid (PFOA)	9.2 (ng/L)	4 (ng/L)
PW-16		
Iron	320 J	300 (s)
Manganese	3,500	50 (s)
pH	6.5 (standard)	6.5-8.5 (standard) (s)
Perfluorooctanoic acid (PFOA)	39 (ng/L)	4 (ng/L)
Perfluorooctanesulfonic acid (PFOS)	19 (ng/L)	4 (ng/L)
Perfluorohexanesulfonic acid (PFHxS)	25 (ng/L)	10 (ng/L)
PW-17		
Aluminum	570	50-200 (s)
Iron	1,200	300 (s)
Manganese	490	50 (s)
pH	7.6 (standard)	6.5-8.5 (standard) (s)
Perfluorooctanoic acid (PFOA)	51 (ng/L)	4 (ng/L)
Perfluorooctanesulfonic acid (PFOS)	19 (ng/L)	4 (ng/L)
Perfluorohexanesulfonic acid (PFHxS)	16 (ng/L)	10 (ng/L)
PW-19		
Aluminum	560	50-200 (s)
Iron	450 J	300 (s)
pH	7.9 (standard)	6.5-8.5 (standard) (s)
Total Dissolved Solids	630 (mg/L)	500 (mg/L) (s)
Perfluorooctanoic acid (PFOA)	4.1 (ng/L)	4 (ng/L)
PW-20		
pH	6.5 (standard)	6.5-8.5 (standard) (s)
Perfluorooctanoic acid (PFOA)	18 (ng/L)	4 (ng/L)
Perfluorooctanesulfonic acid (PFOS)	29 (ng/L)	4 (ng/L)

Notes:

(s) = secondary MCL

J = estimated value > MDL but < RL

MCL = Maximum Contaminant Level; Analytes detected in groundwater were compared to primary or secondary MCLs for drinking water supplies from

<https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations> and <https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals> (USEPA, 2025)

µg/L = micrograms per liter

mg/L = milligrams per liter

ng/L = nanograms per liter

Table 4

**Detected Compounds in Groundwater Monitoring Wells
(15 April 2025)**

Analyte	MCL	Units	PW-11	PW-12	PW-16	PW-17	PW-19	PW-20
Metals								
Aluminum	50-200 (s)	µg/L	170	42 J	ND	570	560	ND
Arsenic	10	µg/L	0.31 J	ND	ND	1.2	2.9	ND
Barium	2,000	µg/L	47	66	53	97	27	39
Cadmium	5	µg/L	0.26 J	ND	ND	ND	ND	ND
Calcium	----	µg/L	14,000	30,000	11,000	93,000	31,000	5,300
Chromium	100	µg/L	ND	ND	ND	1.5 J	1.5 J	0.54 J
Cobalt	----	µg/L	15	0.25 J	4.7	2.2	1.3	0.44 J
Copper	1,300	µg/L	ND	ND	ND	9.4	28	ND
Iron	300 (s)	µg/L	370 J	73,000	320 J	1,200	450 J	ND
Lead	15	µg/L	ND	ND	ND	1.2 J	1.1 J	ND
Magnesium	----	µg/L	9,800	17,000	11,000	35,000	29,000	3,300
Manganese	50 (s)	µg/L	720	2,000	3,500	490	26	22
Mercury	2	µg/L	0.6	0.014 J	0.026 J	0.017 J	0.031 J	0.021 J
Nickel	100	µg/L	8.4	1.8 J	1.3 J	13	7.7	1.6 J
Potassium	----	µg/L	2,300	1,300 J	1,500 J	3,800	8,900	1,400 J
Sodium	20,000 (g)	µg/L	59,000	41,000	21,000	14,000	190,000	29,000
Vanadium	----	µg/L	ND	ND	ND	2.7 J	4.5	ND
Zinc	5,000 (s)	µg/L	24	ND	7.2 J	13 J	ND	ND
Wet Chemistry								
Alkalinity	----	mg/L	64	ND	54	300	250	22
Chemical Oxygen Demand	----	mg/L	18 J	29	40	37	20 J	58
Chloride	250 (s)	mg/L	39	99	29	12	220	27
Nitrate (N)	10	mg/L	ND	ND	ND	1.2	0.22 J	0.35 J
pH	6.5-8.5 (s)	standard	6.2	3	6.5	7.6	7.9	6.5
Specific Conductivity	----	µmho/cm	430	1,100	260	750	1,200	210
Sulfate	250 (s)	mg/L	75	200	24	100	32	29
Total Dissolved Solids	500 (s)	mg/L	260	410	160	470	630	120
Total Hardness	----	mg/L	76	140	72	380	200	27
Turbidity	----	NTU	6.4	6.2	2.1	14	8.5	0.61
Volatile Organic Compounds								
Acetone	----	µg/L	ND	ND	ND	ND	0.76 J	ND
Chlorobenzene	100	µg/L	0.51 J	ND	ND	ND	ND	ND
Chloromethane	----	µg/L	ND	1.4	ND	ND	ND	ND
cis-1,2-Dichloroethene	70	µg/L	ND	4.8	3.9	ND	ND	ND
Tetrachloroethene	5	µg/L	ND	ND	ND	ND	ND	0.61 J
Trichloroethene	5	µg/L	ND	3.9	3.1	ND	ND	ND
Trichlorofluoromethane	----	µg/L	0.66 J	ND	ND	ND	ND	ND
Vinyl chloride	2	µg/L	ND	2.9	1.5	ND	ND	ND
Per- and Polyfluoroalkyl Substances (PFAS)								
Perfluorooctanoic acid (PFOA)	4	ng/L	260	9.2	39	51	4.1	18
Perfluorooctanesulfonic acid (PFOS)	4	ng/L	150	ND	19	19	3.3	29
Perfluorononanoic acid (PFNA)	10	ng/L	2.4	ND	2.8	6.9	2.2	3.6
Perfluorohexanesulfonic acid (PFHxS)	10	ng/L	85	1.1 J	25	16	1.7 J	9.6
Perfluorobutanesulfonic acid (PFBS)	----	ng/L	9.5	0.66 J	6.9	9.2	0.95 J	2.9
Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)	10	ng/L	0.31 J	ND	0.28 J	ND	ND	ND

Notes:

RED HIGHLIGHT = exceedance of MCL

YELLOW HIGHLIGHT = exceedance of secondary MCL or guidance level

Table 4

Detected Compounds in Groundwater Monitoring Wells
(15 April 2025)

Notes (cont'd):

MCL = Maximum Contaminant Level; Analytes detected in groundwater were compared to primary or secondary MCLs for drinking water supplies from <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations> and <https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals> (USEPA, 2025)

---- = no regulatory limit	µg/L = micrograms per liter
(s) = secondary MCL	µmho/cm = micro mho per centimeter ND = non-detect
(g) = guidance level	mg/L = milligrams per liter
J = estimated value > MDL but < RL	ng/L = nanograms per liter
M = matrix spike and/or matrix spike duplicate recovery outside acceptance limits	NTU = nephelometric turbidity unit

APPENDIX A

Instrument Calibration Logs

INSTRUMENT CALIBRATION LOG



Site Name: Phillips and Westwood
Landfills Instrument: Landtec GEM 5000
Serial #: G507763

Date	Standard	Standard	Instrument	Calibrated
	(A,B,C)	Value	Value	(Yes, No)
1/28/25	A	50%	50%	Yes
1/28/25	B	35%	35%	Yes
1/28/25	C	Balance	Balance	Yes

Calibration Gas Mixture:

Standard A: CH₄ (50%)

Standard B: CO₂ (35%)

Standard C: Nitrogen (Balance)

INSTRUMENT CALIBRATION LOG



Site Name: Phillips and Westwood
Landfills Instrument: Landtec GEM 5000
Serial #: G502410

Date	Standard	Standard	Instrument	Calibrated
	(A,B,C)	Value	Value	(Yes, No)
4/14/25	A	50%	50%	Yes
4/14/25	B	35%	35%	Yes
4/14/25	C	Balance	Balance	Yes

Calibration Gas Mixture:

Standard A: CH₄ (50%)

Standard B: CO₂ (35%)

Standard C: Nitrogen (Balance)



ECC
Instrument Calibration Log



Project: PAALF LTM - April 2025 GW Sampling Event

Date: 4/15/2025

Weather: Partly Cloudy 54°F

Calibrated by: T. Zatalava

Instrument: Horiba U-52

Serial Number: AMBRE594 / S70HLMON

Parameters	Calibration	Comments
pH (4.01)	4.00	N/A
Conductivity (4.49 mS/cm)	4.49	N/A
Turbidity (0.0 NTU)	0.0	N/A
Dissolved Oxygen (mg/L)	6.62	N/A
Temperature (°C)	22.20	N/A
ORP (mV)	249	N/A



ECC
Instrument Calibration Log



Project: PAALF LTM - April 2025 GW Sampling Event

Date: 4/15/2025

Weather: Partly Cloudy 54°F

Calibrated by: T. Zatalava

Instrument: Horiba U-52

Serial Number: NTKH51MV / 2FH2W38D

Parameters	Calibration	Comments
pH (4.01)	4.00	N/A
Conductivity (4.49 mS/cm)	4.48	N/A
Turbidity (0.0 NTU)	0.0	N/A
Dissolved Oxygen (mg/L)	9.65	N/A
Temperature (°C)	21.78	N/A
ORP (mV)	255	N/A



ECC
Instrument Calibration Log



Project: PAALF LTM - April 2025 GW Sampling Event

Date: 4/15/2025

Weather: Partly Cloudy 54°F

Calibrated by: T. Zatalava

Instrument: Horiba U-52

Serial Number: UP2XGB98 / P4BVH27L

Parameters	Calibration	Comments
pH (4.01)	4.00	N/A
Conductivity (4.49 mS/cm)	4.49	N/A
Turbidity (0.0 NTU)	0.0	N/A
Dissolved Oxygen (mg/L)	9.56	N/A
Temperature (°C)	21.68	N/A
ORP (mV)	245	N/A



ECC
Instrument Calibration Log

Project: PAALF LTM - June 2025 GW Sampling Event Date: 6/3/2025 Weather: Sunny 60°F
Calibrated by: K. Faison Instrument: Horiba U-52 Serial Number: NTKH51MV/2FH2W38D

Parameters	Calibration	Comments
pH (4.01)	4.00	N/A
Conductivity (4.49 mS/cm)	4.55	N/A
Turbidity (0.0 NTU)	0.0	N/A
Dissolved Oxygen (mg/L)	9.54	N/A
Temperature (°C)	22.03	N/A
ORP (mV)	268	N/A

APPENDIX B

Methane Monitoring Logs



PAALF Quarterly Methane Readings



Date: 1/28/2025
Weather: Cloudy 33°F
Field Team: T. Zatalava K. Faison

Monitoring Point	CH ₄ (percent)		CH ₄ (percent LEL)	CO ₂ (percent)	O ₂ (percent)	Barometric Pressure (" Hg)	Static Pressure (" H ₂ O)	Time	Comments
	Maximum Value	Stabilized Value							
PM-01R	0.1	0.1	2.0	0.2	25.0	29.62	0.15	8:13	N/A
PM-02R	0.0	0.0	0.0	0.5	24.1	29.62	0.06	8:20	N/A
PM-03R	69.6	53.0	1060.0	13.4	5.7	29.62	0.06	8:24	N/A
PM-04R	0.0	0.0	0.0	0.5	24.6	29.65	0.06	8:43	N/A
PM-05R	0.7	0.0	0.0	12.7	3.2	29.65	0.08	8:39	N/A
PM-07R	0.0	0.0	0.0	1.8	20.9	29.61	0.15	7:47	N/A
PM-09R	52.1	52.1	1042.0	20.4	0.2	29.61	0.10	7:59	N/A

Note:

LEL = 100% Lower Explosive Limit (5% methane); Calculated using the stabilized methane concentration.



PAALF Quarterly Methane Readings



Date: 4/14/2025
Weather: Cloudy 46°F
Field Team: K. Faison T. Zatalava B. Kateley

Monitoring Point	CH ₄ (percent)		CH ₄ (percent LEL)	CO ₂ (percent)	O ₂ (percent)	Barometric Pressure (" Hg)	Static Pressure (" H ₂ O)	Time	Comments
	Maximum Value	Stabilized Value							
PM-01R	0.3	0.0	0.0	0.4	20.9	29.85	0.52	9:13	N/A
PM-02R	2.0	0.0	0.0	0.5	20.5	29.85	0.49	9:18	N/A
PM-03R	35.9	29.2	584.0	15.6	6.3	29.85	0.45	9:23	N/A
PM-04R	24.0	0.0	0.0	0.5	20.8	29.85	0.47	9:35	N/A
PM-05R	1.2	0.0	0.0	7.3	5.7	29.85	0.46	9:39	N/A
PM-07R	0.0	0.0	0.0	0.2	20.3	29.90	0.54	8:15	N/A
PM-09R	50.0	50.0	1000.0	19.4	0.1	29.90	0.50	8:28	N/A

Note:
LEL = 100% Lower Explosive Limit (5% methane); Calculated using the stabilized methane concentration.

APPENDIX C

Groundwater Sampling Logs



ECC

Low Flow Groundwater Sampling Log



Project: PAALF LTM - April 2025 GW Sampling Event
Location: APG, MD
Well ID: PW-11

Date: 4/15/2025
Sampler: K. Faison
Weather: Cloudy 58°F

Start Time: 805 End Time: 900

Well Construction: 4" PVC, stick-up

Depth to water (ft): 12.60

Well Depth (ft): 22.73

Water Column (ft): 10.13

Sample Depth (ft): 18.73

3 Well Volumes (L): 75

Total Volume Removed (L): 89.0

Field Testing Equipment

Make	Model	Serial #
Horiba	U52	UP2XGB98 / P4BVH27L
Geotech	Geosub 2 (PFAS free)	01A1080
Geotech	ET (PFAS free)	8741AL

Time (24 hour)	Volume Removed (liters)	Flow Rate (ml/min)	Depth to Water (ft)	Temperature (celsius)	pH (standard)	SPC (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Salinity (ppt)	Color (visual description)
825	75.0	400	12.82	14.07	4.91	0.418	1.79	170	16.4	0.2	clear
830	77.0	400	12.81	13.87	4.69	0.417	1.47	182	16.8	0.2	clear
835	79.0	400	12.80	13.79	4.61	0.418	1.21	187	12.3	0.2	clear
840	81.0	400	12.79	13.74	4.67	0.418	1.19	186	13.9	0.2	clear
845	83.0	400	12.78	13.72	4.64	0.420	1.18	190	8.2	0.2	clear
850	85.0	400	12.77	13.70	4.72	0.420	1.04	186	7.4	0.2	clear
855	87.0	400	12.76	13.68	4.71	0.420	1.01	186	3.0	0.2	clear
900	89.0	400	12.75	13.61	4.77	0.421	0.98	186	0.7	0.2	clear

Acceptance Criteria (three consecutive readings): < 0.3 ft 3% ± 0.1 3% 10% ±10mv 10% or < 10 N/A N/A

Sample Collection

Time	Sample ID	Container	# of Bottles	Preservative	Analyses
900	PAALF - PW11 - 041525	40 mL vial	3	HCL	VOCs
900	PAALF - PW11 - 041525	500 mL poly	1	HNO3	Total Metals, Hardness
900	PAALF - PW11 - 041525	1 L poly	1	NONE	Alkalinity, Specific Conductance, pH, Turbidity, TDS
900	PAALF - PW11 - 041525	125 mL poly	1	NONE	Anions (Nitrate, Chloride, Sulfate)
900	PAALF - PW11 - 041525	250 mL poly	1	H2SO4	Chemical Oxygen Demand
900	PAALF - PW11 - 041525	250 mL poly	1	H2SO4	Ammonia
900	PAALF - PW11 - 041525	250 mL poly	1	NONE	PFAS
900	PAALF - PW11 - 041525	500 mL poly	2	NONE	PFAS

Comments:

Started purging @ 0805

Purged 75 L at approximately 3750 mL/min before beginning readings

Purged to ground

K. Faison

Signature

4/15/2025

Date



ECC

Low Flow Groundwater Sampling Log



Project: PAALF LTM - April 2025 GW Sampling Event

Date: 4/15/2025

Location: APG, MD

Sampler: T. Zatalava

Well ID: PW-12

Weather: Cloudy 54°F

Start Time: 750 End Time: 1035

Well Construction: 4" PVC, stick-up

Depth to water (ft): 5.10

Well Depth (ft): 29.94

Water Column (ft): 24.84

Sample Depth (ft): 26

3 Well Volumes (L): 184

Total Volume Removed (L): 88.0

Field Testing Equipment

Make	Model	Serial #
Horiba	U52	AMBRE594 / S70HLMON
Geotech	Geosub 2 (PFAS free)	8076AL
Geotech	ET (PFAS free)	04D0154

Time (24 hour)	Volume Removed (liters)	Flow Rate (ml/min)	Depth to Water (ft)	Temperature (celsius)	pH (standard)	SPC (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Salinity (ppt)	Color (visual description)
955	72.0	400	12.92	14.35	4.57	0.464	14.21	60	3.9	0.2	clear
1000	74.0	400	13.01	14.18	4.49	0.465	12.89	55	4.1	0.2	clear
1005	76.0	400	13.18	14.24	4.49	0.466	8.97	51	2.5	0.2	clear
1010	78.0	400	13.24	14.18	4.50	0.468	8.28	48	2.1	0.2	clear
1015	80.0	400	13.32	14.07	4.51	0.469	7.89	45	1.6	0.2	clear
1020	82.0	400	13.39	14.04	4.51	0.469	7.58	44	1.8	0.2	clear
1025	84.0	400	13.46	14.02	4.50	0.469	8.16	43	0.9	0.2	clear
1030	86.0	400	13.51	13.99	4.50	0.470	8.04	42	0.9	0.2	clear
1035	88.0	400	13.58	13.98	4.51	0.470	7.97	40	0.7	0.2	clear

Acceptance Criteria (three consecutive readings): < 0.3 ft 3% ± 0.1 3% 10% ±10mv 10% or < 10 N/A N/A

Sample Collection

Time	Sample ID	Container	# of Bottles	Preservative	Analyses
1035	PAALF - PW12 - 041525	40 mL vial	3	HCL	VOCs
1035	PAALF - PW12 - 041525	500 mL poly	1	HNO3	Total Metals, Hardness
1035	PAALF - PW12 - 041525	1 L poly	1	NONE	Alkalinity, Specific Conductance, pH, Turbidity, TDS
1035	PAALF - PW12 - 041525	125 mL poly	1	NONE	Anions (Nitrate, Chloride, Sulfate)
1035	PAALF - PW12 - 041525	250 mL poly	1	H2SO4	Chemical Oxygen Demand
1035	PAALF - PW12 - 041525	250 mL poly	1	H2SO4	Ammonia
1035	PAALF - PW12 - 041525	250 mL poly	1	NONE	PFAS
1035	PAALF - PW12 - 041525	500 mL poly	2	NONE	PFAS

Comments:

Started purging @ 750

This well doesnt recharge efficiently. Time purge preformed in place of well volume threshold purge.

Purged 72 L at approximately 600 mL/min before beginning readings.

Purged to ground.

T. Zatalava

Signature

4/15/2025

Date



ECC

Low Flow Groundwater Sampling Log



Project: PAALF LTM - April 2025 GW Sampling Event
Location: APG, MD
Well ID: PW-16

Date: 4/15/2025
Sampler: K. Faison
Weather: Cloudy 62°F

Start Time: 955 End Time: 1100

Well Construction: 4" PVC, stick-up

Depth to water (ft): 29.11

Well Depth (ft): 48.91

Water Column (ft): 19.80

Sample Depth (ft): 40.91

3 Well Volumes (L): 147

Total Volume Removed (L): 161.0

Field Testing Equipment

Make	Model	Serial #
Horiba	U52	UP2XGB98 / P4BVH27L
Geotech	Geosub 2 (PFAS free)	01A1080
Geotech	ET (PFAS free)	8741AL

Time (24 hour)	Volume Removed (liters)	Flow Rate (ml/min)	Depth to Water (ft)	Temperature (celsius)	pH (standard)	SPC (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Salinity (ppt)	Color (visual description)
1025	147.0	400	29.12	14.01	4.75	0.258	4.33	192	7.3	0.1	clear
1030	149.0	400	29.12	13.93	5.13	0.258	2.26	155	2.8	0.1	clear
1035	151.0	400	29.12	14.04	5.13	0.261	2.10	152	1.8	0.1	clear
1040	153.0	400	29.12	14.05	5.15	0.261	2.03	150	1.8	0.1	clear
1045	155.0	400	29.12	14.02	5.13	0.264	1.97	148	1.0	0.1	clear
1050	157.0	400	29.12	14.05	5.13	0.264	1.96	148	0.9	0.1	clear
1055	159.0	400	29.12	14.01	5.09	0.265	1.94	151	0.7	0.1	clear
1100	161.0	400	29.12	14.01	5.08	0.267	1.89	150	0.5	0.1	clear

Acceptance Criteria (three consecutive readings): < 0.3 ft 3% ± 0.1 3% 10% ±10mv 10% or < 10 N/A N/A

Sample Collection

Time	Sample ID	Container	# of Bottles	Preservative	Analyses
1100	PAALF - PW16 - 041525	40 mL vial	3	HCL	VOCs
1100	PAALF - PW16 - 041525	500 mL poly	1	HNO3	Total Metals, Hardness
1100	PAALF - PW16 - 041525	1 L poly	1	NONE	Alkalinity, Specific Conductance, pH, Turbidity, TDS
1100	PAALF - PW16 - 041525	125 mL poly	1	NONE	Anions (Nitrate, Chloride, Sulfate)
1100	PAALF - PW16 - 041525	250 mL poly	1	H2SO4	Chemical Oxygen Demand
1100	PAALF - PW16 - 041525	250 mL poly	1	H2SO4	Ammonia
1100	PAALF - PW16 - 041525	250 mL poly	1	NONE	PFAS
1100	PAALF - PW16 - 041525	500 mL poly	2	NONE	PFAS

Comments:

Started purging @ 0955

Purged 147 L at approximately 4900 mL/min before beginning readings.

Purged to ground

K. Faison

Signature

4/15/2025

Date

**ECC****Low Flow Groundwater Sampling Log**

Project: PAALF LTM - April 2025 GW Sampling Event
Location: APG, MD
Well ID: PW-17

Date: 4/15/2025
Sampler: S. Walsh
Weather: Cloudy 60°F

Start Time: 1035 **End Time:** 1245
Well Construction: 4" PVC, stick-up
Depth to water (ft): 11.86
Well Depth (ft): 32.51
Water Column (ft): 20.65
Sample Depth (ft): 26
3 Well Volumes (L): 153
Total Volume Removed (L): 171

Field Testing Equipment

Make	Model	Serial #
Horiba	U52	NTKH51MV / 2FH2W38D
Geotech	Geosub 2 (PFAS free)	01A0170
Geotech	ET (PFAS free)	8532AL

Time (24 hour)	Volume Removed (liters)	Flow Rate (ml/min)	Depth to Water (ft)	Temperature (celsius)	pH (standard)	SPC (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Salinity (ppt)	Color (visual description)
1200	155	400	14.54	13.45	6.77	0.894	3.98	62	169.0	0.44	light brown
1205	157	400	13.76	13.29	6.63	0.870	2.81	55	143.0	0.42	light brown
1210	159	400	13.41	13.18	6.50	0.859	2.38	56	87.1	0.42	light brown
1215	161	400	13.36	13.19	6.47	0.858	2.40	59	75.1	0.42	light brown
1220	163	400	13.37	13.19	6.45	0.857	2.51	63	67.3	0.42	light brown
1225	165	400	13.41	13.16	6.40	0.851	2.31	62	53.8	0.41	clear
1230	167	400	13.41	13.21	6.39	0.851	2.42	62	39.3	0.41	clear
1235	169	400	13.41	13.20	6.38	0.851	2.41	63	37.5	0.42	clear
1240	171	400	13.42	13.24	6.36	0.847	2.40	61	35.8	0.41	clear

Acceptance Criteria (three consecutive readings): < 0.3 ft 3% ± 0.1 3% 10% ±10mv 10% or < 10 N/A N/A

Sample Collection

Time	Sample ID	Container	# of Bottles	Preservative	Analyses
1245	PAALF - PW17 - 041525	40 mL vial	3	HCL	VOCs
1245	PAALF - PW17 - 041525	500 mL poly	1	HNO3	Total Metals, Hardness
1245	PAALF - PW17 - 041525	1 L poly	1	NONE	Alkalinity, Specific Conductance, pH, Turbidity, TDS
1245	PAALF - PW17 - 041525	125 mL poly	1	NONE	Anions (Nitrate, Chloride, Sulfate)
1245	PAALF - PW17 - 041525	250 mL poly	1	H2SO4	Chemical Oxygen Demand
1245	PAALF - PW17 - 041525	250 mL poly	1	H2SO4	Ammonia
1245	PAALF - PW17 - 041525	250 mL poly	1	NONE	PFAS
1245	PAALF - PW17 - 041525	500 mL poly	2	NONE	PFAS

Comments:

Started purging @ 1040
Purged 153 L at approximately 2,040 mL/min before beginning readings
Purged to ground

S. Walsh
Signature

4/15/2025
Date



ECC

Low Flow Groundwater Sampling Log



Project: PAALF LTM - April 2025 GW Sampling Event

Date: 4/15/2025

Location: APG, MD

Sampler: S. Walsh

Well ID: PW-19

Weather: Cloudy 60°F

Start Time: 750 End Time: 930

Well Construction: 4" PVC, stick-up

Depth to water (ft): 6.12

Well Depth (ft): 16.35

Water Column (ft): 10.23

Sample Depth (ft): 10.45

3 Well Volumes (L): 76

Total Volume Removed (L): 94

Field Testing Equipment

Make	Model	Serial #
Horiba	U52	NTKH51MV / 2FH2W38D
Geotech	Geosub 2 (PFAS free)	01A0170
Geotech	ET (PFAS free)	8532AL

Time (24 hour)	Volume Removed (liters)	Flow Rate (ml/min)	Depth to Water (ft)	Temperature (celsius)	pH (standard)	SPC (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Salinity (ppt)	Color (visual description)
840	78.0	400	8.21	11.50	5.80	1.400	9.89	76	22.8	0.70	light brown
845	80.0	400	7.91	11.33	6.02	1.350	9.13	21	28.3	0.67	light brown
850	82.0	400	7.67	11.48	6.09	1.340	8.72	10	35.1	0.66	light brown
855	84.0	400	7.56	11.30	6.19	1.330	8.09	6	37.1	0.66	light brown
900	86.0	400	7.52	11.24	6.25	1.340	6.21	3	38.8	0.66	light brown
905	88.0	400	7.52	11.20	6.30	1.330	7.43	4	33.6	0.66	light brown
910	90.0	400	7.53	11.25	6.33	1.330	7.45	3	29.7	0.66	light brown
915	92.0	400	7.52	11.24	6.35	1.330	6.92	4	28.2	0.66	light brown
920	94.0	400	7.53	11.19	6.38	1.330	6.73	5	29.1	0.66	light brown

Acceptance Criteria (three consecutive readings): < 0.3 ft 3% ± 0.1 3% 10% ±10mv 10% or < 10 N/A N/A

Sample Collection

Time	Sample ID	Container	# of Bottles	Preservative	Analyses
925	PAALF - PW19 - 041525	40 mL vial	3	HCL	VOCs
925	PAALF - PW19 - 041525	500 mL poly	1	HNO3	Total Metals, Hardness
925	PAALF - PW19 - 041525	1 L poly	1	NONE	Alkalinity, Specific Conductance, pH, Turbidity, TDS
925	PAALF - PW19 - 041525	125 mL poly	1	NONE	Anions (Nitrate, Chloride, Sulfate)
925	PAALF - PW19 - 041525	250 mL poly	1	H2SO4	Chemical Oxygen Demand
925	PAALF - PW19 - 041525	250 mL poly	1	H2SO4	Ammonia
925	PAALF - PW19 - 041525	250 mL poly	1	NONE	PFAS
925	PAALF - PW19 - 041525	500 mL poly	2	NONE	PFAS
925	PAALF - PW19 - 041525fb			SAME AS ABOVE	

Comments:

Started purging @ 755

Purged 76 L at approximately 1,900 mL/min before beginning readings

Purged to ground

Field blank collected at this location.

S. Walsh

Signature

4/15/2025

Date



ECC

Low Flow Groundwater Sampling Log



Project: PAALF LTM - April 2025 GW Sampling Event
Location: APG, MD
Well ID: PW-20

Date: 4/15/2025
Sampler: T. Zatalava
Weather: Cloudy 57°F

Start Time: 1135 End Time: 1240
Well Construction: 4" PVC, stick-up
Depth to water (ft): 25.34
Well Depth (ft): 31.75
Water Column (ft): 6.41
Sample Depth (ft): 28
3 Well Volumes (L): 48
Total Volume Removed (L): 62.0

Field Testing Equipment

Make	Model	Serial #
Horiba	U52	AMBRE594 / S70HLMON
Geotech	Geosub 2 (PFAS free)	8076AL
Geotech	ET (PFAS free)	04D0154

Time (24 hour)	Volume Removed (liters)	Flow Rate (ml/min)	Depth to Water (ft)	Temperature (celsius)	pH (standard)	SPC (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Salinity (ppt)	Color (visual description)
1205	48.0	400	25.39	15.40	4.56	0.126	0.91	130	0.0	0.1	clear
1210	50.0	400	25.39	15.39	4.51	0.126	0.76	137	0.0	0.1	clear
1215	52.0	400	25.39	15.40	4.50	0.126	0.74	145	0.0	0.1	clear
1220	54.0	400	25.39	15.42	4.49	0.125	0.73	148	0.0	0.1	clear
1225	56.0	400	25.39	15.55	4.48	0.124	0.71	153	0.0	0.1	clear
1230	58.0	400	25.39	15.59	4.47	0.123	0.71	156	0.0	0.1	clear
1235	60.0	400	25.40	15.61	4.47	0.123	0.68	159	0.0	0.1	clear
1240	62.0	400	25.40	15.62	4.47	0.122	0.69	161	0.0	0.1	clear

Acceptance Criteria (three consecutive readings): < 0.3 ft 3% ± 0.1 3% 10% ±10mv 10% or < 10 N/A N/A

Sample Collection

Time	Sample ID	Container	# of Bottles	Preservative	Analyses
1240	PAALF - PW20 - 041525	40 mL vial	3	HCL	VOCs
1240	PAALF - PW20 - 041525	500 mL poly	1	HNO3	Total Metals, Hardness
1240	PAALF - PW20 - 041525	1 L poly	1	NONE	Alkalinity, Specific Conductance, pH, Turbidity, TDS
1240	PAALF - PW20 - 041525	125 mL poly	1	NONE	Anions (Nitrate, Chloride, Sulfate)
1240	PAALF - PW20 - 041525	250 mL poly	1	H2SO4	Chemical Oxygen Demand
1240	PAALF - PW20 - 041525	250 mL poly	1	H2SO4	Ammonia
1240	PAALF - PW20 - 041525	250 mL poly	1	NONE	PFAS
1240	PAALF - PW20 - 041525	500 mL poly	2	NONE	PFAS
0000	PAALF - PW20 - 041525dup			SAME AS ABOVE	

Comments:

Started purging @ 1135
Purged 48 L at approximately 1600 mL/min before beginning readings.
Purged to ground. DUP was collected at this location.

T. Zatalava
Signature

4/15/2025
Date



ECC

Low Flow Groundwater Sampling Log



Project: PAALF LTM - June 2025 GW Sampling Event
Location: APG, MD
Well ID: PW-19 (Resample)

Date: 6/3/2025
Sampler: T. Zatalava
Weather: Sunny 65°F

Start Time: 900 End Time: 1040
Well Construction: 4" PVC, stick-up
Depth to water (ft): 6.07
Well Depth (ft): 16.36
Water Column (ft): 10.29
Sample Depth (ft): 11.36
3 Well Volumes (L): 76
Total Volume Removed (L): 88.0

Field Testing Equipment

Make	Model	Serial #
Horiba	U52	NTKH51MV / 2FH2W38D
Geotech	Geosub 2 (PFAS free)	01H1268
Geotech	ET (PFAS free)	7689AL

Time (24 hour)	Volume Removed (liters)	Flow Rate (ml/min)	Depth to Water (ft)	Temperature (celsius)	pH (standard)	SPC (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Salinity (ppt)	Color (visual description)
1000	76.0	300	8.44	18.43	5.92	1.54	0.86	179	7.5	0.8	clear
1005	77.5	300	8.20	17.10	6.12	1.57	0.55	155	5.0	0.8	clear
1010	79.0	300	7.86	15.99	6.26	1.62	0.88	117	6.8	0.8	clear
1015	80.5	300	7.61	16.19	6.30	1.61	0.42	107	6.4	0.8	clear
1020	82.0	300	7.51	16.10	6.35	1.62	0.41	99	5.7	0.8	clear
1025	83.5	300	7.43	16.14	6.39	1.63	0.41	95	6.3	0.8	clear
1030	85.0	300	7.40	16.18	6.43	1.63	0.41	91	5.2	0.8	clear
1035	86.5	300	7.38	16.16	6.44	1.63	0.40	90	5.0	0.8	clear
1040	88.0	300	7.36	16.14	6.45	1.63	0.39	88	4.4	0.8	clear
Acceptance Criteria (three consecutive readings): < 0.3 ft 3% ± 0.1 3% 10% ±10mv 10% or < 10 N/A N/A											

Sample Collection

Time	Sample ID	Container	# of Bottles	Preservative	Analyses
1040	PAALF - PW19 - 060325	250 mL poly	1	NONE	PFOA
1040	PAALF - PW19 - 060325	500 mL poly	2	NONE	PFOA
1040	PAALF - PW19 - 060325fb	SAME AS ABOVE			

Comments:

Started purging @ 0900.
Purged 76 L at approximately 1270 mL/min before beginning readings.
Purged to ground.

T. Zatalava
Signature

6/3/2025
Date

APPENDIX D

Laboratory Sample Chain-of-Custody Forms



☐ **Gainesville:** 4965 SW 41st Blvd, FL 32608 • 352 377 2349 • Lab ID: E82001

☐ **Miramar:** 10200 USA Today Way, FL 33025 • 954 889 2288 • Lab ID: E82535

☐ **Tampa:** 9610 Princess Palm Ave., FL 33619 • 813 630 9616 • Lab ID: E84589

Page 1 of 1

Matrix Code: WW = wastewater SW = surface water GW = ground water DW = drinking water O = oil A = air SO = soil SL = sludge **Preservation Code:** I = ice H=(HCl) S = (H2SO4) N = (HNO3) T = (Sodium Thiosulfate)

Received on Ice ☐ Yes ☐ No ☐ Temp taken from sample ☐ Temp from blank ☐ Where required, pH checked _____ Temp. when received (observed) _____ °C Temp. when received (corrected) _____ °C

DCN: AD-D051web Form last revised 08/07/2019

Device used for measuring Temp by unique identifier (circle IR temp gun used) J: 9A G: LT-1 LT-2 T: 10A A: 3A M: 3A S: 1V F: 1A

FOR DRINKING WATER USE:

(When PWS Information not otherwise supplied) PWS ID:

Contact Person:

Supplier of Water:

Site-Address:



☐ **Gainesville:** 4965 SW 41st Blvd., FL 32608 • 352.377.2349 • Lab ID: E82001

☐ **Miramar:** 10200 USA Today Way, FL 33025 • 954.689.2288 • Lab ID: E82535

☐ **Tampa:** 9610 Princess Palm Ave., FL 33619 • 813.630.9616 • Lab ID: E84589

[illegible]

Matrix Code: WW = wastewater SW = surface water GW = ground water DW = drinking water O = oil A = air SO = soil SL = sludge **Preservation Code:** I = ice H=(HCl) S = (H₂SO₄) N = (HNO₃) T = (Sodium Thiosulfate)

Received on Ice ☐ Yes ☐ No ☐ Temp taken from sample ☐ Temp from blank ☐ Where required, pH checked Temp. when received (observed) _____ °C Temp. when received (corrected) _____ °C

DCN: AD-D051web Form last revised 08/07/2019

Device used for measuring Temp by unique identifier (circle IR temp gun used) J: 9A G: LT-1 LT-2 T: 10A A: 3A M: 3A S: 1V F: 1A

DON: AD-2007002 Form last revised 04/01/2015					
Relinquished by:		Date	Time	Received by:	
1	<i>Rollin</i>	6/3/25	15:00		
2					
3					
4					

FOR DRINKING WATER USE:

(When PWS Information not otherwise supplied) PWS ID:

Contact Person:

Supplier of Water:

Site-Address:

APPENDIX E

Daily Health and Safety Tailgate Briefing Forms



ECC
DAILY TAILGATE SAFETY MEETING

Meeting conducted by: K. Faison

Date: 1/28/2025

Project Site: WWLF and PAALF, APG, MD

Task: Quarterly Monitoring

Personal protective Equipment:

Level D

Daily Activities:

Quarterly Gauging and Methane Monitoring

Hazards & Control Measures:

Spiders, Snakes, Mice - Be cautious opening monitoring wells.

Cold weather - Wear warm clothing. Use hand warmers. Stay hydrated.

Driving in wooded and wet areas - Be cautious, drive slowly. Walk to locations before driving/parking.

Slippery surfaces - Wear proper footwear and walk slowly.

UXO - Stay on marked paths. If observed, do not touch. Report to PM/COR.

Emergency Procedures:

911

Cell Phones

Buddy System

Hospital/Clinic: Upper Chesapeake Medical Center (7 miles - 25 minutes)

Address: 520 Upper Chesapeake Drive Bel Air, MD 21014

Phone: (443)- 843-5500

Attendees

Name printed

Signature

Kendall Faison

Tom Zatalava

Kendall Faison

Tom Zatalava



ECC
DAILY TAILGATE SAFETY MEETING

Meeting conducted by: K. Faison Date: 4/14/25
Project Site: WWLF and PAALF, APG, MD Task: Q1 2025 Methane Readings & Gauging

Personal protective Equipment:

Level D

Daily Activities:

Quarterly Methane Readings & Gauging

Hazards & Control Measures:

Ticks, mosquitos, chiggers -Tape bottom of pants. Use bug spray.

Spiders, Bees, Wasps, Snakes, Mice - Be cautious opening monitoring wells and walking through wooded/
high grass areas.

Warm weather - Stay hydrated, wear sun protection.

Driving in wooded areas - Be cautious, drive slowly.

Emergency Procedures:

911

Cell Phones

Buddy System

Hospital/Clinic: Upper Chesapeake Medical Center (7 miles - 25 minutes)
Address: 520 Upper Chesapeake Drive Bel Air, MD 21014
Phone: (443)- 843-5500

Attendees

Name printed

Signature

Kendall Faison

Tom Zatalava

Kendall Faison
Tom Zatalava



ECC
DAILY TAILGATE SAFETY MEETING

Meeting conducted by: K. Faison

Date: 4/15/2025

Project Site: PAALF, APG, MD

Task: Groundwater Sampling

Personal protective Equipment:

Level D

Daily Activities:

Semi-Annual Groundwater Sampling

Hazards & Control Measures:

Ticks, mosquitos, chiggers - Tape bottom of pants. Use bug spray.

Wasps, Spiders, Snakes, Mice - Be cautious opening monitoring wells. Use wasp spray.

Driving in wooded and wet areas - Be cautious, drive slowly. Walk to locations before driving/parking.

Slippery surfaces - Wear proper footwear and walk slowly.

Hunting Areas - Have approved range work request. Wear safety vest/hivis clothing.

UXO - Stay on marked paths. If observed, do not touch. Report to PM/COR.

Emergency Procedures:

911

Cell Phones

Buddy System

Hospital/Clinic: Upper Chesapeake Medical Center (7 miles - 25 minutes)
Address: 520 Upper Chesapeake Drive Bel Air, MD 21014
Phone: (443)- 843-5500

Attendees

Name printed

Signature

Kendall Faison

Tom Zatalava

Sean Walsh

Kendall Faison
Tom Zatalava
Sean Walsh



ECC
DAILY TAILGATE SAFETY MEETING

Meeting conducted by: K.Faison

Date: 6/3/2025

Project Site: PAALF, APG, MD

Task: Groundwater Sampling

Personal protective Equipment:

Level D

Daily Activities:

Resample of PW-19

Hazards & Control Measures:

Ticks, mosquitos, chiggers - Tape bottom of pants. Use bug spray.

Wasps, Spiders, Snakes, Mice - Be cautious opening monitoring wells. Use wasp spray.

Driving in wooded and wet areas - Be cautious, drive slowly. Walk to locations before driving/parking.

Slippery surfaces - Wear proper footwear and walk slowly.

Hunting Areas - Have approved range work request. Wear safety vest/hivis clothing.

UXO - Stay on marked paths. If observed, do not touch. Report to PM/COR.

Emergency Procedures:

911

Cell Phones

Buddy System

Hospital/Clinic: Upper Chesapeake Medical Center (7 miles - 25 minutes)

Address: 520 Upper Chesapeake Drive Bel Air, MD 21014

Phone: (443)- 843-5500

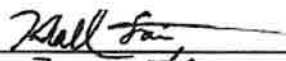
Attendees

Name printed

Signature

Kendall Faison

Tom Zatalava




APPENDIX F

Historical Methane Monitoring Results (2010-2025)

Historical Methane Monitoring Results (2010 – 2025)

Monitoring Point	2/24/10	5/17/10	8/5/10	11/3/10	2/15/11	5/19/11	8/24/11	11/30/11	2/14/12	5/17/12	11/1/12	3/26/13	6/18/13	9/12/13	10/22/13	4/4/14	6/3/14	8/12/14	10/28/14	5/12/15	11/23/15	1/12/16	4/13/16	10/26/16
PM-01	NS	NS	0	0	NS	0	NS	NS	0	0	NS	1	1	0	0	1	0	0	0	0.2	0	0	0	0
PM-02	NS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0
PM-03	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0
PM-04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0
PM-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0
PM-06	0	0	0	0	0	0	0	0	0	0	0	0.1	0	1	1	0.1	0	0	0	0.1	0	0	0	0
PM-07	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0
PM-08	0	0	0	0	0	0	0	0	0	0	0	0.1	0	1	1	0	0	0	0	0	0	0	0	0
PM-09	0	0	NS	NS	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0

Monitoring Point	10/18/18	4/16/19	11/7/19	3/10/20	6/8/20	7/30/20	10/15/20	1/27/21	4/12/21	8/5/21	11/02/21	4/12/22	8/04/22	10/25/22	1/24/23	4/10/23	7/25/23
PM-01	0	0	0	0	0	0	0	0	NS ³	0	0	NS ³	0	NS ³	0	0	0
PM-02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM-03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM-04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM-06	0	NS ¹	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
PM-07	0	NS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM-08	0	NS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM-09	0	NS ²	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Monitoring Point ⁴	12/14/23		1/23/24		4/10/24		7/17/24		11/11/24		1/28/25		4/14/25	
	Maximum Value	Stabilized Value	Maximum Value	Stabilized Value	Maximum Value	Stabilized Value	Maximum Value	Stabilized Value	Maximum Value	Stabilized Value	Maximum Value	Stabilized Value	Maximum Value	Stabilized Value
PM-01R	1.9	0.1	0.3	0.1	0.1	0.1	0.5	0.2	0.0	0.0	0.1	0.1	0.3	0.0
PM-02R	36.6	0.2	14.8	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	2	0.0
PM-03R	36.1	30.4	27.4	13.7	26	0.3	2.2	2.0	0.4	0.4	69.6	53	35.9	29.2
PM-04R	0	0	0.6	0	1.7	0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0
PM-05R	0	0	0.5	0	0	0	0.0	0.0	0.0	0.0	0.7	0.0	1.2	0.0
PM-07R	0	0	0.1	0.1	0.1	0.1	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0
PM-09R	54	39.6	61	61	58.4	58.4	53	52.7	39.3	39.3	52.1	52.1	50	50

Notes:

¹ = Unable to locate methane monitoring point PM-06 as of 17 April 2019.

² = Unable to locate methane monitoring point PM-09 as of 17 April 2019.

³ = Unable to take readings due to flooding.

⁴ = Seven new replacement methane monitoring points (PM-01R to PM-05R, PM-07R, and PM-09R) were installed during November 2023. Monitoring points PM-06 and PM-08 were removed from the monitoring program (MDE approval letter dated 11 April 2023).

NS = not sampled

The methane results are provided as percentages.

Highlighted values indicate the methane concentration is above the Action Level of 25 % LEL (1.25 % methane)

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APPENDIX G

Laboratory Analytical Data Reports

NOTE: The laboratory (AEL) uses different nomenclature for the VOCs listed below, but they are the same compounds listed on the Table I and II parameters list.

- 1,2-dibromoethane (EDB) = Ethylene Dibromide (EDB)
- 1,1-dichloroethene = 1,1-Dichloroethylene
- cis-1,2-dichloroethene = cis-1,2-Dichloroethylene
- trans-1,2-dichloroethene = trans-1,2-Dichloroethylene
- trans-1,3-dichloropropene = trans-1,3-Dichloropropylene
- dichloromethane = Methylene Chloride
- tetrachloroethene = Tetrachloroethylene (PCE)



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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

May 14, 2025

Tara Weeks
Environmental Chemical Corporation (ECC)
1304 Governor Ct
Suite 101
Abingdon, MD 21009

RE: Workorder: J2505781 Phillips LF LTM - April 2025

Dear Tara Weeks:

Enclosed are the analytical results for sample(s) received by the laboratory on Wednesday April 16, 2025. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. The analytical results for the samples contained in this report were submitted for analysis as outlined by the Chain of Custody and results pertain only to these samples.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Craig Myers, Client Services Manager
CMyers@aellab.com

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Sample Summary

Lab ID	Sample ID	Matrix	Method	Date Collected	Date Received	Analytes Reported	Basis
J2505781001	PAALF-TB-041525	WA	DoD SW-846 8260C	04/15/2025 07:00	04/16/2025 09:00	47	NA
J2505781001	PAALF-TB-041525	WA	DoD SW-846 8260C (SIM)	04/15/2025 07:00	04/16/2025 09:00	2	NA
J2505781002	PAALF-PW11-041525	WA	DOD EPA 1633	04/15/2025 09:00	04/16/2025 09:00	6	NA
J2505781002	PAALF-PW11-041525	WA	DoD EPA 300.0	04/15/2025 09:00	04/16/2025 09:00	4	NA
J2505781002	PAALF-PW11-041525	WA	DoD EPA 310.1	04/15/2025 09:00	04/16/2025 09:00	1	NA
J2505781002	PAALF-PW11-041525	WA	DoD EPA 410.4	04/15/2025 09:00	04/16/2025 09:00	1	NA
J2505781002	PAALF-PW11-041525	WA	DoD SM 2540 C-2015	04/15/2025 09:00	04/16/2025 09:00	1	NA
J2505781002	PAALF-PW11-041525	WA	DoD SW-846 6010C	04/15/2025 09:00	04/16/2025 09:00	7	NA
J2505781002	PAALF-PW11-041525	WA	DoD SW-846 6020A	04/15/2025 09:00	04/16/2025 09:00	16	NA
J2505781002	PAALF-PW11-041525	WA	DoD SW-846 7470A	04/15/2025 09:00	04/16/2025 09:00	1	NA
J2505781002	PAALF-PW11-041525	WA	DoD SW-846 8260C	04/15/2025 09:00	04/16/2025 09:00	47	NA
J2505781002	PAALF-PW11-041525	WA	DoD SW-846 8260C (SIM)	04/15/2025 09:00	04/16/2025 09:00	2	NA
J2505781002	PAALF-PW11-041525	WA	SM 2130 B-2011	04/15/2025 09:00	04/16/2025 09:00	1	NA
J2505781002	PAALF-PW11-041525	WA	SM 2510 B-2011	04/15/2025 09:00	04/16/2025 09:00	1	NA
J2505781002	PAALF-PW11-041525	WA	SM 4500 H+B-2011	04/15/2025 09:00	04/16/2025 09:00	1	NA
J2505781003	PAALF-PW12-041525	WA	DOD EPA 1633	04/15/2025 10:35	04/16/2025 09:00	6	NA
J2505781003	PAALF-PW12-041525	WA	DoD EPA 300.0	04/15/2025 10:35	04/16/2025 09:00	4	NA
J2505781003	PAALF-PW12-041525	WA	DoD EPA 310.1	04/15/2025 10:35	04/16/2025 09:00	1	NA
J2505781003	PAALF-PW12-041525	WA	DoD EPA 410.4	04/15/2025 10:35	04/16/2025 09:00	1	NA
J2505781003	PAALF-PW12-041525	WA	DoD SM 2540 C-2015	04/15/2025 10:35	04/16/2025 09:00	1	NA
J2505781003	PAALF-PW12-041525	WA	DoD SW-846 6010C	04/15/2025 10:35	04/16/2025 09:00	7	NA
J2505781003	PAALF-PW12-041525	WA	DoD SW-846 6020A	04/15/2025 10:35	04/16/2025 09:00	16	NA
J2505781003	PAALF-PW12-041525	WA	DoD SW-846 7470A	04/15/2025 10:35	04/16/2025 09:00	1	NA
J2505781003	PAALF-PW12-041525	WA	DoD SW-846 8260C	04/15/2025 10:35	04/16/2025 09:00	47	NA
J2505781003	PAALF-PW12-041525	WA	DoD SW-846 8260C (SIM)	04/15/2025 10:35	04/16/2025 09:00	2	NA
J2505781003	PAALF-PW12-041525	WA	SM 2130 B-2011	04/15/2025 10:35	04/16/2025 09:00	1	NA
J2505781003	PAALF-PW12-041525	WA	SM 2510 B-2011	04/15/2025 10:35	04/16/2025 09:00	1	NA
J2505781003	PAALF-PW12-041525	WA	SM 4500 H+B-2011	04/15/2025 10:35	04/16/2025 09:00	1	NA
J2505781004	PAALF-PW16-041525	WA	DOD EPA 1633	04/15/2025 11:00	04/16/2025 09:00	6	NA
J2505781004	PAALF-PW16-041525	WA	DoD EPA 300.0	04/15/2025 11:00	04/16/2025 09:00	4	NA
J2505781004	PAALF-PW16-041525	WA	DoD EPA 310.1	04/15/2025 11:00	04/16/2025 09:00	1	NA
J2505781004	PAALF-PW16-041525	WA	DoD EPA 410.4	04/15/2025 11:00	04/16/2025 09:00	1	NA
J2505781004	PAALF-PW16-041525	WA	DoD SM 2540 C-2015	04/15/2025 11:00	04/16/2025 09:00	1	NA
J2505781004	PAALF-PW16-041525	WA	DoD SW-846 6010C	04/15/2025 11:00	04/16/2025 09:00	7	NA
J2505781004	PAALF-PW16-041525	WA	DoD SW-846 6020A	04/15/2025 11:00	04/16/2025 09:00	16	NA

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Workorder: Phillips LF LTM - April 2025 (J2505781)

Sample Summary

Lab ID	Sample ID	Matrix	Method	Date Collected	Date Received	Analytes Reported	Basis
J2505781004	PAALF-PW16-041525	WA	DoD SW-846 7470A	04/15/2025 11:00	04/16/2025 09:00	1	NA
J2505781004	PAALF-PW16-041525	WA	DoD SW-846 8260C	04/15/2025 11:00	04/16/2025 09:00	47	NA
J2505781004	PAALF-PW16-041525	WA	DoD SW-846 8260C (SIM)	04/15/2025 11:00	04/16/2025 09:00	2	NA
J2505781004	PAALF-PW16-041525	WA	SM 2130 B-2011	04/15/2025 11:00	04/16/2025 09:00	1	NA
J2505781004	PAALF-PW16-041525	WA	SM 2510 B-2011	04/15/2025 11:00	04/16/2025 09:00	1	NA
J2505781004	PAALF-PW16-041525	WA	SM 4500 H+B-2011	04/15/2025 11:00	04/16/2025 09:00	1	NA
J2505781005	PAALF-PW17-041525	WA	DOD EPA 1633	04/15/2025 12:45	04/16/2025 09:00	6	NA
J2505781005	PAALF-PW17-041525	WA	DoD EPA 300.0	04/15/2025 12:45	04/16/2025 09:00	4	NA
J2505781005	PAALF-PW17-041525	WA	DoD EPA 310.1	04/15/2025 12:45	04/16/2025 09:00	1	NA
J2505781005	PAALF-PW17-041525	WA	DoD EPA 410.4	04/15/2025 12:45	04/16/2025 09:00	1	NA
J2505781005	PAALF-PW17-041525	WA	DoD SM 2540 C-2015	04/15/2025 12:45	04/16/2025 09:00	1	NA
J2505781005	PAALF-PW17-041525	WA	DoD SW-846 6010C	04/15/2025 12:45	04/16/2025 09:00	7	NA
J2505781005	PAALF-PW17-041525	WA	DoD SW-846 6020A	04/15/2025 12:45	04/16/2025 09:00	16	NA
J2505781005	PAALF-PW17-041525	WA	DoD SW-846 7470A	04/15/2025 12:45	04/16/2025 09:00	1	NA
J2505781005	PAALF-PW17-041525	WA	DoD SW-846 8260C	04/15/2025 12:45	04/16/2025 09:00	47	NA
J2505781005	PAALF-PW17-041525	WA	DoD SW-846 8260C (SIM)	04/15/2025 12:45	04/16/2025 09:00	2	NA
J2505781005	PAALF-PW17-041525	WA	SM 2130 B-2011	04/15/2025 12:45	04/16/2025 09:00	1	NA
J2505781005	PAALF-PW17-041525	WA	SM 2510 B-2011	04/15/2025 12:45	04/16/2025 09:00	1	NA
J2505781005	PAALF-PW17-041525	WA	SM 4500 H+B-2011	04/15/2025 12:45	04/16/2025 09:00	1	NA
J2505781006	PAALF-PW19-041525	WA	DOD EPA 1633	04/15/2025 09:25	04/16/2025 09:00	6	NA
J2505781006	PAALF-PW19-041525	WA	DoD EPA 300.0	04/15/2025 09:25	04/16/2025 09:00	4	NA
J2505781006	PAALF-PW19-041525	WA	DoD EPA 310.1	04/15/2025 09:25	04/16/2025 09:00	1	NA
J2505781006	PAALF-PW19-041525	WA	DoD EPA 410.4	04/15/2025 09:25	04/16/2025 09:00	1	NA
J2505781006	PAALF-PW19-041525	WA	DoD SM 2540 C-2015	04/15/2025 09:25	04/16/2025 09:00	1	NA
J2505781006	PAALF-PW19-041525	WA	DoD SW-846 6010C	04/15/2025 09:25	04/16/2025 09:00	7	NA
J2505781006	PAALF-PW19-041525	WA	DoD SW-846 6020A	04/15/2025 09:25	04/16/2025 09:00	16	NA
J2505781006	PAALF-PW19-041525	WA	DoD SW-846 7470A	04/15/2025 09:25	04/16/2025 09:00	1	NA
J2505781006	PAALF-PW19-041525	WA	DoD SW-846 8260C	04/15/2025 09:25	04/16/2025 09:00	47	NA
J2505781006	PAALF-PW19-041525	WA	DoD SW-846 8260C (SIM)	04/15/2025 09:25	04/16/2025 09:00	2	NA
J2505781006	PAALF-PW19-041525	WA	SM 2130 B-2011	04/15/2025 09:25	04/16/2025 09:00	1	NA
J2505781006	PAALF-PW19-041525	WA	SM 2510 B-2011	04/15/2025 09:25	04/16/2025 09:00	1	NA
J2505781006	PAALF-PW19-041525	WA	SM 4500 H+B-2011	04/15/2025 09:25	04/16/2025 09:00	1	NA
J2505781007	PAALF-PW19-041525fb	WA	DOD EPA 1633	04/15/2025 09:25	04/16/2025 09:00	6	NA
J2505781008	PAALF-PW20-041525	WA	DOD EPA 1633	04/15/2025 12:40	04/16/2025 09:00	6	NA
J2505781008	PAALF-PW20-041525	WA	DoD EPA 300.0	04/15/2025 12:40	04/16/2025 09:00	4	NA

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Workorder: Phillips LF LTM - April 2025 (J2505781)

Sample Summary

Lab ID	Sample ID	Matrix	Method	Date Collected	Date Received	Analytes Reported	Basis
J2505781008	PAALF-PW20-041525	WA	DoD EPA 310.1	04/15/2025 12:40	04/16/2025 09:00	1	NA
J2505781008	PAALF-PW20-041525	WA	DoD EPA 410.4	04/15/2025 12:40	04/16/2025 09:00	1	NA
J2505781008	PAALF-PW20-041525	WA	DoD SM 2540 C-2015	04/15/2025 12:40	04/16/2025 09:00	1	NA
J2505781008	PAALF-PW20-041525	WA	DoD SW-846 6010C	04/15/2025 12:40	04/16/2025 09:00	7	NA
J2505781008	PAALF-PW20-041525	WA	DoD SW-846 6020A	04/15/2025 12:40	04/16/2025 09:00	16	NA
J2505781008	PAALF-PW20-041525	WA	DoD SW-846 7470A	04/15/2025 12:40	04/16/2025 09:00	1	NA
J2505781008	PAALF-PW20-041525	WA	DoD SW-846 8260C	04/15/2025 12:40	04/16/2025 09:00	47	NA
J2505781008	PAALF-PW20-041525	WA	DoD SW-846 8260C (SIM)	04/15/2025 12:40	04/16/2025 09:00	2	NA
J2505781008	PAALF-PW20-041525	WA	SM 2130 B-2011	04/15/2025 12:40	04/16/2025 09:00	1	NA
J2505781008	PAALF-PW20-041525	WA	SM 2510 B-2011	04/15/2025 12:40	04/16/2025 09:00	1	NA
J2505781008	PAALF-PW20-041525	WA	SM 4500 H+B-2011	04/15/2025 12:40	04/16/2025 09:00	1	NA
J2505781009	PAALF-PW20-041525dup	WA	DOD EPA 1633	04/15/2025 00:00	04/16/2025 09:00	6	NA
J2505781009	PAALF-PW20-041525dup	WA	DoD EPA 300.0	04/15/2025 00:00	04/16/2025 09:00	4	NA
J2505781009	PAALF-PW20-041525dup	WA	DoD EPA 310.1	04/15/2025 00:00	04/16/2025 09:00	1	NA
J2505781009	PAALF-PW20-041525dup	WA	DoD EPA 410.4	04/15/2025 00:00	04/16/2025 09:00	1	NA
J2505781009	PAALF-PW20-041525dup	WA	DoD SM 2540 C-2015	04/15/2025 00:00	04/16/2025 09:00	1	NA
J2505781009	PAALF-PW20-041525dup	WA	DoD SW-846 6010C	04/15/2025 00:00	04/16/2025 09:00	7	NA
J2505781009	PAALF-PW20-041525dup	WA	DoD SW-846 6020A	04/15/2025 00:00	04/16/2025 09:00	16	NA
J2505781009	PAALF-PW20-041525dup	WA	DoD SW-846 7470A	04/15/2025 00:00	04/16/2025 09:00	1	NA
J2505781009	PAALF-PW20-041525dup	WA	DoD SW-846 8260C	04/15/2025 00:00	04/16/2025 09:00	47	NA
J2505781009	PAALF-PW20-041525dup	WA	DoD SW-846 8260C (SIM)	04/15/2025 00:00	04/16/2025 09:00	2	NA
J2505781009	PAALF-PW20-041525dup	WA	SM 2130 B-2011	04/15/2025 00:00	04/16/2025 09:00	1	NA
J2505781009	PAALF-PW20-041525dup	WA	SM 2510 B-2011	04/15/2025 00:00	04/16/2025 09:00	1	NA
J2505781009	PAALF-PW20-041525dup	WA	SM 4500 H+B-2011	04/15/2025 00:00	04/16/2025 09:00	1	NA
J2505781010	PAALF-PW17-041525rb	WA	DOD EPA 1633	04/15/2025 13:55	04/16/2025 09:00	6	NA
J2505781010	PAALF-PW17-041525rb	WA	DoD EPA 300.0	04/15/2025 13:55	04/16/2025 09:00	4	NA
J2505781010	PAALF-PW17-041525rb	WA	DoD EPA 310.1	04/15/2025 13:55	04/16/2025 09:00	1	NA
J2505781010	PAALF-PW17-041525rb	WA	DoD EPA 410.4	04/15/2025 13:55	04/16/2025 09:00	1	NA
J2505781010	PAALF-PW17-041525rb	WA	DoD SM 2540 C-2015	04/15/2025 13:55	04/16/2025 09:00	1	NA
J2505781010	PAALF-PW17-041525rb	WA	DoD SW-846 6010C	04/15/2025 13:55	04/16/2025 09:00	7	NA
J2505781010	PAALF-PW17-041525rb	WA	DoD SW-846 6020A	04/15/2025 13:55	04/16/2025 09:00	16	NA
J2505781010	PAALF-PW17-041525rb	WA	DoD SW-846 7470A	04/15/2025 13:55	04/16/2025 09:00	1	NA
J2505781010	PAALF-PW17-041525rb	WA	DoD SW-846 8260C	04/15/2025 13:55	04/16/2025 09:00	47	NA
J2505781010	PAALF-PW17-041525rb	WA	DoD SW-846 8260C (SIM)	04/15/2025 13:55	04/16/2025 09:00	2	NA
J2505781010	PAALF-PW17-041525rb	WA	SM 2130 B-2011	04/15/2025 13:55	04/16/2025 09:00	1	NA

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Phone: (904) 363-9350
Fax: (904) 363-9354

FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Sample Summary

Lab ID	Sample ID	Matrix	Method	Date Collected	Date Received	Analytes Reported	Basis
J2505781010	PAALF-PW17-041525rb	WA	SM 2510 B-2011	04/15/2025 13:55	04/16/2025 09:00	1	NA
J2505781010	PAALF-PW17-041525rb	WA	SM 4500 H+B-2011	04/15/2025 13:55	04/16/2025 09:00	1	NA

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Workorder: Phillips LF LTM - April 2025 (J2505781)

Workorder Summary

Batch Comments

WCAj/18671 - .PH,SM4500H+B, Water

All samples were received by the lab past the recommended holding time. The analysis was performed as soon as possible after receipt by the laboratory. The data is qualified to indicate the holding time violation.

Analysis Results Comments

J2505781005 (PAALF-PW17-041525) - Sulfate

J|The analyte is an estimated value. The reported value is below the Limits of Quantitation (LOQ), but above the DL. Also, an acceptance criterion is not met (e.g., MS/MSD recovery or dual column confirmation was outside 40% RPD).

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results Qualifiers

Parameter Qualifiers

- U The compound was analyzed for but not detected.
- J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- Q One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).
- Q Missed Hold Time
- J The analyte is an estimated value. The reported value is below the Limits of Quantitation (LOQ), but above the DL. Also, an acceptance criterion is not met (e.g., MS/MSD recovery or dual column confirmation was outside 40% RPD).

Lab Qualifiers

- J DOH Certification #E82574 (FL NELAC) AEL-Jacksonville
DOD-ELAP Certification #L23-514 (ISO/IEC 17025:2017) AEL-Jacksonville

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID: J2505781001	Date Collected: 04/15/2025 07:00			Matrix: Water					
Sample ID: PAALF-TB-041525	Date Received: 04/16/2025 09:00								
Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
VOLATILES (SW-846 5030B/DoD SW-846 8260C (SIM))									
1,2-Dibromo-3-Chloropropane	0.10U	ug/L	0.050	0.10	0.20	1	04/23/2025 20:32	04/23/2025 22:58	J
Ethylene Dibromide (EDB)	0.050U	ug/L	0.019	0.050	0.10	1	04/23/2025 20:32	04/23/2025 22:58	J
VOLATILES (SW-846 5030B/DoD SW-846 8260C)									
1,1,1,2-Tetrachloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J
1,1,1-Trichloroethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 22:58	J
1,1,2,2-Tetrachloroethane	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J
1,1,2-Trichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J
1,1-Dichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J
1,1-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 22:58	J
1,2,3-Trichloropropane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J
1,2-Dichlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 22:58	J
1,2-Dichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J
1,2-Dichloropropane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J
1,4-Dichlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 22:58	J
2-Butanone (MEK)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J
2-Hexanone	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 22:58	J
4-Methyl-2-pentanone (MIBK)	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Acetone	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Acrylonitrile	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Benzene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Bromochloromethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Bromodichloromethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Bromoform	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Bromomethane	1.0U	ug/L	0.50	1.0	2.0	1	04/26/2025 11:23	04/26/2025 12:36	J
Carbon Disulfide	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Carbon Tetrachloride	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID: J2505781001
Sample ID: PAALF-TB-041525

Date Collected: 04/15/2025 07:00
Date Received: 04/16/2025 09:00

Matrix: Water

Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
Chlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Chloroethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Chloroform	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Chloromethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Dibromochloromethane	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Dibromomethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Ethylbenzene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Iodomethane (Methyl Iodide)	1.0U	ug/L	0.50	1.0	2.0	1	04/26/2025 11:23	04/26/2025 12:36	J
Methyl tert-butyl Ether (MTBE)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Methylene Chloride	2.5U	ug/L	1.2	2.5	5.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Styrene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Tetrachloroethylene (PCE)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Toluene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Trichloroethene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Trichlorofluoromethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Vinyl Acetate	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Vinyl Chloride	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Xylene-mp	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 22:58	J
Xylene-o	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J
cis-1,2-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 22:58	J
cis-1,3-Dichloropropene	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J
trans-1,2-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 22:58	J
trans-1,3-Dichloropropylene	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/23/2025 22:58	J
trans-1,4-Dichloro-2-butene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 22:58	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Analysis Results Comments

Bromomethane

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Iodomethane (Methyl Iodide)

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Vinyl Acetate

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Bromofluorobenzene (S)	ug/L	50	52	105	85 - 114	J
Toluene-d8 (S)	ug/L	50	47	94	89 - 112	J
1,2-Dichloroethane-d4 (S)	ug/L	50	50.20	100	81 - 118	J
Bromofluorobenzene (S)	ug/L	50	50.40	101	85 - 114	J
1,2-Dichloroethane-d4 (S)	ug/L	50	52	104	81 - 118	J
Toluene-d8 (S)	ug/L	50	48.10	96	89 - 112	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID: J2505781002 Date Collected: 04/15/2025 09:00 Matrix: Water
Sample ID: PAALF-PW11-041525 Date Received: 04/16/2025 09:00

Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
(DOD EPA 1633)									
HFPO-DA	0.31J	ng/L	0.25	0.49	0.99	1	04/24/2025 09:00	04/24/2025 22:00	J
PFBS	9.5	ng/L	0.39	0.79	1.6	1	04/24/2025 09:00	04/24/2025 22:00	J
PFHxS	85	ng/L	0.69	0.89	1.8	1	04/24/2025 09:00	04/24/2025 22:00	J
PFNA	2.4	ng/L	0.39	0.79	1.6	1	04/24/2025 09:00	04/24/2025 22:00	J
PFOS	150	ng/L	0.34	0.69	1.4	1	04/24/2025 09:00	04/24/2025 22:00	J
PFOA	260	ng/L	0.39	0.79	1.6	1	04/24/2025 09:00	04/24/2025 22:00	J
METALS (SW-846 3010A/DoD SW-846 6010C)									
Aluminum	170	ug/L	20	40	80	1	04/25/2025 05:00	04/25/2025 23:41	J
Calcium	14000	ug/L	200	400	800	1	04/25/2025 05:00	04/25/2025 23:41	J
Iron	370J	ug/L	200	400	800	1	04/25/2025 05:00	04/25/2025 23:41	J
Magnesium	9800	ug/L	100	200	400	1	04/25/2025 05:00	04/25/2025 23:41	J
Potassium	2300	ug/L	500	1000	2000	1	04/25/2025 05:00	04/25/2025 23:41	J
Sodium	59000	ug/L	800	1600	3200	1	04/25/2025 05:00	04/25/2025 23:41	J
Total Hardness (as CaCO3)	76	mg/L	0.91	1.8	3.6	1	04/25/2025 05:00	04/25/2025 23:41	J
METALS (SW-846 3010A/DoD SW-846 6020A)									
Antimony	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 16:38	J
Arsenic	0.31J	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 16:38	J
Barium	47	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 16:38	J
Beryllium	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 16:38	J
Cadmium	0.26J	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 16:38	J
Chromium	1.0U	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 16:38	J
Cobalt	15	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 16:38	J
Copper	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 16:38	J
Lead	1.0U	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 16:38	J
Manganese	720	ug/L	5.0	10	20	5	04/30/2025 05:00	05/08/2025 08:15	J
Nickel	8.4	ug/L	1.2	2.5	5.0	1	04/30/2025 05:00	05/01/2025 16:38	J
Selenium	2.5U	ug/L	1.2	2.5	5.0	1	04/30/2025 05:00	05/01/2025 16:38	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID:	J2505781002	Date Collected:		04/15/2025 09:00			Matrix:			Water
Sample ID:	PAALF-PW11-041525	Date Received:		04/16/2025 09:00						
Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab	
Silver	1.0U	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 16:38	J	
Thallium	0.50U	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 16:38	J	
Vanadium	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 16:38	J	
Zinc	24	ug/L	6.0	12	24	1	04/30/2025 05:00	05/01/2025 16:38	J	
METALS (SW-846 7470A/DoD SW-846 7470A)										
Mercury	0.60	ug/L	0.011	0.040	0.10	1	05/01/2025 10:01	05/01/2025 15:29	J	
(SM 2130 B-2011)										
Turbidity	6.4	NTU	0.10	0.20	0.40	1	04/16/2025 15:56	04/16/2025 15:56	J	
VOLATILES (SW-846 5030B/DoD SW-846 8260C (SIM))										
1,2-Dibromo-3-Chloropropane	0.10U	ug/L	0.050	0.10	0.20	1	04/23/2025 20:32	04/23/2025 23:46	J	
Ethylene Dibromide (EDB)	0.050U	ug/L	0.019	0.050	0.10	1	04/23/2025 20:32	04/23/2025 23:46	J	
VOLATILES (SW-846 5030B/DoD SW-846 8260C)										
1,1,1,2-Tetrachloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J	
1,1,1-Trichloroethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 23:46	J	
1,1,2,2-Tetrachloroethane	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J	
1,1,2-Trichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J	
1,1-Dichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J	
1,1-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 23:46	J	
1,2,3-Trichloropropane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J	
1,2-Dichlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 23:46	J	
1,2-Dichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J	
1,2-Dichloropropane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J	
1,4-Dichlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 23:46	J	
2-Butanone (MEK)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J	
2-Hexanone	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 23:46	J	
4-Methyl-2-pentanone (MIBK)	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 23:46	J	
Acetone	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 23:46	J	
Acrylonitrile	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 23:46	J	

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID: J2505781002	Date Collected: 04/15/2025 09:00			Matrix: Water					
Sample ID: PAALF-PW11-041525	Date Received: 04/16/2025 09:00								
Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
Benzene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Bromochloromethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Bromodichloromethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Bromoform	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Bromomethane	1.0U	ug/L	0.50	1.0	2.0	1	04/26/2025 11:23	04/26/2025 13:00	J
Carbon Disulfide	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Carbon Tetrachloride	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Chlorobenzene	0.51J	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Chloroethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Chloroform	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Chloromethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Dibromochloromethane	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Dibromomethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Ethylbenzene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Iodomethane (Methyl Iodide)	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Methyl tert-butyl Ether (MTBE)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Methylene Chloride	2.5U	ug/L	1.2	2.5	5.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Styrene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Tetrachloroethylene (PCE)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Toluene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Trichloroethene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Trichlorofluoromethane	0.66J	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Vinyl Acetate	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Vinyl Chloride	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Xylene-mp	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 23:46	J
Xylene-o	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J
cis-1,2-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 23:46	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID:	J2505781002	Date Collected:					04/15/2025 09:00			Matrix:	Water
Sample ID:	PAALF-PW11-041525	Date Received:					04/16/2025 09:00				
Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab		
cis-1,3-Dichloropropene	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J		
trans-1,2-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 23:46	J		
trans-1,3-Dichloropropylene	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/23/2025 23:46	J		
trans-1,4-Dichloro-2-butene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/23/2025 23:46	J		
WET CHEMISTRY (DoD EPA 300.0)											
Chloride	39000	ug/L	2000	4000	8000	1	04/17/2025 00:00	04/17/2025 00:00	J		
Nitrate (as N)	400U	ug/L	200	400	800	1	04/17/2025 00:00	04/17/2025 00:00	J		
Nitrite (as N)	400U	ug/L	200	400	800	1	04/17/2025 00:00	04/17/2025 00:00	J		
Sulfate	75000	ug/L	2000	4000	8000	1	04/17/2025 00:00	04/17/2025 00:00	J		
WET CHEMISTRY (DoD EPA 310.1)											
Alkalinity, Total	64	mg/L	5.0	5.0	5.0	1	04/22/2025 17:16	04/22/2025 17:16	J		
WET CHEMISTRY (DoD EPA 410.4)											
Chemical Oxygen Demand	18J	mg/L	6.2	12	25	1.2 5	04/29/2025 11:01	04/29/2025 11:01	J		
WET CHEMISTRY (DoD SM 2540 C-2015)											
Total Dissolved Solids	260	mg/L	10	10	10	1	04/21/2025 17:08	04/21/2025 17:08	J		
WET CHEMISTRY (SM 2510 B-2011)											
Conductivity	430	umhos/cm @ 25.0°C	2.0	4.0	8.0	1	05/05/2025 14:16	05/05/2025 14:16	J		
WET CHEMISTRY (SM 4500 H+B-2011)											
pH	6.2	SU	1.0	1.0	1.0	1	04/25/2025 09:40	04/25/2025 09:40	J		





FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Analysis Results Comments

Bromomethane

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Iodomethane (Methyl Iodide)

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Vinyl Acetate

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

pH

Q|Missed Hold Time

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
13C2-6:2FTS (S)	ng/L	39.40	35.40	90	40 - 200	J
13C3-PFHXS (S)	ng/L	19.70	16.20	82	40 - 130	J
1,2-Dichloroethane-d4 (S)	ug/L	50	47.20	94	81 - 118	J
13C7-PFUNA (S)	ng/L	9.85	7.60	77	30 - 130	J
13C4-PFHFA (S)	ng/L	19.70	18.10	92	40 - 130	J
D7-NMEFOSE (S)	ng/L	197	124	63	10 - 130	J
1,2-Dichloroethane-d4 (S)	ug/L	50	49	98	81 - 118	J
13C6-PFDA (S)	ng/L	9.85	8.74	89	40 - 130	J
13C3-PFBS (S)	ng/L	19.70	17	86	40 - 135	J
Toluene-d8 (S)	ug/L	50	50.30	101	89 - 112	J
D5-NETFOSE (S)	ng/L	19.70	9.85	50	10 - 130	J
13C4-PFBA (S)	ng/L	78.80	70.70	90	10 - 130	J
13C8-PFOS (S)	ng/L	19.70	16.70	85	40 - 130	J
Bromofluorobenzene (S)	ug/L	50	49.90	100	85 - 114	J
Toluene-d8 (S)	ug/L	50	49	98	89 - 112	J
13C2-PFTEDA (S)	ng/L	9.85	6.65	68	10 - 130	J
13C2-4:2FTS (S)	ng/L	39.40	74.20	188	40 - 200	J
D9-NETFOSE (S)	ng/L	197	116	59	10 - 130	J
13C5-PFHXA (S)	ng/L	19.70	17.70	90	40 - 130	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
13C5-PFPEA (S)	ng/L	39.40	34.10	86	40 - 130	J
13C9-PFNA (S)	ng/L	9.85	9.01	91	40 - 130	J
Bromofluorobenzene (S)	ug/L	50	52	103	85 - 114	J
13C2-8:2FTS (S)	ng/L	39.40	34.20	87	40 - 300	J
D3-NMEFOSA (S)	ng/L	19.70	11.90	61	10 - 130	J
D5-NETFOSAA (S)	ng/L	39.40	27.80	71	25 - 135	J
13C3-HFPO-DA (S)	ng/L	78.80	68.60	87	40 - 130	J
13C2-PFDOA (S)	ng/L	9.85	5.71	58	10 - 130	J
13C8-PFOA (S)	ng/L	19.70	17.20	87	40 - 130	J
13C8-FOSA (S)	ng/L	19.70	15.40	78	40 - 130	J
D3-NMEFOSAA (S)	ng/L	39.40	29.40	74	40 - 170	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID: J2505781003 Date Collected: 04/15/2025 10:35 Matrix: Water
Sample ID: PAALF-PW12-041525 Date Received: 04/16/2025 09:00

Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
(DOD EPA 1633)									
HFPO-DA	0.51U	ng/L	0.25	0.51	1.0	1	04/24/2025 09:00	04/24/2025 22:31	J
PFBS	0.66J	ng/L	0.41	0.82	1.6	1	04/24/2025 09:00	04/24/2025 22:31	J
PFHxS	1.1J	ng/L	0.71	0.92	1.8	1	04/24/2025 09:00	04/24/2025 22:31	J
PFNA	0.82U	ng/L	0.41	0.82	1.6	1	04/24/2025 09:00	04/24/2025 22:31	J
PFOS	0.71U	ng/L	0.36	0.71	1.4	1	04/24/2025 09:00	04/24/2025 22:31	J
PFOA	9.2	ng/L	0.41	0.82	1.6	1	04/24/2025 09:00	04/24/2025 22:31	J
METALS (SW-846 3010A/DoD SW-846 6010C)									
Aluminum	42J	ug/L	20	40	80	1	04/25/2025 05:00	04/25/2025 23:45	J
Calcium	30000	ug/L	200	400	800	1	04/25/2025 05:00	04/25/2025 23:45	J
Iron	73000	ug/L	200	400	800	1	04/25/2025 05:00	04/25/2025 23:45	J
Magnesium	17000	ug/L	100	200	400	1	04/25/2025 05:00	04/25/2025 23:45	J
Potassium	1300J	ug/L	500	1000	2000	1	04/25/2025 05:00	04/25/2025 23:45	J
Sodium	41000	ug/L	800	1600	3200	1	04/25/2025 05:00	04/25/2025 23:45	J
Total Hardness (as CaCO3)	140	mg/L	0.91	1.8	3.6	1	04/25/2025 05:00	04/25/2025 23:45	J
METALS (SW-846 3010A/DoD SW-846 6020A)									
Antimony	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 16:44	J
Arsenic	0.50U	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 16:44	J
Barium	66	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 16:44	J
Beryllium	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 16:44	J
Cadmium	0.50U	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 16:44	J
Chromium	1.0U	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 16:44	J
Cobalt	0.25J	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 16:44	J
Copper	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 16:44	J
Lead	1.0U	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 16:44	J
Manganese	2000	ug/L	10	20	40	10	04/30/2025 05:00	05/08/2025 08:20	J
Nickel	1.8J	ug/L	1.2	2.5	5.0	1	04/30/2025 05:00	05/01/2025 16:44	J
Selenium	2.5U	ug/L	1.2	2.5	5.0	1	04/30/2025 05:00	05/01/2025 16:44	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID:	J2505781003	Date Collected:		04/15/2025 10:35			Matrix: Water		
Sample ID:	PAALF-PW12-041525	Date Received:		04/16/2025 09:00					
Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
Silver	1.0U	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 16:44	J
Thallium	0.50U	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 16:44	J
Vanadium	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 16:44	J
Zinc	12U	ug/L	6.0	12	24	1	04/30/2025 05:00	05/01/2025 16:44	J
METALS (SW-846 7470A/DoD SW-846 7470A)									
Mercury	0.014J	ug/L	0.011	0.040	0.10	1	05/01/2025 10:01	05/01/2025 15:33	J
(SM 2130 B-2011)									
Turbidity	6.2	NTU	0.10	0.20	0.40	1	04/16/2025 15:56	04/16/2025 15:56	J
VOLATILES (SW-846 5030B/DoD SW-846 8260C (SIM))									
1,2-Dibromo-3-Chloropropane	0.10U	ug/L	0.050	0.10	0.20	1	04/23/2025 20:32	04/24/2025 00:10	J
Ethylene Dibromide (EDB)	0.050U	ug/L	0.019	0.050	0.10	1	04/23/2025 20:32	04/24/2025 00:10	J
VOLATILES (SW-846 5030B/DoD SW-846 8260C)									
1,1,1,2-Tetrachloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J
1,1,1-Trichloroethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:10	J
1,1,2,2-Tetrachloroethane	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J
1,1,2-Trichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J
1,1-Dichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J
1,1-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:10	J
1,2,3-Trichloropropane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J
1,2-Dichlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:10	J
1,2-Dichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J
1,2-Dichloropropane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J
1,4-Dichlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:10	J
2-Butanone (MEK)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J
2-Hexanone	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:10	J
4-Methyl-2-pentanone (MIBK)	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Acetone	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Acrylonitrile	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:10	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID: J2505781003
Sample ID: PAALF-PW12-041525

Date Collected: 04/15/2025 10:35
Date Received: 04/16/2025 09:00

Matrix: Water

Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
Benzene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Bromochloromethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Bromodichloromethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Bromoform	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Bromomethane	1.0U	ug/L	0.50	1.0	2.0	1	04/26/2025 11:23	04/26/2025 13:25	J
Carbon Disulfide	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Carbon Tetrachloride	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Chlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Chloroethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Chloroform	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Chloromethane	1.4	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Dibromochloromethane	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Dibromomethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Ethylbenzene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Iodomethane (Methyl Iodide)	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Methyl tert-butyl Ether (MTBE)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Methylene Chloride	2.5U	ug/L	1.2	2.5	5.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Styrene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Tetrachloroethylene (PCE)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Toluene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Trichloroethene	3.9	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Trichlorofluoromethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Vinyl Acetate	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Vinyl Chloride	2.9	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Xylene-mp	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:10	J
Xylene-o	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J
cis-1,2-Dichloroethylene	4.8	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:10	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID:	J2505781003	Date Collected:					04/15/2025 10:35			Matrix:	Water
Sample ID:	PAALF-PW12-041525	Date Received:					04/16/2025 09:00				
Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab		
cis-1,3-Dichloropropene	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J		
trans-1,2-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:10	J		
trans-1,3-Dichloropropylene	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 00:10	J		
trans-1,4-Dichloro-2-butene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:10	J		
WET CHEMISTRY (DoD EPA 300.0)											
Chloride	99000	ug/L	2000	4000	8000	1	04/16/2025 21:13	04/16/2025 21:13	J		
Nitrate (as N)	400U	ug/L	200	400	800	1	04/16/2025 21:13	04/16/2025 21:13	J		
Nitrite (as N)	400U	ug/L	200	400	800	1	04/16/2025 21:13	04/16/2025 21:13	J		
Sulfate	200000	ug/L	2000	4000	8000	1	04/16/2025 21:13	04/16/2025 21:13	J		
WET CHEMISTRY (DoD EPA 310.1)											
Alkalinity, Total	5.0U	mg/L	5.0	5.0	5.0	1	04/22/2025 17:16	04/22/2025 17:16	J		
WET CHEMISTRY (DoD EPA 410.4)											
Chemical Oxygen Demand	29	mg/L	6.2	12	25	1.2 5	04/29/2025 11:01	04/29/2025 11:01	J		
WET CHEMISTRY (DoD SM 2540 C-2015)											
Total Dissolved Solids	410	mg/L	10	10	10	1	04/21/2025 17:08	04/21/2025 17:08	J		
WET CHEMISTRY (SM 2510 B-2011)											
Conductivity	1100	umhos/c m @ 25.0°C	2.0	4.0	8.0	1	05/05/2025 14:16	05/05/2025 14:16	J		
WET CHEMISTRY (SM 4500 H+B-2011)											
pH	3.0	SU	1.0	1.0	1.0	1	04/25/2025 09:40	04/25/2025 09:40	J		





FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Analysis Results Comments

Bromomethane

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Iodomethane (Methyl Iodide)

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Vinyl Acetate

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

pH

Q|Missed Hold Time

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
13C2-6:2FTS (S)	ng/L	40.80	37.80	93	40 - 200	J
13C6-PFDA (S)	ng/L	10.20	9.53	93	40 - 130	J
13C4-PFHPA (S)	ng/L	20.40	18.20	89	40 - 130	J
13C3-PFBS (S)	ng/L	20.40	17.20	84	40 - 135	J
13C4-PFBA (S)	ng/L	81.60	73.60	90	10 - 130	J
13C5-PFHXA (S)	ng/L	20.40	18.60	91	40 - 130	J
1,2-Dichloroethane-d4 (S)	ug/L	50	49	98	81 - 118	J
D7-NMEFOSE (S)	ng/L	204	132	65	10 - 130	J
13C8-PFOA (S)	ng/L	20.40	18.70	92	40 - 130	J
13C2-4:2FTS (S)	ng/L	40.80	38.70	95	40 - 200	J
13C3-HFPO-DA (S)	ng/L	81.60	74.60	91	40 - 130	J
13C2-PFTEDA (S)	ng/L	10.20	7.01	69	10 - 130	J
1,2-Dichloroethane-d4 (S)	ug/L	50	51	102	81 - 118	J
13C5-PFPEA (S)	ng/L	40.80	36.60	90	40 - 130	J
Bromofluorobenzene (S)	ug/L	50	53	106	85 - 114	J
D9-NETFOSE (S)	ng/L	204	123	61	10 - 130	J
D3-NMEFOSAA (S)	ng/L	40.80	34.80	85	40 - 170	J
Toluene-d8 (S)	ug/L	50	49	98	89 - 112	J
13C2-8:2FTS (S)	ng/L	40.80	38	93	40 - 300	J

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Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
D3-NMEFOSA (S)	ng/L	20.40	12.80	63	10 - 130	J
13C2-PFDOA (S)	ng/L	10.20	6.39	63	10 - 130	J
13C8-FOSA (S)	ng/L	20.40	15.50	76	40 - 130	J
Toluene-d8 (S)	ug/L	50	49.50	99	89 - 112	J
D5-NETFOSAA (S)	ng/L	40.80	28.50	70	25 - 135	J
D5-NETFOSA (S)	ng/L	20.40	11.20	55	10 - 130	J
13C9-PFNA (S)	ng/L	10.20	8.88	87	40 - 130	J
Bromofluorobenzene (S)	ug/L	50	51.60	103	85 - 114	J
13C7-PFUNA (S)	ng/L	10.20	9.38	92	30 - 130	J
13C8-PFOS (S)	ng/L	20.40	18.40	90	40 - 130	J
13C3-PFHXS (S)	ng/L	20.40	16.70	82	40 - 130	J

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Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID: J2505781004 Date Collected: 04/15/2025 11:00 Matrix: Water
Sample ID: PAALF-PW16-041525 Date Received: 04/16/2025 09:00

Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
(DOD EPA 1633)									
HFPO-DA	0.28J	ng/L	0.24	0.48	0.97	1	04/24/2025 09:00	04/24/2025 23:02	J
PFBS	6.9	ng/L	0.39	0.77	1.5	1	04/24/2025 09:00	04/24/2025 23:02	J
PFHxS	25	ng/L	0.68	0.87	1.7	1	04/24/2025 09:00	04/24/2025 23:02	J
PFNA	2.8	ng/L	0.39	0.77	1.5	1	04/24/2025 09:00	04/24/2025 23:02	J
PFOS	19	ng/L	0.34	0.68	1.4	1	04/24/2025 09:00	04/24/2025 23:02	J
PFOA	39	ng/L	0.39	0.77	1.5	1	04/24/2025 09:00	04/24/2025 23:02	J
METALS (SW-846 3010A/DoD SW-846 6010C)									
Aluminum	40U	ug/L	20	40	80	1	04/25/2025 05:00	04/25/2025 23:49	J
Calcium	11000	ug/L	200	400	800	1	04/25/2025 05:00	04/25/2025 23:49	J
Iron	320J	ug/L	200	400	800	1	04/25/2025 05:00	04/25/2025 23:49	J
Magnesium	11000	ug/L	100	200	400	1	04/25/2025 05:00	04/25/2025 23:49	J
Potassium	1500J	ug/L	500	1000	2000	1	04/25/2025 05:00	04/25/2025 23:49	J
Sodium	21000	ug/L	800	1600	3200	1	04/25/2025 05:00	04/25/2025 23:49	J
Total Hardness (as CaCO3)	72	mg/L	0.91	1.8	3.6	1	04/25/2025 05:00	04/25/2025 23:49	J
METALS (SW-846 3010A/DoD SW-846 6020A)									
Antimony	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 16:50	J
Arsenic	0.50U	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 16:50	J
Barium	53	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 16:50	J
Beryllium	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 16:50	J
Cadmium	0.50U	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 16:50	J
Chromium	1.0U	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 16:50	J
Cobalt	4.7	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 16:50	J
Copper	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 16:50	J
Lead	1.0U	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 16:50	J
Manganese	3500	ug/L	10	20	40	10	04/30/2025 05:00	05/08/2025 08:26	J
Nickel	1.3J	ug/L	1.2	2.5	5.0	1	04/30/2025 05:00	05/01/2025 16:50	J
Selenium	2.5U	ug/L	1.2	2.5	5.0	1	04/30/2025 05:00	05/01/2025 16:50	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID:	J2505781004	Date Collected:		04/15/2025 11:00			Matrix: Water		
Sample ID:	PAALF-PW16-041525	Date Received:		04/16/2025 09:00					
Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
Silver	1.0U	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 16:50	J
Thallium	0.50U	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 16:50	J
Vanadium	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 16:50	J
Zinc	7.2J	ug/L	6.0	12	24	1	04/30/2025 05:00	05/01/2025 16:50	J
METALS (SW-846 7470A/DoD SW-846 7470A)									
Mercury	0.026J	ug/L	0.011	0.040	0.10	1	05/01/2025 10:01	05/01/2025 15:37	J
(SM 2130 B-2011)									
Turbidity	2.1	NTU	0.10	0.20	0.40	1	04/16/2025 15:56	04/16/2025 15:56	J
VOLATILES (SW-846 5030B/DoD SW-846 8260C (SIM))									
1,2-Dibromo-3-Chloropropane	0.10U	ug/L	0.050	0.10	0.20	1	04/23/2025 20:32	04/24/2025 00:35	J
Ethylene Dibromide (EDB)	0.050U	ug/L	0.019	0.050	0.10	1	04/23/2025 20:32	04/24/2025 00:35	J
VOLATILES (SW-846 5030B/DoD SW-846 8260C)									
1,1,1,2-Tetrachloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
1,1,1-Trichloroethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:35	J
1,1,2,2-Tetrachloroethane	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
1,1,2-Trichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
1,1-Dichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
1,1-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:35	J
1,2,3-Trichloropropane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
1,2-Dichlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:35	J
1,2-Dichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
1,2-Dichloropropane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
1,4-Dichlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:35	J
2-Butanone (MEK)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
2-Hexanone	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:35	J
4-Methyl-2-pentanone (MIBK)	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Acetone	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Acrylonitrile	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:35	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID: J2505781004 Date Collected: 04/15/2025 11:00 Matrix: Water
Sample ID: PAALF-PW16-041525 Date Received: 04/16/2025 09:00

Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
Benzene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Bromochloromethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Bromodichloromethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Bromoform	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Bromomethane	1.0U	ug/L	0.50	1.0	2.0	1	04/26/2025 11:23	04/26/2025 13:49	J
Carbon Disulfide	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Carbon Tetrachloride	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Chlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Chloroethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Chloroform	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Chloromethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Dibromochloromethane	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Dibromomethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Ethylbenzene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Iodomethane (Methyl Iodide)	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Methyl tert-butyl Ether (MTBE)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Methylene Chloride	2.5U	ug/L	1.2	2.5	5.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Styrene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Tetrachloroethylene (PCE)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Toluene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Trichloroethene	3.1	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Trichlorofluoromethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Vinyl Acetate	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Vinyl Chloride	1.5	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Xylene-mp	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:35	J
Xylene-o	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
cis-1,2-Dichloroethylene	3.9	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:35	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID:	J2505781004	Date Collected:	04/15/2025 11:00				Matrix:	Water	
Sample ID:	PAALF-PW16-041525	Date Received:	04/16/2025 09:00						
Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
cis-1,3-Dichloropropene	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
trans-1,2-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:35	J
trans-1,3-Dichloropropylene	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 00:35	J
trans-1,4-Dichloro-2-butene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:35	J
WET CHEMISTRY (DoD EPA 300.0)									
Chloride	29000	ug/L	2000	4000	8000	1	04/16/2025 21:32	04/16/2025 21:32	J
Nitrate (as N)	1200	ug/L	200	400	800	1	04/16/2025 21:32	04/16/2025 21:32	J
Nitrite (as N)	400U	ug/L	200	400	800	1	04/16/2025 21:32	04/16/2025 21:32	J
Sulfate	24000	ug/L	2000	4000	8000	1	04/16/2025 21:32	04/16/2025 21:32	J
WET CHEMISTRY (DoD EPA 310.1)									
Alkalinity, Total	54	mg/L	5.0	5.0	5.0	1	04/22/2025 17:16	04/22/2025 17:16	J
WET CHEMISTRY (DoD EPA 410.4)									
Chemical Oxygen Demand	40	mg/L	6.2	12	25	1.2 5	04/29/2025 11:01	04/29/2025 11:01	J
WET CHEMISTRY (DoD SM 2540 C-2015)									
Total Dissolved Solids	160	mg/L	10	10	10	1	04/21/2025 17:08	04/21/2025 17:08	J
WET CHEMISTRY (SM 2510 B-2011)									
Conductivity	260	umhos/cm @ 25.0°C	2.0	4.0	8.0	1	05/05/2025 14:16	05/05/2025 14:16	J
WET CHEMISTRY (SM 4500 H+B-2011)									
pH	6.5	SU	1.0	1.0	1.0	1	04/25/2025 09:40	04/25/2025 09:40	J





FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Analysis Results Comments

13C2-4:2FTS

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Bromomethane

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Iodomethane (Methyl Iodide)

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Vinyl Acetate

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

pH

Q|Missed Hold Time

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
13C2-PFTEDA (S)	ng/L	9.68	6.06	63	10 - 130	J
Bromofluorobenzene (S)	ug/L	50	52	105	85 - 114	J
D3-NMEFOSA (S)	ng/L	19.40	11	57	10 - 130	J
Toluene-d8 (S)	ug/L	50	48.90	98	89 - 112	J
D7-NMEFOSE (S)	ng/L	194	106	55	10 - 130	J
13C5-PFHXA (S)	ng/L	19.40	15.90	82	40 - 130	J
Toluene-d8 (S)	ug/L	50	48	96	89 - 112	J
13C2-4:2FTS (S)	ng/L	38.70	83.40	215	40 - 200	J
13C2-6:2FTS (S)	ng/L	38.70	34.90	90	40 - 200	J
13C9-PFNA (S)	ng/L	9.68	8.73	90	40 - 130	J
13C8-PFOS (S)	ng/L	19.40	16.60	86	40 - 130	J
13C4-PFBA (S)	ng/L	77.50	67.10	87	10 - 130	J
1,2-Dichloroethane-d4 (S)	ug/L	50	50.50	101	81 - 118	J
13C5-PFPEA (S)	ng/L	38.70	32	83	40 - 130	J
D9-NETFOSE (S)	ng/L	194	95	49	10 - 130	J
D3-NMEFOSAA (S)	ng/L	38.70	30.30	78	40 - 170	J
13C7-PFUNA (S)	ng/L	9.68	6.73	70	30 - 130	J
13C4-PFHFA (S)	ng/L	19.40	16.60	86	40 - 130	J





FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Surrogates						
Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
13C2-8:2FTS (S)	ng/L	38.70	31.50	81	40 - 300	J
Bromofluorobenzene (S)	ug/L	50	49.90	100	85 - 114	J
13C3-PFBS (S)	ng/L	19.40	16.10	83	40 - 135	J
D5-NETFOSAA (S)	ng/L	38.70	27.80	72	25 - 135	J
13C8-PFOA (S)	ng/L	19.40	17.40	90	40 - 130	J
13C3-PFHXS (S)	ng/L	19.40	16.40	85	40 - 130	J
13C8-FOSA (S)	ng/L	19.40	14.60	75	40 - 130	J
1,2-Dichloroethane-d4 (S)	ug/L	50	52	103	81 - 118	J
13C2-PFDOA (S)	ng/L	9.68	5.46	56	10 - 130	J
13C3-HFPO-DA (S)	ng/L	77.50	64.10	83	40 - 130	J
D5-NETFOSA (S)	ng/L	19.40	9.66	50	10 - 130	J
13C6-PFDA (S)	ng/L	9.68	8.36	86	40 - 130	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID: J2505781005
Sample ID: PAALF-PW17-041525

Date Collected: 04/15/2025 12:45
Date Received: 04/16/2025 09:00

Matrix: Water

Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
(DOD EPA 1633)									
HFPO-DA	0.51U	ng/L	0.25	0.51	1.0	1	04/24/2025 09:00	04/24/2025 23:33	J
PFBS	9.2	ng/L	0.41	0.81	1.6	1	04/24/2025 09:00	04/24/2025 23:33	J
PFHxS	16	ng/L	0.71	0.91	1.8	1	04/24/2025 09:00	04/24/2025 23:33	J
PFNA	6.9	ng/L	0.41	0.81	1.6	1	04/24/2025 09:00	04/24/2025 23:33	J
PFOS	19	ng/L	0.36	0.71	1.4	1	04/24/2025 09:00	04/24/2025 23:33	J
PFOA	51	ng/L	0.41	0.81	1.6	1	04/24/2025 09:00	04/24/2025 23:33	J
METALS (SW-846 3010A/DoD SW-846 6010C)									
Aluminum	570	ug/L	20	40	80	1	04/25/2025 05:00	04/25/2025 23:54	J
Calcium	93000	ug/L	200	400	800	1	04/25/2025 05:00	04/25/2025 23:54	J
Iron	1200	ug/L	200	400	800	1	04/25/2025 05:00	04/25/2025 23:54	J
Magnesium	35000	ug/L	100	200	400	1	04/25/2025 05:00	04/25/2025 23:54	J
Potassium	3800	ug/L	500	1000	2000	1	04/25/2025 05:00	04/25/2025 23:54	J
Sodium	14000	ug/L	800	1600	3200	1	04/25/2025 05:00	04/25/2025 23:54	J
Total Hardness (as CaCO3)	380	mg/L	0.91	1.8	3.6	1	04/25/2025 05:00	04/25/2025 23:54	J
METALS (SW-846 3010A/DoD SW-846 6020A)									
Antimony	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 16:55	J
Arsenic	1.2	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 16:55	J
Barium	97	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 16:55	J
Beryllium	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 16:55	J
Cadmium	0.50U	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 16:55	J
Chromium	1.5J	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 16:55	J
Cobalt	2.2	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 16:55	J
Copper	9.4	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 16:55	J
Lead	1.2J	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 16:55	J
Manganese	490	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 16:55	J
Nickel	13	ug/L	1.2	2.5	5.0	1	04/30/2025 05:00	05/01/2025 16:55	J
Selenium	2.5U	ug/L	1.2	2.5	5.0	1	04/30/2025 05:00	05/01/2025 16:55	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID:	J2505781005	Date Collected:	04/15/2025 12:45				Matrix:	Water	
Sample ID:	PAALF-PW17-041525	Date Received:	04/16/2025 09:00						
Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
Silver	1.0U	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 16:55	J
Thallium	0.50U	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 16:55	J
Vanadium	2.7J	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 16:55	J
Zinc	13J	ug/L	6.0	12	24	1	04/30/2025 05:00	05/01/2025 16:55	J
METALS (SW-846 7470A/DoD SW-846 7470A)									
Mercury	0.017J	ug/L	0.011	0.040	0.10	1	05/01/2025 10:01	05/01/2025 15:41	J
(SM 2130 B-2011)									
Turbidity	14	NTU	0.10	0.20	0.40	1	04/16/2025 15:56	04/16/2025 15:56	J
VOLATILES (SW-846 5030B/DoD SW-846 8260C (SIM))									
1,2-Dibromo-3-Chloropropane	0.10U	ug/L	0.050	0.10	0.20	1	04/23/2025 20:32	04/24/2025 00:59	J
Ethylene Dibromide (EDB)	0.050U	ug/L	0.019	0.050	0.10	1	04/23/2025 20:32	04/24/2025 00:59	J
VOLATILES (SW-846 5030B/DoD SW-846 8260C)									
1,1,1,2-Tetrachloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
1,1,1-Trichloroethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:59	J
1,1,2,2-Tetrachloroethane	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
1,1,2-Trichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
1,1-Dichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
1,1-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:59	J
1,2,3-Trichloropropane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
1,2-Dichlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:59	J
1,2-Dichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
1,2-Dichloropropane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
1,4-Dichlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:59	J
2-Butanone (MEK)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
2-Hexanone	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:59	J
4-Methyl-2-pentanone (MIBK)	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Acetone	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Acrylonitrile	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:59	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID: J2505781005
Sample ID: PAALF-PW17-041525

Date Collected: 04/15/2025 12:45
Date Received: 04/16/2025 09:00

Matrix: Water

Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
Benzene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Bromochloromethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Bromodichloromethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Bromoform	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Bromomethane	1.0U	ug/L	0.50	1.0	2.0	1	04/26/2025 11:23	04/26/2025 14:13	J
Carbon Disulfide	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Carbon Tetrachloride	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Chlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Chloroethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Chloroform	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Chloromethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Dibromochloromethane	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Dibromomethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Ethylbenzene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Iodomethane (Methyl Iodide)	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Methyl tert-butyl Ether (MTBE)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Methylene Chloride	2.5U	ug/L	1.2	2.5	5.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Styrene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Tetrachloroethylene (PCE)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Toluene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Trichloroethene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Trichlorofluoromethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Vinyl Acetate	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Vinyl Chloride	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Xylene-mp	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:59	J
Xylene-o	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
cis-1,2-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:59	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID:	J2505781005	Date Collected:	04/15/2025 12:45				Matrix:	Water	
Sample ID:	PAALF-PW17-041525	Date Received:	04/16/2025 09:00						
Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
cis-1,3-Dichloropropene	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
trans-1,2-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:59	J
trans-1,3-Dichloropropylene	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 00:59	J
trans-1,4-Dichloro-2-butene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 00:59	J
WET CHEMISTRY (DoD EPA 300.0)									
Chloride	12000	ug/L	2000	4000	8000	1	04/16/2025 22:09	04/16/2025 22:09	J
Nitrate (as N)	200J	ug/L	200	400	800	1	04/16/2025 22:09	04/16/2025 22:09	J
Nitrite (as N)	400U	ug/L	200	400	800	1	04/16/2025 22:09	04/16/2025 22:09	J
Sulfate	100000	ug/L	2000	4000	8000	1	04/16/2025 22:09	04/16/2025 22:09	J
WET CHEMISTRY (DoD EPA 310.1)									
Alkalinity, Total	300	mg/L	5.0	5.0	5.0	1	04/22/2025 17:16	04/22/2025 17:16	J
WET CHEMISTRY (DoD EPA 410.4)									
Chemical Oxygen Demand	37	mg/L	8.0	16	32	1.6	04/29/2025 11:01	04/29/2025 11:01	J
WET CHEMISTRY (DoD SM 2540 C-2015)									
Total Dissolved Solids	470	mg/L	10	10	10	1	04/21/2025 17:08	04/21/2025 17:08	J
WET CHEMISTRY (SM 2510 B-2011)									
Conductivity	750	umhos/cm @ 25.0°C	2.0	4.0	8.0	1	05/05/2025 14:16	05/05/2025 14:16	J
WET CHEMISTRY (SM 4500 H+B-2011)									
pH	7.6	SU	1.0	1.0	1.0	1	04/25/2025 09:40	04/25/2025 09:40	J

Analysis Results Comments

Bromomethane

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Iodomethane (Methyl Iodide)

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Vinyl Acetate

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

pH

Q|Missed Hold Time





FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Surrogates						
Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Bromofluorobenzene (S)	ug/L	50	50.10	100	85 - 114	J
13C2-PFDOA (S)	ng/L	10.20	6.32	62	10 - 130	J
13C3-PFHXS (S)	ng/L	20.30	17.60	86	40 - 130	J
13C9-PFNA (S)	ng/L	10.20	9.19	90	40 - 130	J
D7-NMEFOSE (S)	ng/L	203	137	67	10 - 130	J
13C5-PFPEA (S)	ng/L	40.70	36.60	90	40 - 130	J
13C2-6:2FTS (S)	ng/L	40.70	37.50	92	40 - 200	J
13C8-PFOS (S)	ng/L	20.30	19.50	96	40 - 130	J
13C2-4:2FTS (S)	ng/L	40.70	70.10	172	40 - 200	J
13C3-HFPO-DA (S)	ng/L	81.30	74.20	91	40 - 130	J
13C6-PFDA (S)	ng/L	10.20	9.33	92	40 - 130	J
D5-NETFOSAA (S)	ng/L	40.70	30.90	76	25 - 135	J
D3-NMEFOSA (S)	ng/L	20.30	13.40	66	10 - 130	J
D9-NETFOSE (S)	ng/L	203	130	64	10 - 130	J
1,2-Dichloroethane-d4 (S)	ug/L	50	48.90	98	81 - 118	J
D5-NETFOSA (S)	ng/L	20.30	12.30	60	10 - 130	J
Toluene-d8 (S)	ug/L	50	49	98	89 - 112	J
13C3-PFBS (S)	ng/L	20.30	17.20	85	40 - 135	J
Bromofluorobenzene (S)	ug/L	50	52	104	85 - 114	J
D3-NMEFOSAA (S)	ng/L	40.70	36	89	40 - 170	J
13C2-PFTEDA (S)	ng/L	10.20	7.62	75	10 - 130	J
13C8-PFOA (S)	ng/L	20.30	18.20	90	40 - 130	J
13C5-PFHXA (S)	ng/L	20.30	18.70	92	40 - 130	J
1,2-Dichloroethane-d4 (S)	ug/L	50	50	100	81 - 118	J
13C8-FOSA (S)	ng/L	20.30	16.80	83	40 - 130	J
13C4-PFBA (S)	ng/L	81.30	74.60	92	10 - 130	J
13C4-PFHPA (S)	ng/L	20.30	19.50	96	40 - 130	J
13C2-8:2FTS (S)	ng/L	40.70	26.70	66	40 - 300	J





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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Surrogates						
Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
13C7-PFUNA (S)	ng/L	10.20	8.46	83	30 - 130	J
Toluene-d8 (S)	ug/L	50	49.90	100	89 - 112	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID: J2505781006
Sample ID: PAALF-PW19-041525

Date Collected: 04/15/2025 09:25
Date Received: 04/16/2025 09:00

Matrix: Water

Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
(DOD EPA 1633)									
HFPO-DA	0.49U	ng/L	0.24	0.49	0.98	1	04/24/2025 09:00	04/25/2025 00:04	J
PFBS	0.95J	ng/L	0.39	0.78	1.6	1	04/24/2025 09:00	04/25/2025 00:04	J
PFHxS	1.7J	ng/L	0.69	0.88	1.8	1	04/24/2025 09:00	04/25/2025 00:04	J
PFNA	2.2	ng/L	0.39	0.78	1.6	1	04/24/2025 09:00	04/25/2025 00:04	J
PFOS	3.3	ng/L	0.34	0.69	1.4	1	04/24/2025 09:00	04/25/2025 00:04	J
PFOA	4.1	ng/L	0.39	0.78	1.6	1	04/24/2025 09:00	04/25/2025 00:04	J
METALS (SW-846 3010A/DoD SW-846 6010C)									
Aluminum	560	ug/L	20	40	80	1	04/25/2025 05:00	04/25/2025 23:58	J
Calcium	31000	ug/L	200	400	800	1	04/25/2025 05:00	04/25/2025 23:58	J
Iron	450J	ug/L	200	400	800	1	04/25/2025 05:00	04/25/2025 23:58	J
Magnesium	29000	ug/L	100	200	400	1	04/25/2025 05:00	04/25/2025 23:58	J
Potassium	8900	ug/L	500	1000	2000	1	04/25/2025 05:00	04/25/2025 23:58	J
Sodium	190000	ug/L	800	1600	3200	1	04/25/2025 05:00	04/25/2025 23:58	J
Total Hardness (as CaCO3)	200	mg/L	0.91	1.8	3.6	1	04/25/2025 05:00	04/25/2025 23:58	J
METALS (SW-846 3010A/DoD SW-846 6020A)									
Antimony	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 17:12	J
Arsenic	2.9	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 17:12	J
Barium	27	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 17:12	J
Beryllium	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 17:12	J
Cadmium	0.50U	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 17:12	J
Chromium	1.5J	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 17:12	J
Cobalt	1.3	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 17:12	J
Copper	28	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 17:12	J
Lead	1.1J	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 17:12	J
Manganese	26	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 17:12	J
Nickel	7.7	ug/L	1.2	2.5	5.0	1	04/30/2025 05:00	05/01/2025 17:12	J
Selenium	2.5U	ug/L	1.2	2.5	5.0	1	04/30/2025 05:00	05/01/2025 17:12	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID:	J2505781006	Date Collected:					04/15/2025 09:25	Matrix:	Water
Sample ID:	PAALF-PW19-041525	Date Received:					04/16/2025 09:00		
Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
Silver	1.0U	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 17:12	J
Thallium	0.50U	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 17:12	J
Vanadium	4.5	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 17:12	J
Zinc	12U	ug/L	6.0	12	24	1	04/30/2025 05:00	05/01/2025 17:12	J
METALS (SW-846 7470A/DoD SW-846 7470A)									
Mercury	0.031J	ug/L	0.011	0.040	0.10	1	05/01/2025 10:01	05/01/2025 15:45	J
(SM 2130 B-2011)									
Turbidity	8.5	NTU	0.10	0.20	0.40	1	04/16/2025 15:56	04/16/2025 15:56	J
VOLATILES (SW-846 5030B/DoD SW-846 8260C (SIM))									
1,2-Dibromo-3-Chloropropane	0.10U	ug/L	0.050	0.10	0.20	1	04/23/2025 20:32	04/24/2025 01:23	J
Ethylene Dibromide (EDB)	0.050U	ug/L	0.019	0.050	0.10	1	04/23/2025 20:32	04/24/2025 01:23	J
VOLATILES (SW-846 5030B/DoD SW-846 8260C)									
1,1,1,2-Tetrachloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
1,1,1-Trichloroethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:23	J
1,1,2,2-Tetrachloroethane	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
1,1,2-Trichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
1,1-Dichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
1,1-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:23	J
1,2,3-Trichloropropane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
1,2-Dichlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:23	J
1,2-Dichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
1,2-Dichloropropane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
1,4-Dichlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:23	J
2-Butanone (MEK)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
2-Hexanone	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:23	J
4-Methyl-2-pentanone (MIBK)	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Acetone	0.76J	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Acrylonitrile	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:23	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID: J2505781006
Sample ID: PAALF-PW19-041525

Date Collected: 04/15/2025 09:25
Date Received: 04/16/2025 09:00

Matrix: Water

Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
Benzene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Bromochloromethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Bromodichloromethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Bromoform	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Bromomethane	1.0U	ug/L	0.50	1.0	2.0	1	04/26/2025 11:23	04/26/2025 14:38	J
Carbon Disulfide	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Carbon Tetrachloride	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Chlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Chloroethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Chloroform	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Chloromethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Dibromochloromethane	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Dibromomethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Ethylbenzene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Iodomethane (Methyl Iodide)	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Methyl tert-butyl Ether (MTBE)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Methylene Chloride	2.5U	ug/L	1.2	2.5	5.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Styrene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Tetrachloroethylene (PCE)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Toluene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Trichloroethene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Trichlorofluoromethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Vinyl Acetate	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Vinyl Chloride	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Xylene-mp	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:23	J
Xylene-o	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
cis-1,2-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:23	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID:	J2505781006	Date Collected:	04/15/2025 09:25				Matrix:	Water	
Sample ID:	PAALF-PW19-041525	Date Received:	04/16/2025 09:00						
Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
cis-1,3-Dichloropropene	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
trans-1,2-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:23	J
trans-1,3-Dichloropropylene	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 01:23	J
trans-1,4-Dichloro-2-butene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:23	J
WET CHEMISTRY (DoD EPA 300.0)									
Chloride	220000	ug/L	2000	4000	8000	1	04/16/2025 20:36	04/16/2025 20:36	J
Nitrate (as N)	220J	ug/L	200	400	800	1	04/16/2025 20:36	04/16/2025 20:36	J
Nitrite (as N)	400U	ug/L	200	400	800	1	04/16/2025 20:36	04/16/2025 20:36	J
Sulfate	32000	ug/L	2000	4000	8000	1	04/16/2025 20:36	04/16/2025 20:36	J
WET CHEMISTRY (DoD EPA 310.1)									
Alkalinity, Total	250	mg/L	5.0	5.0	5.0	1	04/22/2025 17:16	04/22/2025 17:16	J
WET CHEMISTRY (DoD EPA 410.4)									
Chemical Oxygen Demand	20J	mg/L	8.0	16	32	1.6	04/29/2025 11:01	04/29/2025 11:01	J
WET CHEMISTRY (DoD SM 2540 C-2015)									
Total Dissolved Solids	630	mg/L	10	10	10	1	04/21/2025 17:08	04/21/2025 17:08	J
WET CHEMISTRY (SM 2510 B-2011)									
Conductivity	1200	umhos/cm @ 25.0°C	2.0	4.0	8.0	1	05/05/2025 14:16	05/05/2025 14:16	J
WET CHEMISTRY (SM 4500 H+B-2011)									
pH	7.9	SU	1.0	1.0	1.0	1	04/25/2025 09:40	04/25/2025 09:40	J





FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Analysis Results Comments

13C2-4:2FTS

Q|One or more of the quality control criteria failed (e.g. LCS recovery, surrogate spike recovery, or CCV recovery).

Bromomethane

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Iodomethane (Methyl Iodide)

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Vinyl Acetate

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

pH

Q|Missed Hold Time

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
13C2-PFTEDA (S)	ng/L	9.79	5.67	58	10 - 130	J
13C4-PFBA (S)	ng/L	78.30	59.90	76	10 - 130	J
D3-NMEFOSA (S)	ng/L	19.60	13.10	67	10 - 130	J
13C3-PFHXS (S)	ng/L	19.60	16.80	86	40 - 130	J
13C5-PFHXA (S)	ng/L	19.60	17.40	89	40 - 130	J
13C3-HFPO-DA (S)	ng/L	78.30	66.30	85	40 - 130	J
D7-NMEFOSE (S)	ng/L	196	123	63	10 - 130	J
13C7-PFUNA (S)	ng/L	9.79	6.81	70	30 - 130	J
13C8-FOSA (S)	ng/L	19.60	15.60	80	40 - 130	J
1,2-Dichloroethane-d4 (S)	ug/L	50	46.40	93	81 - 118	J
13C8-PFOS (S)	ng/L	19.60	16.80	86	40 - 130	J
13C6-PFDA (S)	ng/L	9.79	8.69	89	40 - 130	J
13C2-6:2FTS (S)	ng/L	39.10	41	105	40 - 200	J
D3-NMEFOSAA (S)	ng/L	39.10	31.10	80	40 - 170	J
Bromofluorobenzene (S)	ug/L	50	53	106	85 - 114	J
13C8-PFOA (S)	ng/L	19.60	16	82	40 - 130	J
Toluene-d8 (S)	ug/L	50	49	98	89 - 112	J
D9-NETFOSE (S)	ng/L	196	114	58	10 - 130	J





FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
13C5-PFPEA (S)	ng/L	39.10	34.80	89	40 - 130	J
13C2-8:2FTS (S)	ng/L	39.10	30	77	40 - 300	J
13C2-4:2FTS (S)	ng/L	39.10	83	212	40 - 200	J
13C2-PFDOA (S)	ng/L	9.79	6.24	64	10 - 130	J
13C3-PFBS (S)	ng/L	19.60	17.60	90	40 - 135	J
13C9-PFNA (S)	ng/L	9.79	8.74	89	40 - 130	J
Bromofluorobenzene (S)	ug/L	50	51.60	103	85 - 114	J
Toluene-d8 (S)	ug/L	50	49.90	100	89 - 112	J
1,2-Dichloroethane-d4 (S)	ug/L	50	48	96	81 - 118	J
13C4-PFHPA (S)	ng/L	19.60	17.90	92	40 - 130	J
D5-NETFOSAA (S)	ng/L	39.10	31.40	80	25 - 135	J
D5-NETFOSA (S)	ng/L	19.60	11.80	60	10 - 130	J

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Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID: J2505781007	Date Collected: 04/15/2025 09:25					Matrix: Water			
Sample ID: PAALF-PW19-041525fb	Date Received: 04/16/2025 09:00								
Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
(DOD EPA 1633)									
HFPO-DA	0.47U	ng/L	0.23	0.47	0.94	1	04/24/2025 09:00	04/26/2025 00:31	J
PFBS	0.75U	ng/L	0.37	0.75	1.5	1	04/24/2025 09:00	04/26/2025 00:31	J
PFHxS	0.84U	ng/L	0.65	0.84	1.7	1	04/24/2025 09:00	04/26/2025 00:31	J
PFNA	0.75U	ng/L	0.37	0.75	1.5	1	04/24/2025 09:00	04/26/2025 00:31	J
PFOS	0.65U	ng/L	0.33	0.65	1.3	1	04/24/2025 09:00	04/26/2025 00:31	J
PFOA	0.75U	ng/L	0.37	0.75	1.5	1	04/24/2025 09:00	04/26/2025 00:31	J

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
D3-NMEFOSAA (S)	ng/L	37.40	27.80	74	40 - 170	J
13C3-HFPO-DA (S)	ng/L	74.80	62.40	83	40 - 130	J
13C6-PFDA (S)	ng/L	9.35	9.23	99	40 - 130	J
D9-NETFOSE (S)	ng/L	187	119	64	10 - 130	J
13C3-PFHXS (S)	ng/L	18.70	16.70	89	40 - 130	J
13C5-PFPEA (S)	ng/L	37.40	32.80	88	40 - 130	J
13C7-PFUNA (S)	ng/L	9.35	7.99	85	30 - 130	J
D3-NMEFOSA (S)	ng/L	18.70	12	64	10 - 130	J
13C2-PFTEDA (S)	ng/L	9.35	5.35	57	10 - 130	J
13C8-PFOS (S)	ng/L	18.70	16.60	89	40 - 130	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
13C9-PFNA (S)	ng/L	9.35	8.79	94	40 - 130	J
D5-NETFOSAA (S)	ng/L	37.40	28.60	77	25 - 135	J
13C2-8:2FTS (S)	ng/L	37.40	39.50	106	40 - 300	J
13C3-PFBS (S)	ng/L	18.70	16.10	86	40 - 135	J
D5-NETFOSA (S)	ng/L	18.70	10.40	56	10 - 130	J
13C5-PFHXA (S)	ng/L	18.70	16	86	40 - 130	J
13C8-FOSA (S)	ng/L	18.70	17.10	91	40 - 130	J
13C4-PFHPA (S)	ng/L	18.70	17.70	95	40 - 130	J
D7-NMEFOSE (S)	ng/L	187	129	69	10 - 130	J
13C8-PFOA (S)	ng/L	18.70	16.80	90	40 - 130	J
13C2-6:2FTS (S)	ng/L	37.40	45.70	122	40 - 200	J
13C2-PFDOA (S)	ng/L	9.35	5.47	58	10 - 130	J
13C4-PFBA (S)	ng/L	74.80	68.20	91	10 - 130	J
13C2-4:2FTS (S)	ng/L	37.40	41.70	112	40 - 200	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID: J2505781008
Sample ID: PAALF-PW20-041525

Date Collected: 04/15/2025 12:40
Date Received: 04/16/2025 09:00

Matrix: Water

Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
(DOD EPA 1633)									
HFPO-DA	0.45U	ng/L	0.22	0.45	0.90	1	04/24/2025 09:00	04/26/2025 01:02	J
PFBS	2.8	ng/L	0.36	0.72	1.4	1	04/24/2025 09:00	04/26/2025 01:02	J
PFHxS	9.6	ng/L	0.63	0.81	1.6	1	04/24/2025 09:00	04/26/2025 01:02	J
PFNA	3.3	ng/L	0.36	0.72	1.4	1	04/24/2025 09:00	04/26/2025 01:02	J
PFOS	29	ng/L	0.31	0.63	1.3	1	04/24/2025 09:00	04/26/2025 01:02	J
PFOA	17	ng/L	0.36	0.72	1.4	1	04/24/2025 09:00	04/26/2025 01:02	J
METALS (SW-846 3010A/DoD SW-846 6010C)									
Aluminum	40U	ug/L	20	40	80	1	04/25/2025 05:00	04/26/2025 00:03	J
Calcium	5200	ug/L	200	400	800	1	04/25/2025 05:00	04/26/2025 00:03	J
Iron	400U	ug/L	200	400	800	1	04/25/2025 05:00	04/26/2025 00:03	J
Magnesium	3300	ug/L	100	200	400	1	04/25/2025 05:00	04/26/2025 00:03	J
Potassium	1400J	ug/L	500	1000	2000	1	04/25/2025 05:00	04/26/2025 00:03	J
Sodium	29000	ug/L	800	1600	3200	1	04/25/2025 05:00	04/26/2025 00:03	J
Total Hardness (as CaCO3)	26	mg/L	0.91	1.8	3.6	1	04/25/2025 05:00	04/26/2025 00:03	J
METALS (SW-846 3010A/DoD SW-846 6020A)									
Antimony	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 17:18	J
Arsenic	0.50U	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 17:18	J
Barium	39	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 17:18	J
Beryllium	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 17:18	J
Cadmium	0.50U	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 17:18	J
Chromium	0.54J	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 17:18	J
Cobalt	0.44J	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 17:18	J
Copper	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 17:18	J
Lead	1.0U	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 17:18	J
Manganese	22	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 17:18	J
Nickel	1.5J	ug/L	1.2	2.5	5.0	1	04/30/2025 05:00	05/01/2025 17:18	J
Selenium	2.5U	ug/L	1.2	2.5	5.0	1	04/30/2025 05:00	05/01/2025 17:18	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID:	J2505781008	Date Collected:					04/15/2025 12:40			Matrix:	Water
Sample ID:	PAALF-PW20-041525	Date Received:					04/16/2025 09:00				
Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab		
Silver	1.0U	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 17:18	J		
Thallium	0.50U	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 17:18	J		
Vanadium	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 17:18	J		
Zinc	12U	ug/L	6.0	12	24	1	04/30/2025 05:00	05/01/2025 17:18	J		
METALS (SW-846 7470A/DoD SW-846 7470A)											
Mercury	0.021J	ug/L	0.011	0.040	0.10	1	05/01/2025 10:01	05/01/2025 15:49	J		
(SM 2130 B-2011)											
Turbidity	0.61	NTU	0.10	0.20	0.40	1	04/16/2025 15:56	04/16/2025 15:56	J		
VOLATILES (SW-846 5030B/DoD SW-846 8260C (SIM))											
1,2-Dibromo-3-Chloropropane	0.10U	ug/L	0.050	0.10	0.20	1	04/23/2025 20:32	04/24/2025 01:47	J		
Ethylene Dibromide (EDB)	0.050U	ug/L	0.019	0.050	0.10	1	04/23/2025 20:32	04/24/2025 01:47	J		
VOLATILES (SW-846 5030B/DoD SW-846 8260C)											
1,1,1,2-Tetrachloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J		
1,1,1-Trichloroethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:47	J		
1,1,2,2-Tetrachloroethane	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J		
1,1,2-Trichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J		
1,1-Dichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J		
1,1-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:47	J		
1,2,3-Trichloropropane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J		
1,2-Dichlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:47	J		
1,2-Dichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J		
1,2-Dichloropropane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J		
1,4-Dichlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:47	J		
2-Butanone (MEK)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J		
2-Hexanone	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:47	J		
4-Methyl-2-pentanone (MIBK)	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:47	J		
Acetone	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:47	J		
Acrylonitrile	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:47	J		

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID: J2505781008
Sample ID: PAALF-PW20-041525

Date Collected: 04/15/2025 12:40
Date Received: 04/16/2025 09:00

Matrix: Water

Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
Benzene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Bromochloromethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Bromodichloromethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Bromoform	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Bromomethane	1.0U	ug/L	0.50	1.0	2.0	1	04/26/2025 11:23	04/26/2025 15:02	J
Carbon Disulfide	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Carbon Tetrachloride	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Chlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Chloroethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Chloroform	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Chloromethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Dibromochloromethane	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Dibromomethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Ethylbenzene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Iodomethane (Methyl Iodide)	1.0U	ug/L	0.50	1.0	2.0	1	04/26/2025 11:23	04/26/2025 15:02	J
Methyl tert-butyl Ether (MTBE)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Methylene Chloride	2.5U	ug/L	1.2	2.5	5.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Styrene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Tetrachloroethylene (PCE)	0.57J	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Toluene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Trichloroethene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Trichlorofluoromethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Vinyl Acetate	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Vinyl Chloride	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Xylene-mp	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:47	J
Xylene-o	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J
cis-1,2-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:47	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID:	J2505781008	Date Collected:	04/15/2025 12:40				Matrix:	Water	
Sample ID:	PAALF-PW20-041525	Date Received:	04/16/2025 09:00						
Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
cis-1,3-Dichloropropene	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J
trans-1,2-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:47	J
trans-1,3-Dichloropropylene	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 01:47	J
trans-1,4-Dichloro-2-butene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 01:47	J
WET CHEMISTRY (DoD EPA 300.0)									
Chloride	27000	ug/L	2000	4000	8000	1	04/16/2025 21:50	04/16/2025 21:50	J
Nitrate (as N)	340J	ug/L	200	400	800	1	04/16/2025 21:50	04/16/2025 21:50	J
Nitrite (as N)	400U	ug/L	200	400	800	1	04/16/2025 21:50	04/16/2025 21:50	J
Sulfate	29000	ug/L	2000	4000	8000	1	04/16/2025 21:50	04/16/2025 21:50	J
WET CHEMISTRY (DoD EPA 310.1)									
Alkalinity, Total	22	mg/L	5.0	5.0	5.0	1	04/22/2025 17:16	04/22/2025 17:16	J
WET CHEMISTRY (DoD EPA 410.4)									
Chemical Oxygen Demand	21J	mg/L	6.2	12	25	1.2 5	04/29/2025 11:01	04/29/2025 11:01	J
WET CHEMISTRY (DoD SM 2540 C-2015)									
Total Dissolved Solids	120	mg/L	10	10	10	1	04/21/2025 17:08	04/21/2025 17:08	J
WET CHEMISTRY (SM 2510 B-2011)									
Conductivity	210	umhos/cm @ 25.0°C	2.0	4.0	8.0	1	05/05/2025 14:16	05/05/2025 14:16	J
WET CHEMISTRY (SM 4500 H+B-2011)									
pH	6.4	SU	1.0	1.0	1.0	1	04/25/2025 09:40	04/25/2025 09:40	J





FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Analysis Results Comments

13C2-4:2FTS

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Bromomethane

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Iodomethane (Methyl Iodide)

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Vinyl Acetate

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

pH

Q|Missed Hold Time

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
13C2-PFTEDA (S)	ng/L	8.95	6.02	67	10 - 130	J
13C2-4:2FTS (S)	ng/L	35.80	75.70	211	40 - 200	J
13C8-PFOA (S)	ng/L	17.90	17.20	96	40 - 130	J
Bromofluorobenzene (S)	ug/L	50	50.50	101	85 - 114	J
13C4-PFBA (S)	ng/L	71.60	66.50	93	10 - 130	J
13C2-PFDOA (S)	ng/L	8.95	5.96	67	10 - 130	J
13C3-PFBS (S)	ng/L	17.90	15.30	86	40 - 135	J
13C6-PFDA (S)	ng/L	8.95	8.91	100	40 - 130	J
13C5-PFPEA (S)	ng/L	35.80	31.80	89	40 - 130	J
D3-NMEFOSA (S)	ng/L	17.90	13.20	74	10 - 130	J
D7-NMEFOSE (S)	ng/L	179	112	62	10 - 130	J
D5-NETFOSAA (S)	ng/L	35.80	27.50	77	25 - 135	J
D3-NMEFOSAA (S)	ng/L	35.80	25.60	71	40 - 170	J
13C8-PFOS (S)	ng/L	17.90	14.30	80	40 - 130	J
1,2-Dichloroethane-d4 (S)	ug/L	50	48.20	96	81 - 118	J
13C7-PFUNA (S)	ng/L	8.95	7.85	88	30 - 130	J
Bromofluorobenzene (S)	ug/L	50	52	104	85 - 114	J
13C5-PFHXA (S)	ng/L	17.90	16.10	90	40 - 130	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Surrogates						
Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
13C3-HFPO-DA (S)	ng/L	71.60	59.90	84	40 - 130	J
D5-NETFOSA (S)	ng/L	17.90	11.80	66	10 - 130	J
Toluene-d8 (S)	ug/L	50	49	99	89 - 112	J
D9-NETFOSE (S)	ng/L	179	85.70	48	10 - 130	J
1,2-Dichloroethane-d4 (S)	ug/L	50	50	100	81 - 118	J
13C3-PFHXS (S)	ng/L	17.90	15.40	86	40 - 130	J
13C2-8:2FTS (S)	ng/L	35.80	33.80	94	40 - 300	J
13C9-PFNA (S)	ng/L	8.95	9.02	101	40 - 130	J
Toluene-d8 (S)	ug/L	50	50.10	100	89 - 112	J
13C2-6:2FTS (S)	ng/L	35.80	39.90	111	40 - 200	J
13C4-PFHPA (S)	ng/L	17.90	17.40	97	40 - 130	J
13C8-FOSA (S)	ng/L	17.90	16.30	91	40 - 130	J





FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID: J2505781009 Date Collected: 04/15/2025 00:00 Matrix: Water
Sample ID: PAALF-PW20-041525dup Date Received: 04/16/2025 09:00

Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
(DOD EPA 1633)									
HFPO-DA	0.45U	ng/L	0.23	0.45	0.91	1	04/24/2025 09:00	04/26/2025 01:33	J
PFBS	2.9	ng/L	0.36	0.72	1.4	1	04/24/2025 09:00	04/26/2025 01:33	J
PFHxS	9.4	ng/L	0.63	0.82	1.6	1	04/24/2025 09:00	04/26/2025 01:33	J
PFNA	3.6	ng/L	0.36	0.72	1.4	1	04/24/2025 09:00	04/26/2025 01:33	J
PFOS	28	ng/L	0.32	0.63	1.3	1	04/24/2025 09:00	04/26/2025 01:33	J
PFOA	18	ng/L	0.36	0.72	1.4	1	04/24/2025 09:00	04/26/2025 01:33	J
METALS (SW-846 3010A/DoD SW-846 6010C)									
Aluminum	40U	ug/L	20	40	80	1	04/25/2025 05:00	04/26/2025 00:16	J
Calcium	5300	ug/L	200	400	800	1	04/25/2025 05:00	04/26/2025 00:16	J
Iron	400U	ug/L	200	400	800	1	04/25/2025 05:00	04/26/2025 00:16	J
Magnesium	3300	ug/L	100	200	400	1	04/25/2025 05:00	04/26/2025 00:16	J
Potassium	1400J	ug/L	500	1000	2000	1	04/25/2025 05:00	04/26/2025 00:16	J
Sodium	29000	ug/L	800	1600	3200	1	04/25/2025 05:00	04/26/2025 00:16	J
Total Hardness (as CaCO3)	27	mg/L	0.91	1.8	3.6	1	04/25/2025 05:00	04/26/2025 00:16	J
METALS (SW-846 3010A/DoD SW-846 6020A)									
Antimony	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 17:24	J
Arsenic	0.50U	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 17:24	J
Barium	37	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 17:24	J
Beryllium	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 17:24	J
Cadmium	0.50U	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 17:24	J
Chromium	1.0U	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 17:24	J
Cobalt	0.44J	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 17:24	J
Copper	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 17:24	J
Lead	1.0U	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 17:24	J
Manganese	20	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 17:24	J
Nickel	1.6J	ug/L	1.2	2.5	5.0	1	04/30/2025 05:00	05/01/2025 17:24	J
Selenium	2.5U	ug/L	1.2	2.5	5.0	1	04/30/2025 05:00	05/01/2025 17:24	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID: J2505781009 **Date Collected:** 04/15/2025 00:00 **Matrix:** Water
Sample ID: PAALF-PW20-041525dup **Date Received:** 04/16/2025 09:00

Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
Silver	1.0U	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 17:24	J
Thallium	0.50U	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 17:24	J
Vanadium	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 17:24	J
Zinc	12U	ug/L	6.0	12	24	1	04/30/2025 05:00	05/01/2025 17:24	J
METALS (SW-846 7470A/DoD SW-846 7470A)									
Mercury	0.040U	ug/L	0.011	0.040	0.10	1	05/01/2025 10:01	05/01/2025 15:53	J
(SM 2130 B-2011)									
Turbidity	0.57	NTU	0.10	0.20	0.40	1	04/16/2025 15:56	04/16/2025 15:56	J
VOLATILES (SW-846 5030B/DoD SW-846 8260C (SIM))									
1,2-Dibromo-3-Chloropropane	0.10U	ug/L	0.050	0.10	0.20	1	04/23/2025 20:32	04/24/2025 02:12	J
Ethylene Dibromide (EDB)	0.050U	ug/L	0.019	0.050	0.10	1	04/23/2025 20:32	04/24/2025 02:12	J
VOLATILES (SW-846 5030B/DoD SW-846 8260C)									
1,1,1,2-Tetrachloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
1,1,1-Trichloroethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:12	J
1,1,2,2-Tetrachloroethane	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
1,1,2-Trichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
1,1-Dichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
1,1-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:12	J
1,2,3-Trichloropropane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
1,2-Dichlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:12	J
1,2-Dichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
1,2-Dichloropropane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
1,4-Dichlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:12	J
2-Butanone (MEK)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
2-Hexanone	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:12	J
4-Methyl-2-pentanone (MIBK)	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Acetone	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Acrylonitrile	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:12	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID: J2505781009 Date Collected: 04/15/2025 00:00 Matrix: Water
Sample ID: PAALF-PW20-041525dup Date Received: 04/16/2025 09:00

Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
Benzene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Bromochloromethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Bromodichloromethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Bromoform	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Bromomethane	1.0U	ug/L	0.50	1.0	2.0	1	04/26/2025 11:23	04/26/2025 15:26	J
Carbon Disulfide	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Carbon Tetrachloride	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Chlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Chloroethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Chloroform	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Chloromethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Dibromochloromethane	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Dibromomethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Ethylbenzene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Iodomethane (Methyl Iodide)	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Methyl tert-butyl Ether (MTBE)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Methylene Chloride	2.5U	ug/L	1.2	2.5	5.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Styrene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Tetrachloroethylene (PCE)	0.61J	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Toluene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Trichloroethene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Trichlorofluoromethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Vinyl Acetate	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Vinyl Chloride	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Xylene-mp	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:12	J
Xylene-o	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
cis-1,2-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:12	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID:	J2505781009	Date Collected:		04/15/2025 00:00			Matrix:	Water	
Sample ID:	PAALF-PW20-041525dup	Date Received:		04/16/2025 09:00					
Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
cis-1,3-Dichloropropene	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
trans-1,2-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:12	J
trans-1,3-Dichloropropylene	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 02:12	J
trans-1,4-Dichloro-2-butene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:12	J
WET CHEMISTRY (DoD EPA 300.0)									
Chloride	27000	ug/L	2000	4000	8000	1	04/16/2025 20:17	04/16/2025 20:17	J
Nitrate (as N)	350J	ug/L	200	400	800	1	04/16/2025 20:17	04/16/2025 20:17	J
Nitrite (as N)	400U	ug/L	200	400	800	1	04/16/2025 20:17	04/16/2025 20:17	J
Sulfate	28000	ug/L	2000	4000	8000	1	04/16/2025 20:17	04/16/2025 20:17	J
WET CHEMISTRY (DoD EPA 310.1)									
Alkalinity, Total	22	mg/L	5.0	5.0	5.0	1	04/22/2025 17:16	04/22/2025 17:16	J
WET CHEMISTRY (DoD EPA 410.4)									
Chemical Oxygen Demand	58	mg/L	6.2	12	25	1.2 5	04/29/2025 11:01	04/29/2025 11:01	J
WET CHEMISTRY (DoD SM 2540 C-2015)									
Total Dissolved Solids	110	mg/L	10	10	10	1	04/21/2025 17:08	04/21/2025 17:08	J
WET CHEMISTRY (SM 2510 B-2011)									
Conductivity	210	umhos/cm @ 25.0°C	2.0	4.0	8.0	1	05/05/2025 14:16	05/05/2025 14:16	J
WET CHEMISTRY (SM 4500 H+B-2011)									
pH	6.5	SU	1.0	1.0	1.0	1	04/25/2025 09:40	04/25/2025 09:40	J





FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Analysis Results Comments

13C2-4:2FTS

Q|One or more of the quality control criteria failed (e.g. LCS recovery, surrogate spike recovery, or CCV recovery).

Bromomethane

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Iodomethane (Methyl Iodide)

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Vinyl Acetate

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

pH

Q|Missed Hold Time

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
13C7-PFUNA (S)	ng/L	9.06	8.05	89	30 - 130	J
13C4-PFBA (S)	ng/L	72.50	67.70	93	10 - 130	J
13C5-PFHXA (S)	ng/L	18.10	16.70	92	40 - 130	J
13C8-FOSA (S)	ng/L	18.10	17.20	95	40 - 130	J
D3-NMEFOSAA (S)	ng/L	36.20	29.70	82	40 - 170	J
13C2-6:2FTS (S)	ng/L	36.20	37.40	103	40 - 200	J
Toluene-d8 (S)	ug/L	50	49.60	99	89 - 112	J
Bromofluorobenzene (S)	ug/L	50	51	103	85 - 114	J
1,2-Dichloroethane-d4 (S)	ug/L	50	47.80	96	81 - 118	J
13C5-PFPEA (S)	ng/L	36.20	33	91	40 - 130	J
13C2-4:2FTS (S)	ng/L	36.20	76.40	211	40 - 200	J
13C2-PFDOA (S)	ng/L	9.06	5.68	63	10 - 130	J
13C9-PFNA (S)	ng/L	9.06	8.14	90	40 - 130	J
13C2-8:2FTS (S)	ng/L	36.20	31.10	86	40 - 300	J
Toluene-d8 (S)	ug/L	50	49	97	89 - 112	J
13C3-PFHXS (S)	ng/L	18.10	16.30	90	40 - 130	J
13C8-PFOS (S)	ng/L	18.10	17.10	94	40 - 130	J
1,2-Dichloroethane-d4 (S)	ug/L	50	49	97	81 - 118	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
13C6-PFDA (S)	ng/L	9.06	8.88	98	40 - 130	J
D5-NETFOSAA (S)	ng/L	36.20	26.80	74	25 - 135	J
13C2-PFTEDA (S)	ng/L	9.06	5.58	62	10 - 130	J
D5-NETFOSA (S)	ng/L	18.10	10.40	57	10 - 130	J
13C3-HFPO-DA (S)	ng/L	72.50	62.70	87	40 - 130	J
D3-NMEFOSA (S)	ng/L	18.10	12.20	67	10 - 130	J
D9-NETFOSE (S)	ng/L	181	119	66	10 - 130	J
D7-NMEFOSE (S)	ng/L	181	131	72	10 - 130	J
13C3-PFBS (S)	ng/L	18.10	16.10	89	40 - 135	J
Bromofluorobenzene (S)	ug/L	50	49.30	99	85 - 114	J
13C8-PFOA (S)	ng/L	18.10	16.60	91	40 - 130	J
13C4-PFHPA (S)	ng/L	18.10	17.80	98	40 - 130	J

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Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID: J2505781010 Date Collected: 04/15/2025 13:55 Matrix: Water
Sample ID: PAALF-PW17-041525rb Date Received: 04/16/2025 09:00

Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
(DOD EPA 1633)									
HFPO-DA	0.56U	ng/L	0.28	0.56	1.1	1	04/24/2025 09:00	04/26/2025 02:04	J
PFBS	0.90U	ng/L	0.45	0.90	1.8	1	04/24/2025 09:00	04/26/2025 02:04	J
PFHxS	1.0U	ng/L	0.79	1.0	2.0	1	04/24/2025 09:00	04/26/2025 02:04	J
PFNA	0.90U	ng/L	0.45	0.90	1.8	1	04/24/2025 09:00	04/26/2025 02:04	J
PFOS	0.79U	ng/L	0.40	0.79	1.6	1	04/24/2025 09:00	04/26/2025 02:04	J
PFOA	0.90U	ng/L	0.45	0.90	1.8	1	04/24/2025 09:00	04/26/2025 02:04	J
METALS (SW-846 3010A/DoD SW-846 6010C)									
Aluminum	40U	ug/L	20	40	80	1	04/25/2025 05:00	04/26/2025 00:21	J
Calcium	400U	ug/L	200	400	800	1	04/25/2025 05:00	04/26/2025 00:21	J
Iron	400U	ug/L	200	400	800	1	04/25/2025 05:00	04/26/2025 00:21	J
Magnesium	200U	ug/L	100	200	400	1	04/25/2025 05:00	04/26/2025 00:21	J
Potassium	1000U	ug/L	500	1000	2000	1	04/25/2025 05:00	04/26/2025 00:21	J
Sodium	1600U	ug/L	800	1600	3200	1	04/25/2025 05:00	04/26/2025 00:21	J
Total Hardness (as CaCO3)	1.8U	mg/L	0.91	1.8	3.6	1	04/25/2025 05:00	04/26/2025 00:21	J
METALS (SW-846 3010A/DoD SW-846 6020A)									
Antimony	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 17:29	J
Arsenic	0.50U	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 17:29	J
Barium	0.59J	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 17:29	J
Beryllium	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 17:29	J
Cadmium	0.50U	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 17:29	J
Chromium	1.0U	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 17:29	J
Cobalt	0.50U	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 17:29	J
Copper	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 17:29	J
Lead	1.0U	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 17:29	J
Manganese	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 17:29	J
Nickel	2.5U	ug/L	1.2	2.5	5.0	1	04/30/2025 05:00	05/01/2025 17:29	J
Selenium	2.5U	ug/L	1.2	2.5	5.0	1	04/30/2025 05:00	05/01/2025 17:29	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID:	J2505781010	Date Collected:		04/15/2025 13:55			Matrix:			Water
Sample ID:	PAALF-PW17-041525rb	Date Received:		04/16/2025 09:00						
Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab	
Silver	1.0U	ug/L	0.50	1.0	2.0	1	04/30/2025 05:00	05/01/2025 17:29	J	
Thallium	0.50U	ug/L	0.25	0.50	1.0	1	04/30/2025 05:00	05/01/2025 17:29	J	
Vanadium	2.0U	ug/L	1.0	2.0	4.0	1	04/30/2025 05:00	05/01/2025 17:29	J	
Zinc	12U	ug/L	6.0	12	24	1	04/30/2025 05:00	05/01/2025 17:29	J	
METALS (SW-846 7470A/DoD SW-846 7470A)										
Mercury	0.015J	ug/L	0.011	0.040	0.10	1	05/01/2025 10:01	05/01/2025 15:25	J	
(SM 2130 B-2011)										
Turbidity	0.29J	NTU	0.10	0.20	0.40	1	04/16/2025 15:56	04/16/2025 15:56	J	
VOLATILES (SW-846 5030B/DoD SW-846 8260C (SIM))										
1,2-Dibromo-3-Chloropropane	0.10U	ug/L	0.050	0.10	0.20	1	04/23/2025 20:32	04/24/2025 02:36	J	
Ethylene Dibromide (EDB)	0.050U	ug/L	0.019	0.050	0.10	1	04/23/2025 20:32	04/24/2025 02:36	J	
VOLATILES (SW-846 5030B/DoD SW-846 8260C)										
1,1,1,2-Tetrachloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J	
1,1,1-Trichloroethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:36	J	
1,1,2,2-Tetrachloroethane	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J	
1,1,2-Trichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J	
1,1-Dichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J	
1,1-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:36	J	
1,2,3-Trichloropropane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J	
1,2-Dichlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:36	J	
1,2-Dichloroethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J	
1,2-Dichloropropane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J	
1,4-Dichlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:36	J	
2-Butanone (MEK)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J	
2-Hexanone	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:36	J	
4-Methyl-2-pentanone (MIBK)	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:36	J	
Acetone	17	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:36	J	
Acrylonitrile	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:36	J	

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID: J2505781010 Date Collected: 04/15/2025 13:55 Matrix: Water
Sample ID: PAALF-PW17-041525rb Date Received: 04/16/2025 09:00

Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
Benzene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Bromochloromethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Bromodichloromethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Bromoform	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Bromomethane	1.0U	ug/L	0.50	1.0	2.0	1	04/26/2025 11:23	04/26/2025 15:50	J
Carbon Disulfide	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Carbon Tetrachloride	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Chlorobenzene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Chloroethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Chloroform	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Chloromethane	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Dibromochloromethane	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Dibromomethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Ethylbenzene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Iodomethane (Methyl Iodide)	1.0U	ug/L	0.50	1.0	2.0	1	04/26/2025 11:23	04/26/2025 15:50	J
Methyl tert-butyl Ether (MTBE)	0.57J	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Methylene Chloride	8.4	ug/L	1.2	2.5	5.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Styrene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Tetrachloroethylene (PCE)	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Toluene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Trichloroethene	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Trichlorofluoromethane	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Vinyl Acetate	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Vinyl Chloride	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Xylene-mp	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:36	J
Xylene-o	0.50U	ug/L	0.25	0.50	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J
cis-1,2-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:36	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Lab ID:	J2505781010	Date Collected:	04/15/2025 13:55				Matrix:	Water	
Sample ID:	PAALF-PW17-041525rb	Date Received:	04/16/2025 09:00						
Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
cis-1,3-Dichloropropene	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J
trans-1,2-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:36	J
trans-1,3-Dichloropropylene	0.40U	ug/L	0.20	0.40	1.0	1	04/23/2025 20:32	04/24/2025 02:36	J
trans-1,4-Dichloro-2-butene	1.0U	ug/L	0.50	1.0	2.0	1	04/23/2025 20:32	04/24/2025 02:36	J
WET CHEMISTRY (DoD EPA 300.0)									
Chloride	4000U	ug/L	2000	4000	8000	1	04/17/2025 00:37	04/17/2025 00:37	J
Nitrate (as N)	400U	ug/L	200	400	800	1	04/17/2025 00:37	04/17/2025 00:37	J
Nitrite (as N)	400U	ug/L	200	400	800	1	04/17/2025 00:37	04/17/2025 00:37	J
Sulfate	4000U	ug/L	2000	4000	8000	1	04/17/2025 00:37	04/17/2025 00:37	J
WET CHEMISTRY (DoD EPA 310.1)									
Alkalinity, Total	5.0U	mg/L	5.0	5.0	5.0	1	04/22/2025 17:16	04/22/2025 17:16	J
WET CHEMISTRY (DoD EPA 410.4)									
Chemical Oxygen Demand	26	mg/L	6.2	12	25	1.2 5	04/29/2025 11:01	04/29/2025 11:01	J
WET CHEMISTRY (DoD SM 2540 C-2015)									
Total Dissolved Solids	14	mg/L	10	10	10	1	04/21/2025 17:08	04/21/2025 17:08	J
WET CHEMISTRY (SM 2510 B-2011)									
Conductivity	4.6J	umhos/cm @ 25.0°C	2.0	4.0	8.0	1	05/05/2025 14:16	05/05/2025 14:16	J
WET CHEMISTRY (SM 4500 H+B-2011)									
pH	6.0	SU	1.0	1.0	1.0	1	04/25/2025 09:40	04/25/2025 09:40	J





FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Analysis Results Comments

Bromomethane

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Iodomethane (Methyl Iodide)

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Vinyl Acetate

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

pH

Q|Missed Hold Time

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
1,2-Dichloroethane-d4 (S)	ug/L	50	47.60	95	81 - 118	J
D9-NETFOSE (S)	ng/L	226	153	68	10 - 130	J
13C9-PFNA (S)	ng/L	11.30	10.80	96	40 - 130	J
D5-NETFOSAA (S)	ng/L	45.20	37.30	83	25 - 135	J
13C8-PFOA (S)	ng/L	22.60	20.50	91	40 - 130	J
13C2-8:2FTS (S)	ng/L	45.20	56.70	126	40 - 300	J
Toluene-d8 (S)	ug/L	50	50	100	89 - 112	J
13C6-PFDA (S)	ng/L	11.30	10.30	92	40 - 130	J
13C4-PFHPA (S)	ng/L	22.60	20.30	90	40 - 130	J
Bromofluorobenzene (S)	ug/L	50	50.30	101	85 - 114	J
13C7-PFUNA (S)	ng/L	11.30	8.92	79	30 - 130	J
13C8-FOSA (S)	ng/L	22.60	21.80	97	40 - 130	J
13C3-HFPO-DA (S)	ng/L	90.30	80.20	89	40 - 130	J
13C2-PFTEDA (S)	ng/L	11.30	7.64	68	10 - 130	J
Bromofluorobenzene (S)	ug/L	50	52	104	85 - 114	J
13C5-PFPEA (S)	ng/L	45.20	40.70	90	40 - 130	J
Toluene-d8 (S)	ug/L	50	49	98	89 - 112	J
13C5-PFHXA (S)	ng/L	22.60	20.40	90	40 - 130	J
D3-NMEFOSA (S)	ng/L	22.60	17.30	76	10 - 130	J





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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

Analytical Results

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
D3-NMEFOSAA (S)	ng/L	45.20	34.20	76	40 - 170	J
1,2-Dichloroethane-d4 (S)	ug/L	50	48	95	81 - 118	J
13C2-6:2FTS (S)	ng/L	45.20	53.40	118	40 - 200	J
13C3-PFBS (S)	ng/L	22.60	19.60	87	40 - 135	J
13C8-PFOS (S)	ng/L	22.60	20.50	91	40 - 130	J
13C3-PFHXS (S)	ng/L	22.60	19.80	88	40 - 130	J
13C4-PFBA (S)	ng/L	90.30	82.70	92	10 - 130	J
D7-NMEFOSE (S)	ng/L	226	167	74	10 - 130	J
D5-NETFOSA (S)	ng/L	22.60	15.90	70	10 - 130	J
13C2-4:2FTS (S)	ng/L	45.20	50.90	113	40 - 200	J
13C2-PFDOA (S)	ng/L	11.30	7.92	70	10 - 130	J

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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Results

QC Batch: CVAj/2936 Analysis Method: DoD SW-846 7470A
Preparation Method: SW-846 7470A
Associated Lab IDs: J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010

Method Blank(5815655)

Parameter	Results	Units	DL	LOD	LOQ	Lab
Mercury	0.040U	ug/L	0.011	0.040	0.10	J

Lab Control Sample (5815656)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Mercury	ug/L	2	2	98	82 - 119	J

Matrix Spike (5815657); Matrix Spike Duplicate (5815658); Original (J2505952001); Parent Lab Sample (J2505952001)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Mercury	ug/L	2	1.8	90	82 - 119	1.3	67	30	20	J

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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Results

QC Batch: HPLJ/3366 Analysis Method: DOD EPA 1633
Preparation Method: DOD EPA 1633
Associated Lab IDs: J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781007, J2505781008, J2505781009, J2505781010

Method Blank(5806979)

Parameter	Results	Units	DL	LOD	LOQ	Lab
HFPO-DA	0.50U	ng/L	0.25	0.50	1.0	J
PFBS	0.80U	ng/L	0.40	0.80	1.6	J
PFHxS	0.90U	ng/L	0.70	0.90	1.8	J
PFNA	0.80U	ng/L	0.40	0.80	1.6	J
PFOS	0.70U	ng/L	0.35	0.70	1.4	J
PFOA	0.80U	ng/L	0.40	0.80	1.6	J

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
13C2-4:2FTS (S)	ug/L	0.04	0.0376	94	40 - 200	J
13C2-6:2FTS (S)	ug/L	0.04	0.0382	95	40 - 200	J
13C2-8:2FTS (S)	ug/L	0.04	0.0370	93	40 - 300	J
13C2-PFDOA (S)	ug/L	0.01	0.007260	73	10 - 130	J
13C2-PFTEDA (S)	ug/L	0.01	0.007740	77	10 - 130	J
13C3-HFPO-DA (S)	ug/L	0.08	0.0789	99	40 - 130	J
13C3-PFBS (S)	ug/L	0.02	0.0181	90	40 - 135	J
13C3-PFHXS (S)	ug/L	0.02	0.0175	87	40 - 130	J
13C4-PFBA (S)	ug/L	0.08	0.0768	96	10 - 130	J
13C4-PFHPA (S)	ug/L	0.02	0.02	100	40 - 130	J
13C5-PFHXA (S)	ug/L	0.02	0.0196	98	40 - 130	J
13C5-PFPEA (S)	ug/L	0.04	0.0378	94	40 - 130	J
13C6-PFDA (S)	ug/L	0.01	0.009590	96	40 - 130	J
13C7-PFUNA (S)	ug/L	0.01	0.007960	80	30 - 130	J
13C8-FOSA (S)	ug/L	0.02	0.0165	82	40 - 130	J
13C8-PFOA (S)	ug/L	0.02	0.0183	92	40 - 130	J
13C8-PFOS (S)	ug/L	0.02	0.0192	96	40 - 130	J
13C9-PFNA (S)	ug/L	0.01	0.0086	86	40 - 130	J
D3-NMEFOSA (S)	ug/L	0.02	0.0133	67	10 - 130	J
D3-NMEFOSAA (S)	ug/L	0.04	0.0362	91	40 - 170	J
D5-NETFOSA (S)	ug/L	0.02	0.0125	62	10 - 130	J
D5-NETFOSAA (S)	ug/L	0.04	0.0333	83	25 - 135	J
D7-NMEFOSE (S)	ug/L	0.20	0.15	75	10 - 130	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Batch: HPLj/3366 **Analysis Method:** DOD EPA 1633
Preparation Method: DOD EPA 1633
Associated Lab IDs: J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781007, J2505781008, J2505781009, J2505781010

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
D9-NETFOSE (S)	ug/L	0.20	0.1380	69	10 - 130	J

Low Lab Control Sample (5806980)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
HFPO-DA	ng/L	8	8.8	110	70 - 140	J
PFBS	ng/L	8	8.8	110	60 - 145	J
PFHxS	ng/L	8	8.5	106	65 - 145	J
PFNA	ng/L	8	9.4	118	70 - 150	J
PFOS	ng/L	8	9.3	116	55 - 150	J
PFOA	ng/L	8	9.8	123	70 - 150	J

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
13C2-4:2FTS (S)	ug/L	0.04	0.0399	100	40 - 200	J
13C2-6:2FTS (S)	ug/L	0.04	0.0402	100	40 - 200	J
13C2-8:2FTS (S)	ug/L	0.04	0.0387	97	40 - 300	J
13C2-PFDOA (S)	ug/L	0.01	0.006740	67	10 - 130	J
13C2-PFTEDA (S)	ug/L	0.01	0.007740	77	10 - 130	J
13C3-HFPO-DA (S)	ug/L	0.08	0.0757	95	40 - 130	J
13C3-PFBS (S)	ug/L	0.02	0.0174	87	40 - 135	J
13C3-PFHXS (S)	ug/L	0.02	0.0178	89	40 - 130	J
13C4-PFBA (S)	ug/L	0.08	0.0752	94	10 - 130	J
13C4-PFHPA (S)	ug/L	0.02	0.0196	98	40 - 130	J
13C5-PFHXA (S)	ug/L	0.02	0.0187	93	40 - 130	J
13C5-PFPEA (S)	ug/L	0.04	0.0370	93	40 - 130	J
13C6-PFDA (S)	ug/L	0.01	0.009010	90	40 - 130	J
13C7-PFUNA (S)	ug/L	0.01	0.0097	97	30 - 130	J
13C8-FOSA (S)	ug/L	0.02	0.0177	89	40 - 130	J
13C8-PFOA (S)	ug/L	0.02	0.0199	100	40 - 130	J
13C8-PFOS (S)	ug/L	0.02	0.0196	98	40 - 130	J
13C9-PFNA (S)	ug/L	0.01	0.009060	91	40 - 130	J
D3-NMEFOSA (S)	ug/L	0.02	0.0142	71	10 - 130	J
D3-NMEFOSAA (S)	ug/L	0.04	0.0388	97	40 - 170	J
D5-NETFOSA (S)	ug/L	0.02	0.0126	63	10 - 130	J





FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Batch: HPLj/3366 **Analysis Method:** DOD EPA 1633
Preparation Method: DOD EPA 1633
Associated Lab IDs: J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781007, J2505781008, J2505781009, J2505781010

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
D5-NETFOSAA (S)	ug/L	0.04	0.0328	82	25 - 135	J
D7-NMEFOSE (S)	ug/L	0.20	0.1440	72	10 - 130	J
D9-NETFOSE (S)	ug/L	0.20	0.1360	68	10 - 130	J

Mid Lab Control Sample (5806981); Mid Lab Control Sample Dup (5806982)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
HFPO-DA	ng/L	50	63	127	70 - 140	64	127	0.50	23	J
PFBS	ng/L	50	61	122	60 - 145	61	123	0.50	23	J
PFHxS	ng/L	50	65	130	65 - 145	66	131	0.90	27	J
PFNA	ng/L	50	68	137	70 - 150	68	137	0.20	28	J
PFOS	ng/L	50	66	133	55 - 150	66	131	1.20	29	J
PFOA	ng/L	50	69	138	70 - 150	71	142	3	27	J

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
13C2-4:2FTS (S)	ug/L	0.04	0.0415	104	40 - 200	0.0394	98	5.40		J
13C2-6:2FTS (S)	ug/L	0.04	0.0389	97	40 - 200	0.0385	96	0.90		J
13C2-8:2FTS (S)	ug/L	0.04	0.0389	97	40 - 300	0.0379	95	2.40		J
13C2-PFDOA (S)	ug/L	0.01	0.00982	98	10 - 130	0.00806	81	20		J
13C2-PFTEDA (S)	ug/L	0.01	0.00866	87	10 - 130	0.0076	76	13		J
13C3-HFPO-DA (S)	ug/L	0.08	0.0740	92	40 - 130	0.0734	92	0.90		J
13C3-PFBS (S)	ug/L	0.02	0.0176	88	40 - 135	0.0180	90	1.80		J
13C3-PFHXS (S)	ug/L	0.02	0.0178	89	40 - 130	0.0178	89	0.10		J
13C4-PFBA (S)	ug/L	0.08	0.0750	94	10 - 130	0.0720	90	4.10		J
13C4-PFHXA (S)	ug/L	0.02	0.0181	91	40 - 130	0.0193	96	6.10		J
13C5-PFHXA (S)	ug/L	0.02	0.0177	89	40 - 130	0.0177	88	0.10		J
13C5-PFPEA (S)	ug/L	0.04	0.0366	92	40 - 130	0.0358	90	2.30		J
13C6-PFDA (S)	ug/L	0.01	0.0103	103	40 - 130	0.00981	98	4.90		J
13C7-PFUNA (S)	ug/L	0.01	0.00911	91	30 - 130	0.00884	88	3		J
13C8-FOSA (S)	ug/L	0.02	0.0166	83	40 - 130	0.0172	86	3.60		J
13C8-PFOA (S)	ug/L	0.02	0.0189	94	40 - 130	0.0191	95	1.10		J
13C8-PFOS (S)	ug/L	0.02	0.0183	91	40 - 130	0.0192	96	4.90		J
13C9-PFNA (S)	ug/L	0.01	0.00905	91	40 - 130	0.0093	93	2.70		J





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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Batch: HPLj/3366 **Analysis Method:** DOD EPA 1633
Preparation Method: DOD EPA 1633
Associated Lab IDs: J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781007, J2505781008, J2505781009, J2505781010

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
D3-NMEFOSA (S)	ug/L	0.02	0.0138	69	10 - 130	0.0140	70	0.90		J
D3-NMEFOSAA (S)	ug/L	0.04	0.0354	89	40 - 170	0.0359	90	1.50		J
D5-NETFOSA (S)	ug/L	0.02	0.0127	64	10 - 130	0.0120	60	5.80		J
D5-NETFOSAA (S)	ug/L	0.04	0.0324	81	25 - 135	0.0340	85	4.70		J
D7-NMEFOSE (S)	ug/L	0.20	0.1570	78	10 - 130	0.1460	73	6.90		J
D9-NETFOSSE (S)	ug/L	0.20	0.1480	74	10 - 130	0.14	70	5.40		J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Results

QC Batch: ICM/5368 Analysis Method: DoD SW-846 6020A
Preparation Method: SW-846 3010A
Associated Lab IDs: J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010

Method Blank(5812423)

Parameter	Results	Units	DL	LOD	LOQ	Lab
Beryllium	2.0U	ug/L	1.0	2.0	4.0	J
Vanadium	2.0U	ug/L	1.0	2.0	4.0	J
Chromium	1.0U	ug/L	0.50	1.0	2.0	J
Manganese	2.0U	ug/L	1.0	2.0	4.0	J
Cobalt	0.50U	ug/L	0.25	0.50	1.0	J
Nickel	2.0J	ug/L	1.2	2.5	5.0	J
Copper	2.0U	ug/L	1.0	2.0	4.0	J
Zinc	12U	ug/L	6.0	12	24	J
Arsenic	0.50U	ug/L	0.25	0.50	1.0	J
Selenium	2.5U	ug/L	1.2	2.5	5.0	J
Silver	1.0U	ug/L	0.50	1.0	2.0	J
Cadmium	0.50U	ug/L	0.25	0.50	1.0	J
Antimony	2.0U	ug/L	1.0	2.0	4.0	J
Barium	1.0U	ug/L	0.50	1.0	2.0	J
Thallium	0.50U	ug/L	0.25	0.50	1.0	J
Lead	1.0U	ug/L	0.50	1.0	2.0	J

Lab Control Sample (5812424)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Beryllium	ug/L	20	17	84	83 - 121	J
Vanadium	ug/L	20	19	94	86 - 115	J
Chromium	ug/L	20	19	94	85 - 116	J
Manganese	ug/L	20	19	97	87 - 115	J
Cobalt	ug/L	20	18	92	86 - 115	J
Nickel	ug/L	20	18	92	85 - 117	J
Copper	ug/L	20	19	93	85 - 118	J
Zinc	ug/L	520	520	100	83 - 119	J
Arsenic	ug/L	20	19	95	84 - 116	J
Selenium	ug/L	20	19	96	80 - 120	J
Silver	ug/L	20	18	91	85 - 116	J
Cadmium	ug/L	20	19	94	87 - 115	J
Antimony	ug/L	20	18	90	85 - 117	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Batch: ICMj/5368 Analysis Method: DoD SW-846 6020A
Preparation Method: SW-846 3010A
Associated Lab IDs: J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Barium	ug/L	20	19	95	86 - 114	J
Thallium	ug/L	20	19	96	82 - 116	J
Lead	ug/L	20	20	98	88 - 115	J

Matrix Spike (5812425); Matrix Spike Duplicate (5812426); Original (J2506157002); Parent Lab Sample (J2506157002)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Beryllium	ug/L	20	18	88	83 - 121	19	94	7.50	20	J
Vanadium	ug/L	20	19	95	86 - 115	19	97	1.60	20	J
Chromium	ug/L	20	19	93	85 - 116	19	95	1.90	20	J
Manganese	ug/L	20	2000	1180	87 - 115	1800	203	10	20	J
Cobalt	ug/L	20	23	88	86 - 115	24	90	1.70	20	J
Nickel	ug/L	20	20	98	85 - 117	20	99	1.60	20	J
Copper	ug/L	20	17	84	85 - 118	17	87	2.90	20	J
Zinc	ug/L	520	490	93	83 - 119	490	95	1.70	20	J
Arsenic	ug/L	20	20	91	84 - 116	20	93	2.70	20	J
Selenium	ug/L	20	18	88	80 - 120	18	92	4.60	20	J
Silver	ug/L	20	17	87	85 - 116	18	89	2.80	20	J
Cadmium	ug/L	20	18	92	87 - 115	19	94	1.90	20	J
Antimony	ug/L	20	18	92	85 - 117	19	96	4.70	20	J
Barium	ug/L	20	75	105	86 - 114	75	106	0.20	20	J
Thallium	ug/L	20	20	100	82 - 116	20	102	1.20	20	J
Lead	ug/L	20	20	101	88 - 115	20	102	1	20	J

Matrix Spike (5812425); Matrix Spike Duplicate (5812426); Original (J2506157002); Parent Lab Sample (J2506157002)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Beryllium	ug/L	20	18	88	83 - 121	19	94	7.50	20	J
Vanadium	ug/L	20	19	95	86 - 115	19	97	1.60	20	J
Chromium	ug/L	20	19	93	85 - 116	19	95	1.90	20	J
Manganese	ug/L	20	2000	1180	87 - 115	1800	203	10	20	J
Cobalt	ug/L	20	23	88	86 - 115	24	90	1.70	20	J
Nickel	ug/L	20	20	98	85 - 117	20	99	1.60	20	J
Copper	ug/L	20	17	84	85 - 118	17	87	2.90	20	J
Zinc	ug/L	520	490	93	83 - 119	490	95	1.70	20	J
Arsenic	ug/L	20	20	91	84 - 116	20	93	2.70	20	J





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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Batch: ICMj/5368 **Analysis Method:** DoD SW-846 6020A
Preparation Method: SW-846 3010A
Associated Lab IDs: J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Selenium	ug/L	20	18	88	80 - 120	18	92	4.60	20	J
Silver	ug/L	20	17	87	85 - 116	18	89	2.80	20	J
Cadmium	ug/L	20	18	92	87 - 115	19	94	1.90	20	J
Antimony	ug/L	20	18	92	85 - 117	19	96	4.70	20	J
Barium	ug/L	20	75	105	86 - 114	75	106	0.20	20	J
Thallium	ug/L	20	20	100	82 - 116	20	102	1.20	20	J
Lead	ug/L	20	20	101	88 - 115	20	102	1	20	J

QC Result Comments

Matrix Spike - 5812425 - Copper

*|MS/MSD recovery and/or RPD is out of criteria





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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Results

QC Batch: ICPJ/4324 Analysis Method: DoD SW-846 6010C
Preparation Method: SW-846 3010A
Associated Lab IDs: J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010

Method Blank(5808280)

Parameter	Results	Units	DL	LOD	LOQ	Lab
Aluminum	40U	ug/L	20	40	80	J
Calcium	400U	ug/L	200	400	800	J
Iron	400U	ug/L	200	400	800	J
Potassium	1000U	ug/L	500	1000	2000	J
Magnesium	200U	ug/L	100	200	400	J
Sodium	1600U	ug/L	800	1600	3200	J
Total Hardness (as CaCO3)	1.8U	mg/L	0.91	1.8	3.6	J

Lab Control Sample (5808281)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Aluminum	ug/L	400	410	101	86 - 115	J
Calcium	ug/L	4000	4000	99	87 - 113	J
Iron	ug/L	4000	3900	98	87 - 115	J
Potassium	ug/L	10000	9600	96	86 - 114	J
Magnesium	ug/L	2000	2000	100	85 - 113	J
Sodium	ug/L	16000	16000	101	87 - 115	J

Matrix Spike (5808282); Matrix Spike Duplicate (5808283); Original (J2505906003); Parent Lab Sample (J2505906003)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Aluminum	ug/L	400	110000	12200	86 - 115	120000	14400	7.50	20	J
Calcium	ug/L	4000	30000	116	87 - 113	30000	126	1.30	20	J
Iron	ug/L	4000	72000	324	87 - 115	76000	423	5.40	20	J
Potassium	ug/L	10000	15000	120	86 - 114	16000	125	2.90	20	J
Magnesium	ug/L	2000	11000	233	85 - 113	11000	258	4.50	20	J
Sodium	ug/L	16000	25000	102	87 - 115	25000	102	0.20	20	J

QC Result Comments

Matrix Spike - 5808282 - Aluminum

*|MS/MSD recovery and/or RPD is out of criteria

Matrix Spike - 5808282 - Calcium

*|MS/MSD recovery and/or RPD is out of criteria





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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Result Comments

Matrix Spike - 5808282 - Iron

*|MS/MSD recovery and/or RPD is out of criteria

Matrix Spike - 5808282 - Magnesium

*|MS/MSD recovery and/or RPD is out of criteria

Matrix Spike - 5808282 - Potassium

*|MS/MSD recovery and/or RPD is out of criteria

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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Results

QC Batch: MSVJ/12557 Analysis Method: DoD SW-846 8260C
Preparation Method: SW-846 5030B
Associated Lab IDs: J2505781001, J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010

Method Blank(5807326)

Parameter	Results	Units	DL	LOD	LOQ	Lab
Chloromethane	0.50U	ug/L	0.25	0.50	1.0	J
Vinyl Chloride	0.50U	ug/L	0.25	0.50	1.0	J
Chloroethane	1.0U	ug/L	0.50	1.0	2.0	J
Trichlorofluoromethane	1.0U	ug/L	0.50	1.0	2.0	J
Acetone	1.0U	ug/L	0.50	1.0	2.0	J
1,1-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	J
Iodomethane (Methyl Iodide)	1.0U	ug/L	0.50	1.0	2.0	J
Acrylonitrile	1.0U	ug/L	0.50	1.0	2.0	J
Methylene Chloride	2.5U	ug/L	1.2	2.5	5.0	J
Carbon Disulfide	1.0U	ug/L	0.50	1.0	2.0	J
trans-1,2-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	J
Methyl tert-butyl Ether (MTBE)	0.50U	ug/L	0.25	0.50	1.0	J
1,1-Dichloroethane	0.50U	ug/L	0.25	0.50	1.0	J
Vinyl Acetate	1.0U	ug/L	0.50	1.0	2.0	J
2-Butanone (MEK)	0.50U	ug/L	0.25	0.50	1.0	J
cis-1,2-Dichloroethylene	1.0U	ug/L	0.50	1.0	2.0	J
Bromochloromethane	1.0U	ug/L	0.50	1.0	2.0	J
Chloroform	1.0U	ug/L	0.50	1.0	2.0	J
1,2-Dichloroethane	0.50U	ug/L	0.25	0.50	1.0	J
1,1,1-Trichloroethane	1.0U	ug/L	0.50	1.0	2.0	J
Carbon Tetrachloride	0.50U	ug/L	0.25	0.50	1.0	J
Benzene	0.50U	ug/L	0.25	0.50	1.0	J
Dibromomethane	1.0U	ug/L	0.50	1.0	2.0	J
1,2-Dichloropropane	0.50U	ug/L	0.25	0.50	1.0	J
Trichloroethene	0.50U	ug/L	0.25	0.50	1.0	J
Bromodichloromethane	0.50U	ug/L	0.25	0.50	1.0	J
cis-1,3-Dichloropropene	0.40U	ug/L	0.20	0.40	1.0	J
4-Methyl-2-pentanone (MIBK)	1.0U	ug/L	0.50	1.0	2.0	J
trans-1,3-Dichloropropylene	0.40U	ug/L	0.20	0.40	1.0	J
1,1,2-Trichloroethane	0.50U	ug/L	0.25	0.50	1.0	J
Toluene	0.50U	ug/L	0.25	0.50	1.0	J

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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Batch: MSVJ/12557
Preparation Method: SW-846 5030B
Associated Lab IDs: J2505781001, J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010
Analysis Method: DoD SW-846 8260C

Parameter	Results	Units	DL	LOD	LOQ	Lab
2-Hexanone	1.0U	ug/L	0.50	1.0	2.0	J
Dibromochloromethane	0.40U	ug/L	0.20	0.40	1.0	J
Tetrachloroethylene (PCE)	0.50U	ug/L	0.25	0.50	1.0	J
1,1,1,2-Tetrachloroethane	0.50U	ug/L	0.25	0.50	1.0	J
Chlorobenzene	1.0U	ug/L	0.50	1.0	2.0	J
Ethylbenzene	0.50U	ug/L	0.25	0.50	1.0	J
Xylene-mp	1.0U	ug/L	0.50	1.0	2.0	J
Bromoform	0.50U	ug/L	0.25	0.50	1.0	J
Styrene	1.0U	ug/L	0.50	1.0	2.0	J
Xylene-o	0.50U	ug/L	0.25	0.50	1.0	J
1,1,2,2-Tetrachloroethane	0.40U	ug/L	0.20	0.40	1.0	J
1,2,3-Trichloropropane	0.50U	ug/L	0.25	0.50	1.0	J
1,4-Dichlorobenzene	1.0U	ug/L	0.50	1.0	2.0	J
1,2-Dichlorobenzene	1.0U	ug/L	0.50	1.0	2.0	J
trans-1,4-Dichloro-2-butene	1.0U	ug/L	0.50	1.0	2.0	J

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
1,2-Dichloroethane-d4 (S)	ug/L	50	51	102	81 - 118	J
Bromofluorobenzene (S)	ug/L	50	52	104	85 - 114	J
Toluene-d8 (S)	ug/L	50	47	94	89 - 112	J

Lab Control Sample (5807327); Lab Control Sample Duplicate (5807328); Parent Lab Sample (J2505781001, J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Chloromethane	ug/L	20	16	81	50 - 139	16	78	4.30	20	J
Vinyl Chloride	ug/L	20	18	92	58 - 137	17	85	7.70	20	J
Chloroethane	ug/L	20	20	100	60 - 138	19	93	7.30	20	J
Trichlorofluoromethane	ug/L	20	21	104	65 - 141	20	98	5.60	20	J
Acetone	ug/L	20	23	116	39 - 160	24	121	3.50	20	J
1,1-Dichloroethylene	ug/L	20	20	102	71 - 131	19	95	7.40	20	J
Iodomethane (Methyl Iodi	ug/L	20	13	63	69 - 131	15	75	17	20	J
Acrylonitrile	ug/L	20	22	109	63 - 135	21	104	4.80	20	J
Methylene Chloride	ug/L	20	22	109	74 - 124	20	102	6.80	20	J
Carbon Disulfide	ug/L	20	20	100	64 - 133	19	93	7.30	20	J





FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Batch: MSVJ/12557
Preparation Method: SW-846 5030B
Associated Lab IDs: J2505781001, J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010

Analysis Method: DoD SW-846 8260C

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
trans-1,2-Dichloroethylene	ug/L	20	21	106	75 - 124	20	100	5.60	20	J
Methyl tert-butyl Ether (MT	ug/L	20	21	103	71 - 124	20	99	3.70	20	J
1,1-Dichloroethane	ug/L	20	21	107	77 - 125	20	100	7.60	20	J
Vinyl Acetate	ug/L	20	35	175	54 - 146	36	181	3.50	20	J
2-Butanone (MEK)	ug/L	20	22	112	56 - 143	21	106	5.80	20	J
cis-1,2-Dichloroethylene	ug/L	20	22	108	78 - 123	20	100	7.20	20	J
Bromochloromethane	ug/L	20	21	107	78 - 123	20	100	7.10	20	J
Chloroform	ug/L	20	22	110	79 - 124	21	104	5.20	20	J
1,2-Dichloroethane	ug/L	20	22	111	73 - 128	20	100	9.60	20	J
1,1,1-Trichloroethane	ug/L	20	21	104	74 - 131	20	98	6.20	20	J
Carbon Tetrachloride	ug/L	20	23	113	72 - 136	22	108	4.70	20	J
Benzene	ug/L	20	21	106	79 - 120	20	98	7.40	20	J
Dibromomethane	ug/L	20	22	108	79 - 123	20	98	9.30	20	J
1,2-Dichloropropane	ug/L	20	21	106	78 - 122	20	101	4.50	20	J
Trichloroethene	ug/L	20	22	109	79 - 123	20	101	7.30	20	J
Bromodichloromethane	ug/L	20	22	112	79 - 125	21	107	4.30	20	J
cis-1,3-Dichloropropene	ug/L	20	22	109	75 - 124	21	104	4.90	20	J
4-Methyl-2-pentanone (MIB	ug/L	20	21	105	67 - 130	21	103	2.50	20	J
trans-1,3-Dichloropropylene	ug/L	20	22	110	73 - 127	22	109	1.20	20	J
1,1,2-Trichloroethane	ug/L	20	22	110	80 - 119	20	102	6.90	20	J
Toluene	ug/L	20	20	101	80 - 121	19	97	4.10	20	J
2-Hexanone	ug/L	20	20	101	57 - 139	21	104	2.40	20	J
Dibromochloromethane	ug/L	20	21	105	74 - 126	20	102	3.40	20	J
Tetrachloroethylene (PCE)	ug/L	20	20	101	74 - 129	19	96	5	20	J
1,1,1,2-Tetrachloroethane	ug/L	20	21	104	78 - 124	20	101	2.90	20	J
Chlorobenzene	ug/L	20	20	102	82 - 118	20	98	3.90	20	J
Ethylbenzene	ug/L	20	20	101	79 - 121	19	97	3.60	20	J
Xylene-mp	ug/L	40	41	103	80 - 121	40	99	3.90	20	J
Bromoform	ug/L	20	20	101	66 - 130	19	97	3.90	20	J
Styrene	ug/L	20	20	101	78 - 123	20	99	1.90	20	J
Xylene-o	ug/L	20	21	103	78 - 122	20	99	3.70	20	J
1,1,2,2-Tetrachloroethane	ug/L	20	20	100	71 - 121	20	98	2.10	20	J
1,2,3-Trichloropropane	ug/L	20	20	99	73 - 122	20	98	1.20	20	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Batch: MSVJ/12557
Preparation Method: SW-846 5030B
Associated Lab IDs: J2505781001, J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010
Analysis Method: DoD SW-846 8260C

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
1,4-Dichlorobenzene	ug/L	20	19	97	79 - 118	19	97	0.50	20	J
1,2-Dichlorobenzene	ug/L	20	21	104	80 - 119	21	103	1.10	20	J
trans-1,4-Dichloro-2-butene	ug/L	20	19	97	43 - 140	21	103	6.30	20	J

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
1,2-Dichloroethane-d4 (S)	ug/L	50	54	108	81 - 118	51	102	6.40		J
Bromofluorobenzene (S)	ug/L	50	48	97	85 - 114	50	99	2.80		J
Toluene-d8 (S)	ug/L	50	49	98	89 - 112	49	98	0.40		J

Matrix Spike (5807329); Original (J2505849002); Parent Lab Sample (J2505849002)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Chloromethane	ug/L	20	14	70	50 - 139	J
Vinyl Chloride	ug/L	20	17	84	58 - 137	J
Chloroethane	ug/L	20	19	96	60 - 138	J
Trichlorofluoromethane	ug/L	20	18	92	65 - 141	J
Acetone	ug/L	20	19	93	39 - 160	J
1,1-Dichloroethylene	ug/L	20	19	93	71 - 131	J
Acrylonitrile	ug/L	20	20	98	63 - 135	J
Methylene Chloride	ug/L	20	20	98	74 - 124	J
Carbon Disulfide	ug/L	20	18	91	64 - 133	J
trans-1,2-Dichloroethylene	ug/L	20	19	96	75 - 124	J
Methyl tert-butyl Ether (MTBE)	ug/L	20	19	94	71 - 124	J
1,1-Dichloroethane	ug/L	20	19	96	77 - 125	J
Vinyl Acetate	ug/L	20	26	128	54 - 146	J
2-Butanone (MEK)	ug/L	20	15	76	56 - 143	J
cis-1,2-Dichloroethylene	ug/L	20	18	90	78 - 123	J
Bromochloromethane	ug/L	20	19	97	78 - 123	J
Chloroform	ug/L	20	19	96	79 - 124	J
1,2-Dichloroethane	ug/L	20	18	91	73 - 128	J
1,1,1-Trichloroethane	ug/L	20	18	91	74 - 131	J
Carbon Tetrachloride	ug/L	20	19	97	72 - 136	J
Benzene	ug/L	20	20	98	79 - 120	J
Dibromomethane	ug/L	20	19	95	79 - 123	J





FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Batch: MSVJ/12557
Preparation Method: SW-846 5030B
Associated Lab IDs: J2505781001, J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010
Analysis Method: DoD SW-846 8260C

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
1,2-Dichloropropane	ug/L	20	20	100	78 - 122	J
Trichloroethene	ug/L	20	19	93	79 - 123	J
Bromodichloromethane	ug/L	20	19	97	79 - 125	J
cis-1,3-Dichloropropene	ug/L	20	18	90	75 - 124	J
4-Methyl-2-pentanone (MIBK)	ug/L	20	18	91	67 - 130	J
trans-1,3-Dichloropropylene	ug/L	20	17	86	73 - 127	J
1,1,2-Trichloroethane	ug/L	20	20	98	80 - 119	J
Toluene	ug/L	20	19	97	80 - 121	J
2-Hexanone	ug/L	20	18	89	57 - 139	J
Dibromochloromethane	ug/L	20	19	97	74 - 126	J
Tetrachloroethylene (PCE)	ug/L	20	19	93	74 - 129	J
1,1,1,2-Tetrachloroethane	ug/L	20	19	96	78 - 124	J
Chlorobenzene	ug/L	20	19	95	82 - 118	J
Ethylbenzene	ug/L	20	19	94	79 - 121	J
Xylene-mp	ug/L	40	38	94	80 - 121	J
Bromoform	ug/L	20	18	91	66 - 130	J
Styrene	ug/L	20	19	94	78 - 123	J
Xylene-o	ug/L	20	19	93	78 - 122	J
1,1,2,2-Tetrachloroethane	ug/L	20	19	97	71 - 121	J
1,2,3-Trichloropropane	ug/L	20	18	88	73 - 122	J
1,4-Dichlorobenzene	ug/L	20	18	92	79 - 118	J
1,2-Dichlorobenzene	ug/L	20	19	97	80 - 119	J
trans-1,4-Dichloro-2-butene	ug/L	20	13	67	43 - 140	J

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
1,2-Dichloroethane-d4 (S)	ug/L	50	51	101	81 - 118	J
Bromofluorobenzene (S)	ug/L	50	49	98	85 - 114	J
Toluene-d8 (S)	ug/L	50	51	103	89 - 112	J

QC Result Comments

Method Blank - 5807326 - Iodomethane (Methyl Iodide)

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).





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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Result Comments

Method Blank - 5807326 - Vinyl Acetate

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Lab Control Sample - 5807327 - Iodomethane (Methyl Iodide)

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Lab Control Sample - 5807327 - Vinyl Acetate

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Lab Control Sample Duplicate - 5807328 - Iodomethane (Methyl Iodide)

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Lab Control Sample Duplicate - 5807328 - Vinyl Acetate

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Matrix Spike - 5807329 - Vinyl Acetate

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Results

QC Batch: MSVJ/12559 Analysis Method: DoD SW-846 8260C (SIM)
Preparation Method: SW-846 5030B
Associated Lab IDs: J2505781001, J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010

Method Blank(5807338)

Parameter	Results	Units	DL	LOD	LOQ	Lab
Ethylene Dibromide (EDB)	0.050U	ug/L	0.019	0.050	0.10	J
1,2-Dibromo-3-Chloropropane	0.10U	ug/L	0.050	0.10	0.20	J

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
1,2-Dichloroethane-d4 (S)	ug/L	50	49.40	99	81 - 118	J
Bromofluorobenzene (S)	ug/L	50	50	100	85 - 114	J
Toluene-d8 (S)	ug/L	50	48.30	97	89 - 112	J

Lab Control Sample (5807339); Lab Control Sample Duplicate (5807340); Parent Lab Sample (J2505781001, J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Ethylene Dibromide (EDB)	ug/L	0.80	0.79	99	77 - 121	0.78	98	1.30	20	J
1,2-Dibromo-3-Chloropropa	ug/L	0.80	0.8	100	62 - 128	0.79	99	1.30	20	J

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
1,2-Dichloroethane-d4 (S)	ug/L	50	49.10	98	81 - 118	48.60	97	1.10		J
Bromofluorobenzene (S)	ug/L	50	50.10	100	85 - 114	49.10	98	2		J
Toluene-d8 (S)	ug/L	50	49.20	98	89 - 112	48	96	2.40		J

Matrix Spike (5807341); Original (J2505781002); Parent Lab Sample (J2505781002)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Ethylene Dibromide (EDB)	ug/L	0.80	0.69	86	77 - 121	J
1,2-Dibromo-3-Chloropropane	ug/L	0.80	0.69	86	62 - 128	J

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
1,2-Dichloroethane-d4 (S)	ug/L	50	45.90	92	81 - 118	J
Bromofluorobenzene (S)	ug/L	50	52.40	105	85 - 114	J
Toluene-d8 (S)	ug/L	50	50.50	101	89 - 112	J

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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Results

QC Batch: MSVJ/12599 Analysis Method: DoD SW-846 8260C
Preparation Method: SW-846 5030B
Associated Lab IDs: J2505781001, J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010

Method Blank(5811441)

Parameter	Results	Units	DL	LOD	LOQ	Lab
Bromomethane	1.0U	ug/L	0.50	1.0	2.0	J
Iodomethane (Methyl Iodide)	1.0U	ug/L	0.50	1.0	2.0	J

Lab Control Sample (5811442)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Bromomethane	ug/L	20	30	151	53 - 141	J
Iodomethane (Methyl Iodide)	ug/L	20	30	150	69 - 131	J

QC Result Comments

Method Blank - 5811441 - Bromomethane

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Method Blank - 5811441 - Iodomethane (Methyl Iodide)

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Lab Control Sample - 5811442 - Bromomethane

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Lab Control Sample - 5811442 - Iodomethane (Methyl Iodide)

Q|One or more of the quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Results

QC Batch: WCAj/18534 Analysis Method: DoD EPA 300.0
Preparation Method: DoD EPA 300.0
Associated Lab IDs: J2505781003, J2505781004, J2505781006, J2505781008, J2505781009

Method Blank(5794670)

Parameter	Results	Units	DL	LOD	LOQ	Lab
Chloride	4000U	ug/L	2000	4000	8000	J
Nitrite (as N)	400U	ug/L	200	400	800	J
Nitrate (as N)	400U	ug/L	200	400	800	J
Sulfate	4000U	ug/L	2000	4000	8000	J

Lab Control Sample (5794671); Lab Control Sample Duplicate (5806437); Parent Lab Sample (J2505781003, J2505781004, J2505781006, J2505781008, J2505781009)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Chloride	ug/L	20000	20000	99	90 - 110	20000	100	0.70	10	J
Nitrite (as N)	ug/L	2000	2000	102	90 - 110	2100	103	1	10	J
Nitrate (as N)	ug/L	2000	1900	97	90 - 110	2000	98	0.80	10	J
Sulfate	ug/L	20000	20000	98	90 - 110	20000	98	0.60	10	J

Matrix Spike (5794672); Matrix Spike Duplicate (5794673); Original (J2505748001); Parent Lab Sample (J2505748001)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Chloride	ug/L	20000	34000	100	90 - 110	34000	100	0	10	J
Nitrite (as N)	ug/L	2000	2000	100	90 - 110	1900	97	3.60	10	J
Nitrate (as N)	ug/L	2000	1900	96	90 - 110	1900	96	0.10	10	J
Sulfate	ug/L	20000	32000	100	90 - 110	32000	101	1	10	J

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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Results

QC Batch: WCAj/18541
Preparation Method: DoD EPA 300.0
Associated Lab IDs: J2505781002, J2505781005, J2505781010

Analysis Method: DoD EPA 300.0

Method Blank(5795717)

Parameter	Results	Units	DL	LOD	LOQ	Lab
Chloride	4000U	ug/L	2000	4000	8000	J
Nitrite (as N)	400U	ug/L	200	400	800	J
Nitrate (as N)	400U	ug/L	200	400	800	J
Sulfate	4000U	ug/L	2000	4000	8000	J

Lab Control Sample (5795719)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Chloride	ug/L	20000	20000	100	90 - 110	J
Nitrite (as N)	ug/L	2000	2000	102	90 - 110	J
Nitrate (as N)	ug/L	2000	2000	98	90 - 110	J
Sulfate	ug/L	20000	20000	98	90 - 110	J

Matrix Spike (5795721); Matrix Spike Duplicate (5795722); Original (J2505781005); Parent Lab Sample (J2505781005)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Chloride	ug/L	20000	32000	101	90 - 110	32000	103	1.50	10	J
Nitrite (as N)	ug/L	2000	2000	102	90 - 110	2100	103	1.50	10	J
Nitrate (as N)	ug/L	2000	2100	104	90 - 110	2000	102	1.50	10	J
Sulfate	ug/L	20000	120000	82	90 - 110	120000	86	0.70	10	J

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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Results

QC Batch: WCAj/18541
Preparation Method: DoD EPA 300.0
Associated Lab IDs: J2505781002, J2505781010

Analysis Method: DoD EPA 300.0

Matrix Spike (5798147); Matrix Spike Duplicate (5798148); Original (J2505875002); Parent Lab Sample (J2505875002)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Chloride	ug/L	20000	21000	106	90 - 110	21000	107	1.10	10	J
Nitrite (as N)	ug/L	2000	2000	100	90 - 110	2000	100	0.40	10	J
Nitrate (as N)	ug/L	2000	2500	125	90 - 110	2500	126	0.40	10	J
Sulfate	ug/L	20000	21000	107	90 - 110	22000	108	1.10	10	J

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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Results

QC Batch: WCAj/18542 Analysis Method: SM 2130 B-2011
Preparation Method: SM 2130 B-2011
Associated Lab IDs: J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010

Method Blank(5796021)

Parameter	Results	Units	PQL	MDL	Lab
Turbidity	0.20U	NTU	0.20	0.10	J

Lab Control Sample (5796022)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Turbidity	NTU	20	20	101	90 - 110	J

Sample Duplicate (5796023); Original (J2505781009); Parent Lab Sample (J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010)

Parameter	Original	Duplicate	Units	RPD	RPD Limit	Lab
Turbidity	.573	0.566	NTU	1	20	J

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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Results

QC Batch: WCAj/18605

Analysis Method: DoD SM 2540 C-2015

Preparation Method: DoD SM 2540 C-2015

Associated Lab IDs: J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010

Method Blank(5800728)

Parameter	Results	Units	DL	LOD	LOQ	Lab
Total Dissolved Solids	10U	mg/L	10	10	10	J

Lab Control Sample (5800729)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Total Dissolved Solids	mg/L	300	310	104	85 - 115	J

Sample Duplicate (5800730); Original (J2505781002); Parent Lab Sample (J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010)

Parameter	Original	Duplicate	Units	RPD	RPD Limit	Lab
Total Dissolved Solids	257	258	mg/L	0.40	10	J

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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Results

QC Batch: WCAj/18628 Analysis Method: DoD EPA 310.1
Preparation Method: DoD EPA 310.1
Associated Lab IDs: J2505781002, J2505781003, J2505781004, J2505781005

Sample Duplicate (5803069); Original (J2505534005); Parent Lab Sample (J2505781002, J2505781003, J2505781004, J2505781005)

Parameter	Original	Duplicate	Units	RPD	RPD Limit	Lab
Alkalinity, Total	226	224	mg/L	0.90	10	J

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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Results

QC Batch: WCAj/18628

Analysis Method: DoD EPA 310.1

Preparation Method: DoD EPA 310.1

Associated Lab IDs: J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010

Method Blank(5803067)

Parameter	Results	Units	DL	LOD	LOQ	Lab
Alkalinity, Total	5.0U	mg/L	5.0	5.0	5.0	J

Lab Control Sample (5803068)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Alkalinity, Total	mg/L	100	100	100	85 - 115	J

Sample Duplicate (5803070); Original (J2505781005); Parent Lab Sample (J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010)

Parameter	Original	Duplicate	Units	RPD	RPD Limit	Lab
Alkalinity, Total	300	300	mg/L	0	10	J

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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Results

QC Batch: WCAj/18671
Preparation Method: SM 4500 H+B-2011
Associated Lab IDs: J2505781002

Analysis Method: SM 4500 H+B-2011

Sample Duplicate (5807236); Original (J2505377003); Parent Lab Sample (J2505781002)

Parameter	Original	Duplicate	Units	RPD	RPD Limit	Lab
pH	7.91	7.92	SU	0	10	J

QC Result Comments

Sample Duplicate - 5807236 - pH

QJMissed Hold Time

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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Results

QC Batch: WCAj/18671

Analysis Method: SM 4500 H+B-2011

Preparation Method: SM 4500 H+B-2011

Associated Lab IDs: J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010

Sample Duplicate (5807237); Original (J2505781002); Parent Lab Sample (J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010)

Parameter	Original	Duplicate	Units	RPD	RPD Limit	Lab
pH	6.24	6.24	SU	0	10	J

QC Result Comments

Sample Duplicate - 5807237 - pH

Q|Missed Hold Time

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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Results

QC Batch: WCAj/18752

Analysis Method: DoD EPA 410.4

Preparation Method: DoD EPA 410.4

Associated Lab IDs: J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010

Method Blank(5812775)

Parameter	Results	Units	DL	LOD	LOQ	Lab
Chemical Oxygen Demand	10U	mg/L	5.0	10	20	J

Lab Control Sample (5812776)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Chemical Oxygen Demand	mg/L	500	490	97	90 - 110	J

Matrix Spike (5812777); Matrix Spike Duplicate (5812778); Original (J2505781002); Parent Lab Sample (J2505781002)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Chemical Oxygen Demand	mg/L	620	640	103	90 - 110	620	99	4.20	10	J

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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Results

QC Batch: WCAj/18752 Analysis Method: DoD EPA 410.4
Preparation Method: DoD EPA 410.4
Associated Lab IDs: J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010

Matrix Spike (5812779); Matrix Spike Duplicate (5812780); Original (J2505849004); Parent Lab Sample (J2505849004)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
Chemical Oxygen Demand	mg/L	800	860	107	90 - 110	860	108	0.40	10	J

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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Results

QC Batch: WCAj/18843 Analysis Method: SM 2510 B-2011
Preparation Method: SM 2510 B-2011
Associated Lab IDs: J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010

Method Blank(5821513)

Parameter	Results	Units	PQL	MDL	Lab
Conductivity	4.0U	umhos/cm @ 25.0°C	4.0	2.0	J

Lab Control Sample (5821514)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
Conductivity	umhos/c	500	460	92	85 - 115	J

Sample Duplicate (5821515); Original (J2505781002); Parent Lab Sample (J2505781002, J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010)

Parameter	Original	Duplicate	Units	RPD	RPD Limit	Lab
Conductivity	429	428	umhos/cm	0	10	J





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FINAL

Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Results

QC Batch: WCAj/18843

Analysis Method: SM 2510 B-2011

Preparation Method: SM 2510 B-2011

Associated Lab IDs: J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010

Sample Duplicate (5821516); Original (J2505849004); Parent Lab Sample (J2505781003, J2505781004, J2505781005, J2505781006, J2505781008, J2505781009, J2505781010)

Parameter	Original	Duplicate	Units	RPD	RPD Limit	Lab
Conductivity	329	330	umhos/cm	0	10	J

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QC Cross Reference

Lab ID	Sample ID	Prep Batch	Prep Method
CVAj/2936 - DoD SW-846 7470A			
J2505781002	PAALF-PW11-041525	DGMj/10533	SW-846 7470A
J2505781003	PAALF-PW12-041525	DGMj/10533	SW-846 7470A
J2505781004	PAALF-PW16-041525	DGMj/10533	SW-846 7470A
J2505781005	PAALF-PW17-041525	DGMj/10533	SW-846 7470A
J2505781006	PAALF-PW19-041525	DGMj/10533	SW-846 7470A
J2505781008	PAALF-PW20-041525	DGMj/10533	SW-846 7470A
J2505781009	PAALF-PW20-041525dup	DGMj/10533	SW-846 7470A
J2505781010	PAALF-PW17-041525rb	DGMj/10533	SW-846 7470A
HPLj/3366 - DOD EPA 1633			
J2505781002	PAALF-PW11-041525	EXTj/11671	DOD EPA 1633
J2505781003	PAALF-PW12-041525	EXTj/11671	DOD EPA 1633
J2505781004	PAALF-PW16-041525	EXTj/11671	DOD EPA 1633
J2505781005	PAALF-PW17-041525	EXTj/11671	DOD EPA 1633
J2505781006	PAALF-PW19-041525	EXTj/11671	DOD EPA 1633
J2505781007	PAALF-PW19-041525fb	EXTj/11671	DOD EPA 1633
J2505781008	PAALF-PW20-041525	EXTj/11671	DOD EPA 1633
J2505781009	PAALF-PW20-041525dup	EXTj/11671	DOD EPA 1633
J2505781010	PAALF-PW17-041525rb	EXTj/11671	DOD EPA 1633
ICMj/5368 - DoD SW-846 6020A			
J2505781002	PAALF-PW11-041525	DGMj/10519	SW-846 3010A
J2505781003	PAALF-PW12-041525	DGMj/10519	SW-846 3010A
J2505781004	PAALF-PW16-041525	DGMj/10519	SW-846 3010A
J2505781005	PAALF-PW17-041525	DGMj/10519	SW-846 3010A
J2505781006	PAALF-PW19-041525	DGMj/10519	SW-846 3010A
J2505781008	PAALF-PW20-041525	DGMj/10519	SW-846 3010A
J2505781009	PAALF-PW20-041525dup	DGMj/10519	SW-846 3010A
J2505781010	PAALF-PW17-041525rb	DGMj/10519	SW-846 3010A

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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Cross Reference

Lab ID	Sample ID	Prep Batch	Prep Method
ICPj/4324 - DoD SW-846 6010C			
J2505781002	PAALF-PW11-041525	DGMj/10495	SW-846 3010A
J2505781003	PAALF-PW12-041525	DGMj/10495	SW-846 3010A
J2505781004	PAALF-PW16-041525	DGMj/10495	SW-846 3010A
J2505781005	PAALF-PW17-041525	DGMj/10495	SW-846 3010A
J2505781006	PAALF-PW19-041525	DGMj/10495	SW-846 3010A
J2505781008	PAALF-PW20-041525	DGMj/10495	SW-846 3010A
J2505781009	PAALF-PW20-041525dup	DGMj/10495	SW-846 3010A
J2505781010	PAALF-PW17-041525rb	DGMj/10495	SW-846 3010A
MSVj/12557 - DoD SW-846 8260C			
J2505781001	PAALF-TB-041525	MSVj/12556	SW-846 5030B
J2505781002	PAALF-PW11-041525	MSVj/12556	SW-846 5030B
J2505781003	PAALF-PW12-041525	MSVj/12556	SW-846 5030B
J2505781004	PAALF-PW16-041525	MSVj/12556	SW-846 5030B
J2505781005	PAALF-PW17-041525	MSVj/12556	SW-846 5030B
J2505781006	PAALF-PW19-041525	MSVj/12556	SW-846 5030B
J2505781008	PAALF-PW20-041525	MSVj/12556	SW-846 5030B
J2505781009	PAALF-PW20-041525dup	MSVj/12556	SW-846 5030B
J2505781010	PAALF-PW17-041525rb	MSVj/12556	SW-846 5030B
MSVj/12559 - DoD SW-846 8260C (SIM)			
J2505781001	PAALF-TB-041525	MSVj/12558	SW-846 5030B
J2505781002	PAALF-PW11-041525	MSVj/12558	SW-846 5030B
J2505781003	PAALF-PW12-041525	MSVj/12558	SW-846 5030B
J2505781004	PAALF-PW16-041525	MSVj/12558	SW-846 5030B
J2505781005	PAALF-PW17-041525	MSVj/12558	SW-846 5030B
J2505781006	PAALF-PW19-041525	MSVj/12558	SW-846 5030B
J2505781008	PAALF-PW20-041525	MSVj/12558	SW-846 5030B
J2505781009	PAALF-PW20-041525dup	MSVj/12558	SW-846 5030B
J2505781010	PAALF-PW17-041525rb	MSVj/12558	SW-846 5030B

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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Cross Reference

Lab ID	Sample ID	Prep Batch	Prep Method
MSVj/12599 - DoD SW-846 8260C			
J2505781001	PAALF-TB-041525	MSVj/12598	SW-846 5030B
J2505781002	PAALF-PW11-041525	MSVj/12598	SW-846 5030B
J2505781003	PAALF-PW12-041525	MSVj/12598	SW-846 5030B
J2505781004	PAALF-PW16-041525	MSVj/12598	SW-846 5030B
J2505781005	PAALF-PW17-041525	MSVj/12598	SW-846 5030B
J2505781006	PAALF-PW19-041525	MSVj/12598	SW-846 5030B
J2505781008	PAALF-PW20-041525	MSVj/12598	SW-846 5030B
J2505781009	PAALF-PW20-041525dup	MSVj/12598	SW-846 5030B
J2505781010	PAALF-PW17-041525rb	MSVj/12598	SW-846 5030B
WCAj/18534 - DoD EPA 300.0			
J2505781003	PAALF-PW12-041525		
J2505781004	PAALF-PW16-041525		
J2505781006	PAALF-PW19-041525		
J2505781008	PAALF-PW20-041525		
J2505781009	PAALF-PW20-041525dup		
WCAj/18541 - DoD EPA 300.0			
J2505781002	PAALF-PW11-041525		
J2505781005	PAALF-PW17-041525		
J2505781010	PAALF-PW17-041525rb		
WCAj/18542 - SM 2130 B-2011			
J2505781002	PAALF-PW11-041525		
J2505781003	PAALF-PW12-041525		
J2505781004	PAALF-PW16-041525		
J2505781005	PAALF-PW17-041525		
J2505781006	PAALF-PW19-041525		
J2505781008	PAALF-PW20-041525		
J2505781009	PAALF-PW20-041525dup		
J2505781010	PAALF-PW17-041525rb		

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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Cross Reference

Lab ID	Sample ID	Prep Batch	Prep Method
WCAj/18605 - DoD SM 2540 C-2015			
J2505781002	PAALF-PW11-041525		
J2505781003	PAALF-PW12-041525		
J2505781004	PAALF-PW16-041525		
J2505781005	PAALF-PW17-041525		
J2505781006	PAALF-PW19-041525		
J2505781008	PAALF-PW20-041525		
J2505781009	PAALF-PW20-041525dup		
J2505781010	PAALF-PW17-041525rb		
WCAj/18628 - DoD EPA 310.1			
J2505781002	PAALF-PW11-041525		
J2505781003	PAALF-PW12-041525		
J2505781004	PAALF-PW16-041525		
J2505781005	PAALF-PW17-041525		
J2505781006	PAALF-PW19-041525		
J2505781008	PAALF-PW20-041525		
J2505781009	PAALF-PW20-041525dup		
J2505781010	PAALF-PW17-041525rb		
WCAj/18671 - SM 4500 H+B-2011			
J2505781002	PAALF-PW11-041525		
J2505781003	PAALF-PW12-041525		
J2505781004	PAALF-PW16-041525		
J2505781005	PAALF-PW17-041525		
J2505781006	PAALF-PW19-041525		
J2505781008	PAALF-PW20-041525		
J2505781009	PAALF-PW20-041525dup		
J2505781010	PAALF-PW17-041525rb		

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Workorder: Phillips LF LTM - April 2025 (J2505781)

QC Cross Reference

Lab ID	Sample ID	Prep Batch	Prep Method
WCAj/18752 - DoD EPA 410.4			
J2505781002	PAALF-PW11-041525		
J2505781003	PAALF-PW12-041525		
J2505781004	PAALF-PW16-041525		
J2505781005	PAALF-PW17-041525		
J2505781006	PAALF-PW19-041525		
J2505781008	PAALF-PW20-041525		
J2505781009	PAALF-PW20-041525dup		
J2505781010	PAALF-PW17-041525rb		
WCAj/18843 - SM 2510 B-2011			
J2505781002	PAALF-PW11-041525		
J2505781003	PAALF-PW12-041525		
J2505781004	PAALF-PW16-041525		
J2505781005	PAALF-PW17-041525		
J2505781006	PAALF-PW19-041525		
J2505781008	PAALF-PW20-041525		
J2505781009	PAALF-PW20-041525dup		
J2505781010	PAALF-PW17-041525rb		

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☐ Fort Myers: 13100 Westlakes Terrace, Ste. 10, FL 33913 • 239.674.8100 • Lab ID: E54492
☒ Jacksonville: 5581 Southpoint Pkwy., FL 32216 • 904.363.9350 • Lab ID: E82574
☐ Tallahassee: 2638 North Monroe St., Suite D, FL 32303 • 850.219.6274 • Lab ID: E511095

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* J 2 5 0 5 7 8 1 *

Client Name:	ECC	Project Name:	Phillips LF LTM - April 2025		
Address:	1304 Governor Ct, Suite 101	Project Number:	5583.011		
	Abingdon, MD 21009	PO Number:	5583.011		
Phone:	410-671-2970	FDEP Facility No.:	-		
FAX:		FDEP Facility Addr.:			
Contact:	J.Schaefer/H. Cavanagh				
Sampled By:	K. Faison/T. Zatalava/S. Walsh	Special Instructions:	*6 selected PFAS: PFOA, PFOS, PFHxS, PFNA, PFBS, and HFPO-DA		
Turn Around Time:	Standard x Rush				
AEL Profile #:	65695	ADaPT	Other		
		EQUIS			
SAMPLE ID	SAMPLE DESCRIPTION	Grab Comp	SAMPLING DATE TIME	MATRIX	NO COUNT
	PAALF-TB-041525		4/15/25 0700	DI	3
	PAALF-PW11-041525		4/15/25 0900	GW	11
	PAALF-PW12-041525		4/15/25 1035	GW	11
	PAALF-PW16-041525		4/15/25 1100	GW	11
	PAALF-PW17-041525		4/15/25 1245	GW	11
	PAALF-PW19-041525		4/15/25 0925	GW	11
	PAALF-PW19-041525fb		4/15/25 0925	DI	3
	PAALF-PW20-041525		4/15/25 1240	GW	11
	PAALF-PW20-041525dup		4/15/25 0000	GW	11
	PAALF-PW17 -041525fb		4/15/25 1355	DI	11

ANALYSIS REQUIRED	Preservation	Field Filtered?	40 mL	250 mL	125 mL	1L Plastic	250 mL Plastic	250 mL Plastic	LABORATORY I.D. NUMBER
VOCs (8260)	HCL								
Total Metals/Hardness (6010/6020/7470)	HNO3								
Anions (chloride, nitrate, sulfate)	None								
TDS/Alk/pH/Cond/Turb	None								
COD	H2SO4								
Ammonia	H2SO4								
1633 PFAS (*see note)	None								

Matrix Code: WW = wastewater SW = surface water GW = ground water DW = drinking water O = oil A = air SO = soil SL = sludge Preservation Code: I = ice H=(HCl) S = (H2SO4) N = (HNO3) T = (Sodium Thiosulfate)
Received on Ice ☒ Yes ☐ No ☐ Temp taken from sample ☐ Temp from blank ☐ Where required, pH checked
Temp. when received (observed) 0.3 °C Temp. when received (corrected) 0.3 °C
G: LT-1 LT-2 T: 10A A: 3A M: 3A S: 1V F: 1A

DCN: AD-D051web Form last revised 08/07/2019

Relinquished by:	Date	Time	Received by:	Date	Time
<i>Val J</i>	4/15/25	15:30	<i>Felix</i>	4-16-25	900
<i>Felix</i>			<i>R</i>		

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FOR DRINKING WATER USE:

(When PWS information not otherwise supplied) PWS ID: _____
Contact Person: _____
Supplier of Water: _____
Site Address: _____



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Sample Receiving Checklist

☒ JAX ☐ TPA ☐ MIA ☐ ALS
☐ FTM ☐ GNV ☐ LPD ☐ SEM



* J 2 5 0 5 7 8 1 *

Client: ECC

Log-In request number: _____

Received by: Ryan Bennett

Project name: Phillips LFLTM April 2025

Date/Time: 4-16-25 900

Completed by: [Signature]

Cooler/Shipping Information: Type: ☒ Cooler ☐ Box ☐ Other (describe) 8182 1223 6113

Courier: ☐ AEL ☐ Client ☐ UPS ☐ Blue Streak ☒ FedEx ☐ Other **Tracking #** 8182 1223 6102

Cooler temperature: Identify the cooler and document the temperature blank (bottle) or ice water (cooler) measurement 8182 1223 6124

Cooler/Container ID	1	2	3		
Temp (°C)	0.3	0.3	0.3		
Temp taken from	☒ Bottle ☐ Cooler	☒ Bottle ☐ Cooler	☒ Bottle ☐ Cooler	☐ Bottle ☐ Cooler	☐ Bottle ☐ Cool
Temp measured with	IR gun/Therm (ID): <u>J9A</u>	IR gun/Therm (ID): <u>J9A</u>	IR gun/Therm (ID): <u>J9A</u>	IR gun/Therm (ID):	IR gun/Therm (ID):

Other Information: Any discrepancies should be explained in the "Comments" section below.

CHECKLIST	YES	NO	NA
1. Were custody seals on shipping container(s) intact?	X		
2. Were custody papers properly included with samples?	X		
3. Were custody papers properly filled out (ink, signed, match labels)?	X		
4. Did all bottles arrive in good condition (unbroken)?	X		
5. Were all bottle labels complete (sample #, date, signed, analysis, preservatives)?	X		
6. Did the sample labels agree with the chain of custody?	X		
7. Were correct bottles used for the tests indicated?	X		
8. Were proper sample preservation techniques indicated on the label?	X		
9. Were samples received within holding times?	X		
10. Were all VOA vials free of the presence of air bubbles?	X		
11. Have all Soil VOA Vials and Encores been placed in a freezer within 48 hours of collection?			X
12. Were samples in direct contact with wet ice? If "No," check one: ☐ NO ICE ☐ BLUE ICE	X		
13. Was the cooler temperature less than 6°C?	X		
14. Where pH preservation required, are sample pHs checked and any anomalies recorded by Sample control? Are all <2 or >10? Note: VOA samples are checked by laboratory analysts.	X		
15. Was sufficient sample volume provided to perform all tests?	X		
16. If for Bacteriological testing, were containers supplied by AEL? (See QA officer if answer is no)			X
17. Were all sample containers provided by AEL? (Other than Bacteriological)	X		
18. Were samples accepted into the laboratory?	X		
19. When necessary to split samples into other bottles, is it noted in the comments?	X		
20. Where Encores received and if so, how many?			X

Comments: (Note all sample(s) and container (s) with a "No" checklist response in this comment section)

PW11 has two bottles labeled for NH₃ and no COD.
PW20 dup has two bottles labeled for COD and no NH₃.



Work Order: J2505781
Client: Environmental Chemical Co.
Project ID: Phillips LF LTM - April 2025
Batch Number: 5368

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: DoD SW-846 6020A
Preparation: SW-846 3010A

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: All acceptance criteria were met.
Blanks: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Spikes: A matrix spike (MS) and duplicate matrix spike (MSD) was performed on a sample not associated with this SDG.

Internal Standard: All acceptance criteria were met.
Samples: All acceptance criteria were met.
Other: All acceptance criteria were met.
Serial Dilution: All acceptance criteria were met.
Duplicates: All acceptance criteria were met.



Work Order: J2505781
Client: Environmental Chemical Co.
Project ID: Phillips LF LTM - April 2025
Batch Number: 18628

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: DoD EPA 310.1
Preparation:

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: All acceptance criteria were met.
Blanks: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Spikes: All acceptance criteria were met.
Internal Standard: All acceptance criteria were met.
Samples: All acceptance criteria were met.
Other: All acceptance criteria were met.
Serial Dilution: All acceptance criteria were met.
Duplicates: All acceptance criteria were met.



Work Order: J2505781
Client: Environmental Chemical Co.
Project ID: Phillips LF LTM - April 2025
Batch Number: 18752

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: DoD EPA 410.4
Preparation:

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: All acceptance criteria were met.
Blanks: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Spikes: All acceptance criteria were met.
Internal Standard: All acceptance criteria were met.
Samples: All acceptance criteria were met.
Other: All acceptance criteria were met.
Serial Dilution: All acceptance criteria were met.
Duplicates: All acceptance criteria were met.



Work Order: J2505781
Client: Environmental Chemical Co.
Project ID: Phillips LF LTM - April 2025
Batch Number: 12559

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: DoD SW-846 8260C (SIM)
Preparation: SW-846 5030B

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: All acceptance criteria were met.
Blanks: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Spikes: All acceptance criteria were met.
Internal Standard: All acceptance criteria were met.
Samples: All acceptance criteria were met.
Other: All acceptance criteria were met.
Serial Dilution: All acceptance criteria were met.
Duplicates: All acceptance criteria were met.



Work Order: J2505781
Client: Environmental Chemical Co.
Project ID: Phillips LF LTM - April 2025
Batch Number: 3366

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: DOD EPA 1633
Preparation: DOD EPA 1633

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: All acceptance criteria were met.
Blanks: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Spikes: The spike recovery of several analytes for the Laboratory Control Sample (5806981-LCS-M) and Laboratory Control Sample Duplicate (5806982-LCSD-M) were outside the upper control criterion. The analytes in question were not detected in the associated client samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was required.

Internal Standard: All acceptance criteria were met.
Samples: All acceptance criteria were met.
Other: Due to software limitations, the Ion Abundance Ratio (IAR) did not meet the method specified acceptance criteria for parameter N-Et-FOSA in 5806980-LCS-L. The area of the branched isomer was greater than the main N-Et-FOSA peak. Therefore, the processing software would not allow full integration of qualitative ion. As per EPA 1633, the data were qualified to indicate the results should be a tentative identification/estimated value. No further corrective action required.



Serial Dilution: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.



Work Order: J2505781
Client: Environmental Chemical Co.
Project ID: Phillips LF LTM - April 2025
Batch Number: 18534

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: DoD EPA 300.0
Preparation:

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: All acceptance criteria were met.
Blanks: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Spikes: All acceptance criteria were met.
Internal Standard: All acceptance criteria were met.
Samples: All acceptance criteria were met.
Other: All acceptance criteria were met.
Serial Dilution: All acceptance criteria were met.
Duplicates: All acceptance criteria were met.



Work Order: J2505781
Client: Environmental Chemical Co.
Project ID: Phillips LF LTM - April 2025
Batch Number: 2936

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: DoD SW-846 7470A
Preparation: SW-846 7470A

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: All acceptance criteria were met.
Blanks: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Spikes: A matrix spike (MS) and duplicate matrix spike (MSD) was performed on a sample not associated with this SDG.

Internal Standard: All acceptance criteria were met.
Samples: All acceptance criteria were met.
Other: All acceptance criteria were met.
Serial Dilution: All acceptance criteria were met.
Duplicates: All acceptance criteria were met.



Work Order: J2505781
Client: Environmental Chemical Co.
Project ID: Phillips LF LTM - April 2025
Batch Number: 18541

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: DoD EPA 300.0
Preparation:

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: All acceptance criteria were met.
Blanks: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Spikes: The matrix spike (MS) and/or matrix spike duplicate (MSD) recoveries of Sulfate for J2505781005 were outside control criteria. Recoveries in the Laboratory Control Sample (LCS) were acceptable, which indicates the analytical batch was in control. The data was flagged accordingly.

A matrix spike (MS) and duplicate matrix spike (MSD) was performed on a sample not associated with this SDG.

Internal Standard: All acceptance criteria were met.
Samples: All acceptance criteria were met.
Other: All acceptance criteria were met.
Serial Dilution: All acceptance criteria were met.
Duplicates: All acceptance criteria were met.



Work Order: J2505781
Client: Environmental Chemical Co.
Project ID: Phillips LF LTM - April 2025
Batch Number: 12557

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: DoD SW-846 8260C
Preparation: SW-846 5030B

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: The upper control criterion was exceeded for Vinyl Acetate in Initial Calibration Verification (ICV) and Continuing Calibration Verification (CCV) standards for analytical batch 12557, indicating increased sensitivity. The client samples reported in this batch did not contain the analytes in question. Since the apparent problem equates to a potential high bias, the data quality is not affected. The data were qualified accordingly.

The Continuing Calibration Verification (CCV) standards were below the method acceptance of 80-120% for Iodomethane. The samples were reanalyzed and confirmed results. As the analytes in question were not detected in the field samples, the results are deemed acceptable. The data were qualified accordingly.

Blanks: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Spikes



The spike recovery of Vinyl Acetate for the Laboratory Control Sample (LCS) and the Laboratory Control Sample Duplicate (LCSD) was outside the upper control criterion. The analyte in question was not detected in the associated client samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. The data were qualified accordingly.

The spike recovery of Iodomethane for the Laboratory Control Sample (LCS) was outside the lower control criterion. The error associated with the recovery equates to a low bias. The samples were reanalyzed and confirmed results. All batch samples were qualified accordingly.

Internal Standard: All acceptance criteria were met.

Samples: All acceptance criteria were met.

Other: All acceptance criteria were met.

Serial Dilution: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.



Work Order: J2505781
Client: Environmental Chemical Co.
Project ID: Phillips LF LTM - April 2025
Batch Number: 18843

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: SM 2510 B-2011
Preparation:

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: All acceptance criteria were met.
Blanks: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Spikes: All acceptance criteria were met.
Internal Standard: All acceptance criteria were met.
Samples: All acceptance criteria were met.
Other: All acceptance criteria were met.
Serial Dilution: All acceptance criteria were met.
Duplicates: All acceptance criteria were met.



Work Order: J2505781
Client: Environmental Chemical Co.
Project ID: Phillips LF LTM - April 2025
Batch Number: 4324

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: DoD SW-846 6010C
Preparation: SW-846 3010A

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: All acceptance criteria were met.
Blanks: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Spikes: A matrix spike (MS) and duplicate matrix spike (MSD) was performed on a sample not associated with this SDG.

Internal Standard: All acceptance criteria were met.
Samples: All acceptance criteria were met.
Other: All acceptance criteria were met.
Serial Dilution: All acceptance criteria were met.
Duplicates: All acceptance criteria were met.



Work Order: J2505781
Client: Environmental Chemical Co.
Project ID: Phillips LF LTM - April 2025
Batch Number: 18605

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: DoD SM 2540 C-2015
Preparation:

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: All acceptance criteria were met.
Blanks: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Spikes: All acceptance criteria were met.
Internal Standard: All acceptance criteria were met.
Samples: All acceptance criteria were met.
Other: All acceptance criteria were met.
Serial Dilution: All acceptance criteria were met.
Duplicates: All acceptance criteria were met.



Work Order: J2505781
Client: Environmental Chemical Co.
Project ID: Phillips LF LTM - April 2025
Batch Number: 12599

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: DoD SW-846 8260C
Preparation: SW-846 5030B

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: The upper control criterion was exceeded for Chloromethane, Bromomethane and Iodomethane in Initial Calibration Verification (ICV) and/or Continuing Calibration Verification (CCV) standards for analytical batch 12599, indicating increased sensitivity. The client samples reported in this batch did not contain the analytes in question. Since the apparent problem equates to a potential high bias, the data quality is not affected. The data were qualified accordingly.

Blanks: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Spikes: The spike recoveries of Bromomethane and Iodomethane for the Laboratory Control Sample (LCS) were outside the upper control criterion. The analyte in question was not detected in the associated client samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. The data were qualified accordingly.

Internal Standard: All acceptance criteria were met.

Samples: All acceptance criteria were met.

Other: All acceptance criteria were met.

Serial Dilution: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.



Work Order: J2505781
Client: Environmental Chemical Co.
Project ID: Phillips LF LTM - April 2025
Batch Number: 18671

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: SM 4500H+B
Preparation:

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: All acceptance criteria were met.
Blanks: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Spikes: All acceptance criteria were met.
Internal Standard: All acceptance criteria were met.
Samples: All acceptance criteria were met.
Other: All acceptance criteria were met.
Serial Dilution: All acceptance criteria were met.
Duplicates: All acceptance criteria were met.



Work Order: J2505781
Client: Environmental Chemical Co.
Project ID: Phillips LF LTM - April 2025
Batch Number: 18542

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.

Analysis: All holding times were met.

III. Method

Analysis: SM 2130B

Preparation:

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: All acceptance criteria were met.

Blanks: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Spikes: All acceptance criteria were met.

Internal Standard: All acceptance criteria were met.

Samples: All acceptance criteria were met.

Other: All acceptance criteria were met.

Serial Dilution: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

ANALYTICAL SUMMARY REPORT

This report at a minimum contains the following information:

- Analytical Report of Test Results
- Description of QC Qualifiers
- Chain of Custody (copy)
- Quality Control Summary (if applicable)
- Case Narrative (if applicable)
- Correspondence with Client (if applicable)

This report has been specifically prepared to satisfy project or program requirements. These results are in compliance with NELAC requirements for parameters where accreditation is required or available, unless otherwise noted in the case narrative.

AEL, INC.
 CRAIG MYERS
 6681 SOUTHPOINT PKWY
 JACKSONVILLE, FL 32216

Project Name: PHILLIPS LF LTM - APRIL 2025
 Project Phase:
 Project #: AEL WO # J2505781
 Folder #: 194399
 Purchase Order #: J-PO-35980
 Contract #: 3532

Arrival Temperature: 1.8
 Report Date: 5/5/2025
 Date Received: 4/18/2025
 Reprint Date: 5/5/2025

ANALYTICAL SAMPLE DATA

CT LAB#: 1574777	Sample Description: PAALF-PW11-041525				Client Sample #: J2505781002				Sampled: 4/15/2025 00:00			
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Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method
Ammonia Nitrogen	<0.30	mg/L	0.13	0.30	0.50	0.50	1.00	U	M		4/23/25	10:16	RLB EPA 350.1

CT LAB#: 1574779	Sample Description: PAALF-PW12-041525				Client Sample #: J2505781003				Sampled: 4/15/2025 00:00			
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Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method
Ammonia Nitrogen	1.6	mg/L	0.13	0.30	0.50	0.50	1.00				4/23/25	10:21	RLB EPA 350.1

CT LAB#: 1574780	Sample Description: PAALF-PW16-041525				Client Sample #: J2505781004				Sampled: 4/15/2025 00:00			
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Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method
Ammonia Nitrogen	<0.30	mg/L	0.13	0.30	0.50	0.50	1.00	U			4/23/25	10:22	RLB EPA 350.1

Unless specifically stated to the contrary, soil/sediment/sludge sample results reported on a Dry Weight Basis

CT LAB#: 1574781	Sample Description: PAALF-PW19-041525	Client Sample #: J2505781005	Sampled: 4/15/2025 00:00
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Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method
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Inorganic Results

Ammonia Nitrogen	<0.30	mg/L	0.13	0.30	0.50	0.50	1.00	U			4/23/25	10:23	RLB	EPA 350.1
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CT LAB#: 1574782	Sample Description: PAALF-PW19-041525	Client Sample #: J2505781006	Sampled: 4/15/2025 00:00
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Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method
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Inorganic Results

Ammonia Nitrogen	<0.30	mg/L	0.13	0.30	0.50	0.50	1.00	U			4/23/25	10:25	RLB	EPA 350.1
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CT LAB#: 1574783	Sample Description: PAALF-PW20-041525	Client Sample #: J2505781008	Sampled: 4/15/2025 00:00
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Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method
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Inorganic Results

Ammonia Nitrogen	<0.30	mg/L	0.13	0.30	0.50	0.50	1.00	U			4/23/25	10:28	RLB	EPA 350.1
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CT LAB#: 1574784	Sample Description: PAALF-PW20-041525dup	Client Sample #: J2505781009	Sampled: 4/15/2025 00:00
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Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method
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Inorganic Results

Ammonia Nitrogen	<0.30	mg/L	0.13	0.30	0.50	0.50	1.00	U			4/23/25	10:30	RLB	EPA 350.1
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CT LAB#: 1574785	Sample Description: PAALF-PW17-041525fb	Client Sample #: J2505781010	Sampled: 4/15/2025 00:00			
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Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method
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Inorganic Results

Ammonia Nitrogen	<0.30	mg/L	0.13	0.30	0.50	0.50	1.00	U			4/23/25 10:31	RLB	EPA 350.1 ^
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Notes:

^ Indicates the laboratory is NELAP accredited for this analyte by the indicated matrix and method. DL (detection limit), LOD (limit of detection), loq (limit of quantitation) as defined by most recent DOD QSM version.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

This report has been specifically prepared to satisfy project or program requirements. These results are in compliance with NELAC requirements for the parameters where accreditation is required or available, unless noted in the case narrative.

Submitted by: Brett M. Szymanski
Project Manager
608-356-2760

QC Qualifiers		Current CT Laboratories Certifications
Code	Description	
A	Result cannot be used for compliance due to QC issue	
B	Analyte detected in the associated Method Blank.	
C	Toxicity present in BOD sample.	
D	Diluted Out.	
E	Safe, No Total Coliform detected.	
F	Unsafe, Total Coliform detected, no E. Coli detected.	Wisconsin (WDNR) Chemistry ID# 157066030
G	Unsafe, Total Coliform detected and E. Coli detected.	Wisconsin (DATCP) Bacteriology ID# 289
H	Holding time exceeded.	Louisiana NELAP (primary) ID# 115843
I	Incubator temperature was outside acceptance limits during test period.	Illinois NELAP Lab ID# 200073
J	Estimated value.	Kansas NELAP Lab ID# E-10368
L	Significant peaks were detected outside the chromatographic window.	Virginia NELAP Lab ID# 460203
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.	Florida NELAP Lab ID# E871111
N	Insufficient BOD oxygen depletion.	
O	Complete BOD oxygen depletion.	
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.	
Q	Laboratory Control Sample outside acceptance limits.	
R	See Narrative at end of report.	DoD-ELAP QSM5.4 -
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.	PJLA Testing Accreditation # 78929
T	Sample received with improper preservation or temperature.	
U	Analyte concentration was below detection limit.	
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.	ISO/IEC 17025-2017 Accredited -
W	Sample amount received was below program minimum.	PJLA Testing Accreditation # 78929
X	Analyte exceeded calibration range.	
Y	Replicate/Duplicate precision outside acceptance limits.	
Z	Specified calibration criteria was not met.	



QC Summary Report

AEL, INC.

Project Name: PHILLIPS LF LTM - APRIL 2025

SDG #: 0

Folder #: 194399

Project #: AEL WO # J2505781

Duplicate

Analytical Run #:	291052	Analysis Date:	4/23/2025	Prep Batch #:	Matrix:	GROUND WATER
CTLab #:	1577054	Analysis Time:	10:17	Prep Date/Time:	Method:	E350.1
Parent Sample #:	1574777	Analyst:	DC	Prep Analyst:		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Ammonia Nitrogen	0.13	mg/L	<DL	U				0	20

AEL, INC.

Project Name: PHILLIPS LF LTM - APRIL 2025

SDG #: 0

Folder #: 194399

Project #: AEL WO # J2505781

Lab Control Spike Water

Analytical Run #:	291052	Analysis Date:	4/23/2025	Prep Batch #:	Matrix:	LIQUID
CTLab #:	1575955	Analysis Time:	09:59	Prep Date/Time:	Method:	E350.1
Parent Sample #:		Analyst:	RLB	Prep Analyst:		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Ammonia Nitrogen	1.23	mg/L			1.25	98	90 --- 110		

AEL, INC.

Project Name: PHILLIPS LF LTM - APRIL 2025

SDG #: 0

Folder #: 194399

Project #: AEL WO # J2505781

Method Blank Water

Analytical Run #:	291052	Analysis Date:	4/23/2025	Prep Batch #:	Matrix:	LIQUID
CTLab #:	1575956	Analysis Time:	10:00	Prep Date/Time:	Method:	E350.1
Parent Sample #:		Analyst:	RLB	Prep Analyst:		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Ammonia Nitrogen	0.13	mg/L		U	0		0.25		

AEL, INC.

Project Name: PHILLIPS LF LTM - APRIL 2025

SDG #: 0

Folder #: 194399

Project #: AEL WO # J2505781

Matrix Spike Duplicate Water

Analytical Run #:	291052	Analysis Date:	4/23/2025	Prep Batch #:	Matrix:	GROUND WATER
CTLab #:	1577056	Analysis Time:	10:20	Prep Date/Time:	Method:	E350.1
Parent Sample #:	1577055	Analyst:	DC	Prep Analyst:		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Ammonia Nitrogen	1.06	mg/L	<DL		1.25	85	90 --- 110	2	20

AEL, INC.

Project Name: PHILLIPS LF LTM - APRIL 2025

SDG #: 0

Folder #: 194399

Project #: AEL WO # J2505781

Matrix Spike Water

Analytical Run #:	291052	Analysis Date:	4/23/2025	Prep Batch #:	Matrix:	GROUND WATER
CTLab #:	1577055	Analysis Time:	10:19	Prep Date/Time:	Method:	E350.1
Parent Sample #:	1574777	Analyst:	DC	Prep Analyst:		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Ammonia Nitrogen	1.08	mg/L	<DL		1.25	86	90 --- 110		20

Sample Condition Report

Folder #:	194399	Print Date / Time:	04/18/2025	12:14
Client:	AEL, INC.	Received Date / Time / By:	04/18/2025	10:35 erc
Project Name:	PHILLIPS LF LTM - APRIL 2025	Log-In Date / Time / By:	04/18/2025	12:14 erc
Project Phase:		Project #:	AEL WO # J2505781	PM: BMS
Coolers:	1-UNMARKED	Temperature:	1.8 C	On Ice: Y
Custody Seals Present :	N	COC Present:?	Y	Complete? Y
Seal Intact?	N	Numbers:	N/A	
Ship Method:	FEDEX EXPRESS	Tracking Number:	416751224952	
Adequate Packaging:	Y	Temp Blank Enclosed?	Y	

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

NO CUSTODY SEALS WERE PRESENT ON THE COOLER UPON RECEIPT; HOWEVER, THE PACKAGING TAPE WAS INTACT.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
1574777 PAALF-PW11-041525				
	H2SO4 PL	1	Y / N	NH3N
	Total # of Containers of Type (H2SO4 PL) = 1			
Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
1574779 PAALF-PW12-041525				
	H2SO4 PL	1	Y / N	NH3N
	Total # of Containers of Type (H2SO4 PL) = 1			
Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
1574780 PAALF-PW16-041525				
	H2SO4 PL	1	Y / N	NH3N
	Total # of Containers of Type (H2SO4 PL) = 1			
Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
1574781 PAALF-PW17-041525				
	H2SO4 PL	1	Y / N	NH3N
	Total # of Containers of Type (H2SO4 PL) = 1			
Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
1574782 PAALF-PW19-041525				
	H2SO4 PL	1	Y / N	NH3N
	Total # of Containers of Type (H2SO4 PL) = 1			
Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

1574783 PAALF-PW20-041525

H2SO4 PL 1 Y / N NH3N
Total # of Containers of Type (H2SO4 PL) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
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1574784 PAALF-PW20-041525dup

H2SO4 PL 1 Y / N NH3N
Total # of Containers of Type (H2SO4 PL) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
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1574785 PAALF-PW17-041525rb

H2SO4 PL 1 Y / N NH3N
Total # of Containers of Type (H2SO4 PL) = 1

Condition Code Condition Description

1 Sample Received OK

Chain of Custody

Document: 418710 - HBN 329396

Preservative

H2SO4 = H2SO4

Transfers	Released By	Date/Time	Received By	Date/Time
1		4/17/25	1310	7:55 PM
2				
3				
4				
5				



Cooler Receipt Form

Ice Present YES NO
Observed Temperature 1.8
Actual Temperature _____
IR Gun # 37
Initials E
Date 4/18/25 Time 1035
Cooler #: xxx

ORIGIN ID:NRBA (904) 363-9350
JASON GEBHARDT
AEL, INC.
6681 SOUTHPOINT PARKWAY

JACKSONVILLE, FL 32216
UNITED STATES US

SHIP DATE: 17APR25
ACTWGT: 33.88 LB
CAD: 0581870/CAFE3906

BILL SENDER

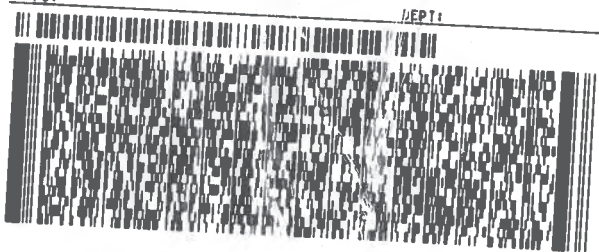
TO **SAMPLE RECEIVING
CT LABORATORIES
1230 LANGE COURT**

BARABOO WI 53913

(808) 356-2780

REF:

DEPT:



**FedEx
Express**



TRK# 4167 5122 4952
0201

**FRI - 18 APR 5:00P
STANDARD OVERNIGHT**

XH LNRA

**53913
WI-US MSN**



Part # 156148-434 MTW EXP 12/24



Advanced Environmental Laboratories, Inc
6681 Southpoint Pkwy Jacksonville, FL 32216
Payments: P.O. Box 551580 Jacksonville, FL 32255-1580
Phone: (904) 363-9350
Fax: (904) 363-9354

FINAL

Workorder: Phillips LF LTM - June 2025 (J2508428)

June 11, 2025

Tara Weeks
Environmental Chemical Corporation (ECC)
1304 Governor Ct
Suite 101
Abingdon, MD 21009

RE: Workorder: J2508428 Phillips LF LTM - June 2025

Dear Tara Weeks:

Enclosed are the analytical results for sample(s) received by the laboratory on Wednesday June 4, 2025. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. The analytical results for the samples contained in this report were submitted for analysis as outlined by the Chain of Custody and results pertain only to these samples.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Craig Myers, Client Services Manager
CMyers@aellab.com

Wednesday, June 11, 2025 9:26:40 AM
Dates and times are displayed using (-04:00)
Page 1 of 14

Certificate of Analysis

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without the written consent of Advanced Environmental Laboratories, Inc.



NELAP Accredited E82574

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HORIZON
v.13.1.0



Advanced Environmental Laboratories, Inc
6681 Southpoint Pkwy Jacksonville, FL 32216
Payments: P.O. Box 551580 Jacksonville, FL 32255-1580
Phone: (904) 363-9350
Fax: (904) 363-9354

FINAL

Workorder: Phillips LF LTM - June 2025 (J2508428)

Sample Summary

Lab ID	Sample ID	Matrix	Method	Date Collected	Date Received	Analytes Reported	Basis
J2508428001	PAALF-PW19-060325	WA	DOD EPA 1633	06/03/2025 10:40	06/04/2025 09:00	1	NA
J2508428002	PAALF-PW19-060325fb	WA	DOD EPA 1633	06/03/2025 10:40	06/04/2025 09:00	1	NA

Wednesday, June 11, 2025 9:26:40 AM
Dates and times are displayed using (-04:00)
Page 2 of 14

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Workorder: Phillips LF LTM - June 2025 (J2508428)

Workorder Summary

Workorder Comments

Rush Workorder

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Workorder: Phillips LF LTM - June 2025 (J2508428)

Analytical Results Qualifiers

Parameter Qualifiers

- U The compound was analyzed for but not detected.
- J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

Lab Qualifiers

- J DOH Certification #E82574 (FL NELAC) AEL-Jacksonville
DOD-ELAP Certification #L23-514 (ISO/IEC 17025:2017) AEL-Jacksonville

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Workorder: Phillips LF LTM - June 2025 (J2508428)

Analytical Results

Lab ID: J2508428001	Date Collected: 06/03/2025 10:40	Matrix: Water
Sample ID: PAALF-PW19-060325	Date Received: 06/04/2025 09:00	

Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
(DOD EPA 1633)									
PFOA	6.8	ng/L	0.40	0.80	1.6	1	06/06/2025 08:30	06/06/2025 22:13	J

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
D7-NMEFOSE (S)	ng/L	200	121	61	10 - 130	J
D5-NETFOSAA (S)	ng/L	40	30.70	77	25 - 135	J
13C5-PFPEA (S)	ng/L	40	35.70	89	40 - 130	J
13C9-PFNA (S)	ng/L	10	8.68	87	40 - 130	J
D3-NMEFOSAA (S)	ng/L	40	34	85	40 - 170	J
13C2-PFDOA (S)	ng/L	10	6.86	69	10 - 130	J
13C8-FOSA (S)	ng/L	20	15.40	77	40 - 130	J
D9-NETFOSE (S)	ng/L	200	112	56	10 - 130	J
13C4-PFBA (S)	ng/L	80	62.60	78	10 - 130	J
13C2-PFTEDA (S)	ng/L	10	5.08	51	10 - 130	J
13C3-PFHXS (S)	ng/L	20	17.30	86	40 - 130	J
13C5-PFHXA (S)	ng/L	20	18.30	92	40 - 130	J
13C3-PFBS (S)	ng/L	20	17.50	87	40 - 135	J
13C3-HFPO-DA (S)	ng/L	80	70.70	88	40 - 130	J
13C2-6:2FTS (S)	ng/L	40	34.60	86	40 - 200	J





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Workorder: Phillips LF LTM - June 2025 (J2508428)

Analytical Results

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
13C4-PFHPA (S)	ng/L	20	18.70	93	40 - 130	J
13C2-4:2FTS (S)	ng/L	40	56.70	142	40 - 200	J
D3-NMEFOSA (S)	ng/L	20	13	65	10 - 130	J
13C2-8:2FTS (S)	ng/L	40	25.10	63	40 - 300	J
13C6-PFDA (S)	ng/L	10	8.43	84	40 - 130	J
D5-NETFOSA (S)	ng/L	20	11.30	57	10 - 130	J
13C7-PFUNA (S)	ng/L	10	8.13	81	30 - 130	J
13C8-PFOA (S)	ng/L	20	19.60	98	40 - 130	J
13C8-PFOS (S)	ng/L	20	16.20	81	40 - 130	J

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Workorder: Phillips LF LTM - June 2025 (J2508428)

Analytical Results

Lab ID: J2508428002	Date Collected: 06/03/2025 10:40	Matrix: Water
Sample ID: PAALF-PW19-060325fb	Date Received: 06/04/2025 09:00	

Parameter	Results	Units	DL	LOD	LOQ	DF	Prepared	Analyzed	Lab
(DOD EPA 1633)									
PFOA	0.80U	ng/L	0.40	0.80	1.6	1	06/06/2025 08:30	06/06/2025 21:42	J

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
13C2-PFTEDA (S)	ng/L	10	6.47	65	10 - 130	J
13C6-PFDA (S)	ng/L	10	8.87	89	40 - 130	J
D3-NMEFOSA (S)	ng/L	20	12.60	63	10 - 130	J
13C8-FOSA (S)	ng/L	20	15.40	77	40 - 130	J
13C5-PFPEA (S)	ng/L	40	35.60	89	40 - 130	J
13C7-PFUNA (S)	ng/L	10	8	80	30 - 130	J
D5-NETFOSAA (S)	ng/L	40	31.30	78	25 - 135	J
13C5-PFHXA (S)	ng/L	20	17.70	88	40 - 130	J
13C3-PFHXS (S)	ng/L	20	17.10	85	40 - 130	J
13C4-PFBA (S)	ng/L	80	73.90	92	10 - 130	J
D7-NMEFOSE (S)	ng/L	200	123	61	10 - 130	J
13C4-PFHFA (S)	ng/L	20	18.40	92	40 - 130	J
13C3-PFBS (S)	ng/L	20	18.60	93	40 - 135	J
D5-NETFOSA (S)	ng/L	20	11.40	57	10 - 130	J
13C8-PFOS (S)	ng/L	20	17.70	88	40 - 130	J





FINAL

Workorder: Phillips LF LTM - June 2025 (J2508428)

Analytical Results

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
13C9-PFNA (S)	ng/L	10	8.94	89	40 - 130	J
D3-NMEFOSAA (S)	ng/L	40	33.80	84	40 - 170	J
13C2-PFDOA (S)	ng/L	10	7.39	74	10 - 130	J
13C3-HFPO-DA (S)	ng/L	80	72	90	40 - 130	J
13C2-6:2FTS (S)	ng/L	40	43.30	108	40 - 200	J
13C8-PFOA (S)	ng/L	20	18.30	91	40 - 130	J
13C2-4:2FTS (S)	ng/L	40	41.30	103	40 - 200	J
13C2-8:2FTS (S)	ng/L	40	35.90	90	40 - 300	J
D9-NETFOSE (S)	ng/L	200	114	57	10 - 130	J

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FINAL

Workorder: Phillips LF LTM - June 2025 (J2508428)

QC Results

QC Batch: HPLj/3476
Preparation Method: DOD EPA 1633
Associated Lab IDs: J2508428001, J2508428002

Analysis Method: DOD EPA 1633

Method Blank(5871584)

Parameter	Results	Units	DL	LOD	LOQ	Lab
PFOA	0.80U	ng/L	0.40	0.80	1.6	J

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
13C2-4:2FTS (S)	ng/mL	0.04	0.0406	101	40 - 200	J
13C2-6:2FTS (S)	ng/mL	0.04	0.0398	99	40 - 200	J
13C2-8:2FTS (S)	ng/mL	0.04	0.0380	95	40 - 300	J
13C2-PFDOA (S)	ng/mL	0.01	0.008450	85	10 - 130	J
13C2-PFTEDA (S)	ng/mL	0.01	0.0077	77	10 - 130	J
13C3-HFPO-DA (S)	ng/mL	0.08	0.0738	92	40 - 130	J
13C3-PFBS (S)	ng/mL	0.02	0.0183	92	40 - 135	J
13C3-PFHXS (S)	ng/mL	0.02	0.0178	89	40 - 130	J
13C4-PFBA (S)	ng/mL	0.08	0.0744	93	10 - 130	J
13C4-PFHPA (S)	ng/mL	0.02	0.0190	95	40 - 130	J
13C5-PFHXA (S)	ng/mL	0.02	0.0183	92	40 - 130	J
13C5-PFPEA (S)	ng/mL	0.04	0.0366	92	40 - 130	J
13C6-PFDA (S)	ng/mL	0.01	0.009770	98	40 - 130	J
13C7-PFUNA (S)	ng/mL	0.01	0.009450	95	30 - 130	J
13C8-FOSA (S)	ng/mL	0.02	0.0156	78	40 - 130	J
13C8-PFOA (S)	ng/mL	0.02	0.0180	90	40 - 130	J
13C8-PFOS (S)	ng/mL	0.02	0.0170	85	40 - 130	J
13C9-PFNA (S)	ng/mL	0.01	0.009390	94	40 - 130	J
D3-NMEFOSA (S)	ng/mL	0.02	0.0117	59	10 - 130	J
D3-NMEFOSAA (S)	ng/mL	0.04	0.0343	86	40 - 170	J
D5-NETFOSA (S)	ng/mL	0.02	0.0113	57	10 - 130	J
D5-NETFOSAA (S)	ng/mL	0.04	0.0304	76	25 - 135	J
D7-NMEFOSE (S)	ng/mL	0.20	0.1330	67	10 - 130	J
D9-NETFOSE (S)	ng/mL	0.20	0.1230	62	10 - 130	J

Low Lab Control Sample (5871585)

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FINAL

Workorder: Phillips LF LTM - June 2025 (J2508428)

QC Batch: HPLJ/3476
Preparation Method: DOD EPA 1633
Associated Lab IDs: J2508428001, J2508428002

Analysis Method: DOD EPA 1633

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
PFOA	ng/L	8	7.3	91	70 - 150	J

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Lab
13C2-4:2FTS (S)	ng/mL	0.04	0.0425	106	40 - 200	J
13C2-6:2FTS (S)	ng/mL	0.04	0.0431	108	40 - 200	J
13C2-8:2FTS (S)	ng/mL	0.04	0.0376	94	40 - 300	J
13C2-PFDOA (S)	ng/mL	0.01	0.008520	85	10 - 130	J
13C2-PFTEDA (S)	ng/mL	0.01	0.007550	75	10 - 130	J
13C3-HFPO-DA (S)	ng/mL	0.08	0.0752	94	40 - 130	J
13C3-PFBS (S)	ng/mL	0.02	0.0196	98	40 - 135	J
13C3-PFHXS (S)	ng/mL	0.02	0.0187	94	40 - 130	J
13C4-PFBA (S)	ng/mL	0.08	0.0751	94	10 - 130	J
13C4-PFHPA (S)	ng/mL	0.02	0.0196	98	40 - 130	J
13C5-PFHXA (S)	ng/mL	0.02	0.0191	96	40 - 130	J
13C5-PFPEA (S)	ng/mL	0.04	0.0374	93	40 - 130	J
13C6-PFDA (S)	ng/mL	0.01	0.009030	90	40 - 130	J
13C7-PFUNA (S)	ng/mL	0.01	0.009440	94	30 - 130	J
13C8-FOSA (S)	ng/mL	0.02	0.0170	85	40 - 130	J
13C8-PFOA (S)	ng/mL	0.02	0.02	100	40 - 130	J
13C8-PFOS (S)	ng/mL	0.02	0.0177	89	40 - 130	J
13C9-PFNA (S)	ng/mL	0.01	0.009190	92	40 - 130	J
D3-NMEFOSA (S)	ng/mL	0.02	0.0140	70	10 - 130	J
D3-NMEFOSAA (S)	ng/mL	0.04	0.0385	96	40 - 170	J
D5-NETFOSA (S)	ng/mL	0.02	0.0129	65	10 - 130	J
D5-NETFOSAA (S)	ng/mL	0.04	0.0355	89	25 - 135	J
D7-NMEFOSE (S)	ng/mL	0.20	0.1520	76	10 - 130	J
D9-NETFOSSE (S)	ng/mL	0.20	0.1440	72	10 - 130	J

Mid Lab Control Sample (5871586); Mid Lab Control Sample Dup (5871587)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
PFOA	ng/L	50	56	112	70 - 150	55	110	1.20	27	J





FINAL

Workorder: Phillips LF LTM - June 2025 (J2508428)

QC Batch: HPLJ/3476
Preparation Method: DOD EPA 1633
Associated Lab IDs: J2508428001, J2508428002

Analysis Method: DOD EPA 1633

Surrogates

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery	Control Limits	Dup Result	Dup Recovery	RPD	RPD Limit	Lab
13C2-4:2FTS (S)	ng/m	0.04	0.0371	93	40 - 200	0.0394	99	6.10		J
13C2-6:2FTS (S)	ng/m	0.04	0.0409	102	40 - 200	0.0379	95	7.50		J
13C2-8:2FTS (S)	ng/m	0.04	0.0381	95	40 - 300	0.0390	97	2.30		J
13C2-PFDOA (S)	ng/m	0.01	0.00842	84	10 - 130	0.00874	87	3.70		J
13C2-PFTEDA (S)	ng/m	0.01	0.00782	78	10 - 130	0.00779	78	0.40		J
13C3-HFPO-DA (S)	ng/m	0.08	0.0754	94	40 - 130	0.0754	94	0.10		J
13C3-PFBS (S)	ng/m	0.02	0.0185	92	40 - 135	0.0182	91	1.40		J
13C3-PFHXS (S)	ng/m	0.02	0.0177	89	40 - 130	0.0176	88	1		J
13C4-PFBA (S)	ng/m	0.08	0.0757	95	10 - 130	0.0759	95	0.20		J
13C4-PFHFA (S)	ng/m	0.02	0.0190	95	40 - 130	0.0194	97	2		J
13C5-PFHXA (S)	ng/m	0.02	0.0186	93	40 - 130	0.0185	93	0.60		J
13C5-PFPEA (S)	ng/m	0.04	0.0373	93	40 - 130	0.0377	94	1		J
13C6-PFDA (S)	ng/m	0.01	0.00968	97	40 - 130	0.00939	94	3.10		J
13C7-PFUNA (S)	ng/m	0.01	0.00941	94	30 - 130	0.00972	97	3.30		J
13C8-FOSA (S)	ng/m	0.02	0.0175	88	40 - 130	0.0176	88	0.70		J
13C8-PFOA (S)	ng/m	0.02	0.0190	95	40 - 130	0.0184	92	3.20		J
13C8-PFOS (S)	ng/m	0.02	0.0187	94	40 - 130	0.0194	97	3.30		J
13C9-PFNA (S)	ng/m	0.01	0.00895	90	40 - 130	0.00891	89	0.40		J
D3-NMEFOSA (S)	ng/m	0.02	0.0144	72	10 - 130	0.0144	72	0		J
D3-NMEFOSAA (S)	ng/m	0.04	0.0406	101	40 - 170	0.04	100	1.40		J
D5-NETFOSA (S)	ng/m	0.02	0.0136	68	10 - 130	0.0130	65	4.90		J
D5-NETFOSAA (S)	ng/m	0.04	0.0357	89	25 - 135	0.0353	88	1.20		J
D7-NMEFOSE (S)	ng/m	0.20	0.1540	77	10 - 130	0.1520	76	1.40		J
D9-NETFOSE (S)	ng/m	0.20	0.1470	74	10 - 130	0.1410	71	4.20		J

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Workorder: Phillips LF LTM - June 2025 (J2508428)

QC Cross Reference

Lab ID	Sample ID	Prep Batch	Prep Method
HPLj/3476 - DOD EPA 1633			
J2508428001	PAALF-PW19-060325	EXTj/12037	DOD EPA 1633
J2508428002	PAALF-PW19-060325fb	EXTj/12037	DOD EPA 1633

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☐ **Tallahassee:** 2639 North Monroe St., Suite D, FL 32303 • 850.219.6274 • Lab ID: E811095

☐ Tampa

Matrix Code: WW = wastewater SW = surface water GW = ground water DW = drinking water O = oil A = air SO = soil SL = sludge **Preservation Code:** I = ice H=(HCl) S = (H₂SO₄) N = (HNO₃) T = (Sodium Thiosulfate)

Device used for measuring Temp by unique identifier (circle IR temp gun used) J: 9A G: LT-1 LT-2 T: 10A A: 3A M: 3A S: 1V F: 1A

Site-Address:



Sample Receiving Checklist

☒ JAX ☐ TPA ☐ MIA ☐ ALS
☐ FTM ☐ GNV ☐ LPD ☐ SEM

WO Barcode Sticker Goes Here

Client: ECC

Log-In request number: J2508428

Received by: JBW

Project name: Philips LF LTM - June 202

Date/Time: 6/4/25 0900

Completed by: SC

Cooler/Shipping Information: Type: ☒ Cooler ☐ Box ☐ Other (describe) _____

Courier: ☐ AEL ☐ Client ☐ UPS ☐ Blue Streak ☒ FedEx ☐ Other Tracking # 8185 2483 4704

Cooler temperature: Identify the cooler and document the temperature blank (bottle) or ice water (cooler) measurement

Cooler/Container ID	<u>1</u>				
Temp (°C)	<u>3.0°C</u>				
Temp taken from	☐ Bottle ☒ Cooler	☐ Bottle ☐ Cooler	☐ Bottle ☐ Cooler	☐ Bottle ☐ Cooler	☐ Bottle ☐ Cooler
Temp measured with	IR gun/Therm (ID): <u>594</u>	IR gun/Therm (ID): _____	IR gun/Therm (ID): _____	IR gun/Therm (ID): _____	IR gun/Therm (ID): _____

Other Information: Any discrepancies should be explained in the "Comments" section below.

CHECKLIST	YES	NO	NA
1. Were custody seals on shipping container(s) intact?	☒		
2. Were custody papers properly included with samples?	☒		
3. Were custody papers properly filled out (ink, signed, match labels)?	☒		
4. Did all bottles arrive in good condition (unbroken)?	☒		
5. Were all bottle labels complete (sample #, date, signed, analysis, preservatives)?	☒		
6. Did the sample labels agree with the chain of custody?	☒		
7. Were correct bottles used for the tests indicated?	☒		
8. Were proper sample preservation techniques indicated on the label?	☒		
9. Were samples received within holding times?	☒		
10. Were all VOA vials free of the presence of air bubbles?	☒		
11. Have all Soil VOA Vials and Encores been placed in a freezer within 48 hours of collection?			☒
12. Were samples in direct contact with wet ice? If "No," check one: ☐ NO ICE ☐ BLUE ICE	☒		
13. Was the cooler temperature less than 6°C?	☒		
14. Where pH preservation required, are sample pHs checked and any anomalies recorded by Sample control? Are all <2 or >10? Note: VOA samples are checked by laboratory analysts.	☒		
15. Was sufficient sample volume provided to perform all tests?	☒		
16. If for Bacteriological testing, were containers supplied by AEL? (See QA officer if answer is no)			☒
17. Were all sample containers provided by AEL? (Other than Bacteriological)	☒		
18. Were samples accepted into the laboratory?	☒		
19. When necessary to split samples into other bottles, is it noted in the comments?	☒		
20. Where Encores received and if so, how many?			☒

Comments: (Note all sample(s) and container (s) with a "No" checklist response in this comment section)



Work Order: J2508428
Client: Environmental Chemical Co.
Project ID: Phillips LF LTM - June 2025
Batch Number: 3476

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: DOD EPA 1633
Preparation: DOD EPA 1633

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: All acceptance criteria were met.
Blanks: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Spikes: All acceptance criteria were met.
Internal Standard: All acceptance criteria were met.
Samples: All acceptance criteria were met.
Other: All acceptance criteria were met.
Serial Dilution: All acceptance criteria were met.
Duplicates: All acceptance criteria were met.

APPENDIX H

Historical Groundwater Monitoring Results

PW-11, Downgradient, Summary of Data Since March 1999

Parameters	MCL	Units	Mar. 1999	Sep. 1999	Mar. 2000	Sep. 2000	Feb. 2001	Aug. 2001	Feb. 2002	Aug. 2002	Mar. 2003	Aug. 2003	Mar. 2004	Sep. 2004	Mar. 2005	Sep. 2005	Mar. 2006	Sep. 2006	Mar. 2007	Sep. 2007	Apr. 2008	Oct. 2008	Feb. 2009	Oct. 2009	
Metals*																									
Aluminum	50-200 (s)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	6	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	10	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.55	ND	0.68	0.69	1.1	0.66	ND	0.63	ND	0.78	2.4	
Barium	2,000	µg/L	202	260	198	204	200	180	130	120	102	139	115	164	140	133	112	119	99.3	91.4	59.5	93.9	99.2	68.4	
Beryllium	4	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.2	0.18	0.22	0.19	0.18	0.2	0.23	0.21	0.18	
Cadmium	5	µg/L	0.4	ND	ND	0.221	ND	ND	ND	ND	0.2	ND	0.23	0.24	ND	0.29	0.26	0.24	0.31	0.3	0.2	0.25	0.23	0.19	
Calcium	---	µg/L	NA	17,700	15,100	15,900	18,000	17,000	15,000	13,000	12,800	13,400	14,400	15,100	14,000	13,500	13,700	12,800	12,800	12,500	12,500	13,500	16,000	15,100	
Chromium	100	µg/L	0.74	ND	ND	2.8	ND	ND	ND	ND	ND	0.22	ND	ND	3.7	ND	ND	ND	ND	ND	ND	ND	0.82	1	
Cobalt	----	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12.2	12.3	13.5	13.9	15.6	15.2	14.3	20.7	18.8	
Copper	1,300	µg/L	NA	ND	ND	1.85	ND	ND	ND	10	1.4	ND	ND	ND	ND	0.44	0.6	0.66	0.88	2.6	0.76	1.9	4	0.71	
Iron	300 (s)	µg/L	NA	507	908	2,050	2,500	2,600	3,700	3,100	76	2,590	553	399	210	357	406	246	187	145	641	214	492	2,300	
Lead	15	µg/L	ND	ND	ND	ND	ND	ND	5	ND	ND	1.3	ND	0.48	ND	0.19	ND	ND	ND	1.2	ND	0.30 J	0.52	ND	
Magnesium	---	µg/L	NA	10,700	9,380	9,630	11,000	9,800	8,600	7,500	7,830	7,910	8,280	8,610	8,700	NA	NA	NA	NA	NA	NA	NA	NA	9,320	
Manganese	50 (s)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	340	320	350	323	345	330	377	447	468	
Mercury	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2	ND	0.11	0.21	0.23	0.16	0.28	0.2	0.1	0.092	0.079	
Nickel	100	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	10.8	8.3	NA	NA	12	10.2	10.6	10.1	11.3	12.1	11.6	11	12	13.5	
Potassium	---	µg/L	NA	3,510	2,990	3,300	ND	ND	ND	ND	3,430	3,100	2,860	2,990	2,900	NA	NA	NA	NA	NA	NA	NA	NA	2,690	
Selenium	50	µg/L	NA	ND	ND	ND	ND	ND	ND	ND	1.9	2.5	ND	3.1	ND	2	2	2.4	2.6	ND	0.92	1.4 J	1.2	ND	
Silver	100 (s)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	0.21	ND	ND	
Sodium	20,000 (g)	µg/L	NA	55,200	51,000	53,400	66,000	59,000	58,000	51,000	42,500	36,700	47,800	69,200	63,000	NA	NA	NA	NA	NA	NA	NA	NA	61,600	
Thallium	2	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.09	ND	ND	ND	ND	ND	ND	ND	
Vanadium	----	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Zinc	5,000 (s)	µg/L	29.5	35.6	28.9	25.6	30	40	60	40	32.5	17.4	25.4	23.6	24	19.7	20.9	22.8	24.3	90.6	21.1	25.3	28.9	23.9	
Wet Chemistry																									
Alkalinity	----	mg/L	21.1	19.4	22.9	26.5	32	33	30	24	25	22	22	26	36.6	21	21	7.7	26	21	24	34	35	42	
Ammonia	----	mg/L	NA	0.121	ND	0.232	ND	ND	ND	ND	0.02	0.24	0.11	0.13	ND	ND	0.11	ND	ND	ND	ND	ND	0.31	ND	
Chemical Oxygen Demand	----	mg/L	21.7	15	11.4	ND	ND	ND	20	11	9.9	ND	ND	0	ND	ND	9.9	ND	ND	ND	ND	ND	9.1	8.6	
Chloride	250 (s)	mg/L	87.5	79.5	90.1	92.8	110	98	86	78	69	55	76	89	84	63	90	71	60	66	51	56	56	59	
Nitrate (N)	10	mg/L	0.208	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.14	0.11	0.14	0.11	0.15	0.08	0.13	0.13	NA	
Nitrate/Nitrite	10	mg/L	NA	0.076	0.061	0.128	0.05	0.08	0.05	0.1	ND	0.23	0.23	0.19	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND	
pH	6.5-8.5 (s)	standard	NA	4.99	5.18	5.03	5.12	5.33	5.21	5.21	4.7	5.2	5.3	4.9	6.12	4.8	4.8	5.6	4.9	4.8	5	5.2	5	5.4	
Specific Conductivity	----	µmho/cm	353	487	513	481	570	340	400	410	400	320	410	490	550	360	470	430	460	430	460	440	490	480	
Conductivity	---	µmho	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Sulfate	250 (s)	mg/L	NA	47.9	43.8	58.1	56	51	0.47	54	27	6.6	41	57	55	60	35	37	58	64	75	64	75	69	
Total Dissolved Solids	500 (s)	mg/L	NA	244	277	302	320	300	280	260	210	270	270	280	308	260	260	260	240	130	250	28	300	280	
Total Hardness	----	mg/L	63.8	70.6	81.6	83.7	88	82	72	67	64	120	71	100	75.24	78	75	66	64	68	73	67	80	88	
Total Organic Carbon	----	mg/L	NA	1.7	1.98	4.62	ND	0.9	9.9	8.6	5.1	7.1	3.1	4.3	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Total Organic Halides	----	mg/L	NA	18.8	46	ND	70	72	44	32	33	19	37	0.1	52.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Turbidity	----	ntu	NA	1.45	16.1	2.36	4.4	10	51	10	3.2	ND	ND	ND	1	0.9	ND	ND	0.2	0.7	0.2	0.7	5.9	8.6	
Volatile Organic Compounds																									
1,1,1,2-Tetrachloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	200	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloropropene	---	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	---	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	0.2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	0.05	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	600	µg/L	ND	ND</																					

PW-11, Downgradient, Summary of Data Since March 1999

Parameters	MCL	Units	Mar. 1999	Sep. 1999	Mar. 2000	Sep. 2000	Feb. 2001	Aug. 2001	Feb. 2002	Aug. 2002	Mar. 2003	Aug. 2003	Mar. 2004	Sep. 2004	Mar. 2005	Sep. 2005	Mar. 2006	Sep. 2006	Mar. 2007	Sep. 2007	Apr. 2008	Oct. 2008	Feb. 2009	Oct. 2009	
1,4-Dichlorobenzene	75	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.15	ND	ND	ND	
2-Butanone	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
2-Hexanone	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
4-Methyl-2-Pentanone	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Acetone	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	3.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8	ND	ND	ND	
Acrylonitrile	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Benzene	5	µg/L	ND	ND	ND	0.57	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.18	ND	ND	ND	
Bromochloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bromodichloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bromoform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Carbon Disulfide	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Carbon Tetrachloride	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chlorobenzene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.29	ND	0.3	ND	ND	0.28	ND	ND	ND	
Chlorodibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chloroform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.53	ND	ND	ND	ND	ND	ND	
cis-1,2-Dichloroethene	70	µg/L	ND	ND	ND	0.72	ND	ND	ND	ND	ND	1.1	ND	ND	ND	0.48	0.3	ND	ND	ND	0.61	ND	ND	ND	
cis-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Dibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Dichloromethane	5	µg/L	ND	ND	ND	1.96	ND	ND	ND	ND	ND	4.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Ethyl Benzene	700	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Methyl Iodide	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Styrene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
tert-butyl methyl ether (MTBE)	----	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	
Tetrachloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Toluene	1,000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
trans-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
trans-1,4-Dichloro-2- butene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
trans-1,2-Dichloroethene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Trichloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.5	ND	ND	ND	ND	ND	ND	ND	
Trichlorofluoromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.97	2.3	0.75	0.31	0.58	ND	ND	0.32	ND	ND	ND	
Vinyl Acetate	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Vinyl Chloride	2	µg/L	ND	ND	ND	0.79	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.86	ND	ND	ND	
Xylenes	10,000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Per- and Polyfluoroalkyl Substances (PFAS)																									
Perfluorooctanoic acid (PFOA)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Perfluorooctanesulfonic acid (PFOS)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Perfluorononanoic acid (PFNA)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Perfluorohexanesulfonic acid (PFHxS)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Perfluorobutanesulfonic acid (PFBS)	----	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Notes:

Red shaded area denotes concentration greater than the primary MCL

Yellow shaded area denotes concentration greater than the secondary MCL or Guidance Levels which are non-enforceable

MCL = Maximum Contaminant Level; Analytes detected in groundwater were compared to primary or secondary MCLs for drinking water supplies from <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations> and <https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals> (USEPA, 2019)

*Total metals, except for 2010 analyses which were for dissolved metals

---- = no regulatory limit

(s) = secondary MCL

(g) = guidance level

B = analyte was detected in method blank

ND = non-detect

D = diluted out

J = estimated value > MDL but < RL

µg/L = microgram per liter

µmho/cm = micro mho per centimeter

mg/L = milligram per liter

ng/L = nanograms per liter

N = insufficient BOD oxygen depletion

NA= not analyzed

NAD = no available data

PW-11, Downgradient, Summary of Data Since March 1999

Parameters	MCL	Units	Apr. 2010	Oct. 2010	Apr. 2011	Oct. 2011	Oct. 2012	Oct. 2013	Oct. 2015	May 2015	Jan. 2015	Apr. 2015	Oct. 2016	Oct. 2018	Apr. 2019	Nov. 2019	Jun. 2020	Oct. 2020	Apr. 2021	Nov. 2021	Apr. 2022	Oct. 2022	Apr. 2023	Oct. 2023
Benzene	5	µg/L	ND	ND	ND	ND	ND	ND	.240 J	ND	ND	ND	ND	ND	ND	0.24	0.18	0.22	0.19	ND	ND	ND	ND	ND
Bromochloromethane	----	µg/L	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	----	µg/L	ND	ND	ND	ND	ND	ND	.510 J	ND	ND	ND	ND	ND	ND	ND	0.022 J	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	100	µg/L	ND	ND	ND	ND	ND	0.170 J	.400 J	ND	ND	ND	ND	ND	ND	13	6.8	9.1	10	6.8	4.1	1.3 J	1.1 J	1.2 J
Chlorodibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.021 J	ND	ND	ND	ND	ND	ND
Chloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	70	µg/L	ND	ND	ND	ND	ND	0.250 J	ND	ND	ND	ND	ND	ND	ND	0.51	0.45	0.42	0.32	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene	700	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.023 J	ND	0.031 J	0.033 J	ND	ND	ND	ND	ND
Methyl Iodide	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-butyl methyl ether (MTBE)	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	1,000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.024 J	0.017 J	0.051 J	0.038 J	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2- butene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.28	0.13	0.25	0.2	ND	ND	ND	ND	ND
Trichlorofluoromethane	----	µg/L	ND	ND	ND	1.3	ND	1.61	1.2	1.12	4.1	4.3	2.6	0.47 J	1.3	1.4	1.5	1.9	1.2	1.8 J	ND	1.3 J	ND	1.2 J
Vinyl Acetate	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4 J	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.51	0.4	0.3	0.21	ND	ND	ND	0.36 J	ND
Xylenes	10,000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.115	0.037 J	0.137	0.163	ND	ND	ND	ND	ND
Per- and Polyfluoroalkyl Substances (PFAS)																								
Perfluorooctanoic acid (PFOA)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanesulfonic acid (PFOS)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorononanoic acid (PFNA)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorohexanesulfonic acid (PFHxS)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorobutanesulfonic acid (PFBS)	----	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Red shaded area denotes concentration greater than the primary MCL

Yellow shaded area denotes concentration greater than the secondary MCL or Guidance Levels which are non-enforceable

MCL = Maximum Contaminant Level; Analytes detected in groundwater were compared to primary or secondary MCLs for drinking water supplies from <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations> and <https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals> (USEPA, 2019)

*Total metals, except for 2010 analyses which were for dissolved metals

---- = no regulatory limit

(s) = secondary MCL

(g) = guidance level

B = analyte was detected in method blank

D = diluted out

J = estimated value > MDL but < RL

µg/L = microgram per liter

µmho/cm = micro mho per centimeter

mg/L = milligram per liter

ng/L = nanograms per liter

N = insufficient BOD oxygen depletion

NA= not analyzed

NAD = no available data

ND = non-detect

PW-11, Downgradient, Summary of Data Since March 1999

Parameters	MCL	Units	Apr. 2024	Nov. 2024	Dec. 2024	Apr. 2025
Metals*						
Aluminum	50-200 (s)	µg/L	1,400	180	NA	170
Antimony	6	µg/L	ND	ND	NA	ND
Arsenic	10	µg/L	0.78 J	0.37 J	NA	0.31 J
Barium	2,000	µg/L	81	66	NA	47
Beryllium	4	µg/L	ND	ND	NA	ND
Cadmium	5	µg/L	0.33 J	ND	NA	0.26 J
Calcium	---	µg/L	14,000	13,000	NA	14,000
Chromium	100	µg/L	4.1	3.1	NA	ND
Cobalt	----	µg/L	17	18	NA	15
Copper	1,300	µg/L	2 J	ND	NA	ND
Iron	300 (s)	µg/L	1,200	350 J	NA	370 J
Lead	15	µg/L	1.2 J	ND	NA	ND
Magnesium	---	µg/L	9,700	8,700	NA	9,800
Manganese	50 (s)	µg/L	620	480	NA	720
Mercury	2	µg/L	0.86	0.35	NA	0.6
Nickel	100	µg/L	12	12	NA	8.4
Potassium	---	µg/L	2,600	2,600	NA	2,300
Selenium	50	µg/L	ND	ND	NA	ND
Silver	100 (s)	µg/L	ND	ND	NA	ND
Sodium	20,000 (g)	µg/L	61,000	55,000	NA	59,000
Thallium	2	µg/L	ND	ND	NA	ND
Vanadium	----	µg/L	2.7 J	ND	NA	ND
Zinc	5,000 (s)	µg/L	16 J	25	NA	24
Wet Chemistry						
Alkalinity	----	mg/L	130	58	NA	64
Ammonia	----	mg/L	ND	0.14 J	NA	NA
Chemical Oxygen Demand	----	mg/L	24	ND	NA	18 J
Chloride	250 (s)	mg/L	36	42	NA	39
Nitrate (N)	10	mg/L	0.21 J	0.25 J	NA	ND
Nitrate/Nitrite	10	mg/L	ND	NA	NA	ND
pH	6.5-8.5 (s)	standard	5.7	5.9	NA	6.2
Specific Conductivity	----	µmho/cm	380	430	NA	430
Conductivity	---	µmho	NA	NA	NA	NA
Sulfate	250 (s)	mg/L	80	73	NA	75
Total Dissolved Solids	500 (s)	mg/L	270	250	NA	260
Total Hardness	----	mg/L	75	69	NA	76
Total Organic Carbon	----	mg/L	NA	NA	NA	NA
Total Organic Halides	----	mg/L	NA	NA	NA	NA
Turbidity	----	ntu	19	7.8	NA	6.4
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	----	µg/L	ND	ND	NA	ND
1,1,1-Trichloroethane	200	µg/L	ND	ND	NA	ND
1,1,2,2-Tetrachloroethane	----	µg/L	ND	ND	NA	ND
1,1,2-Trichloroethane	5	µg/L	ND	ND	NA	ND
1,1-Dichloroethane	----	µg/L	ND	ND	NA	ND
1,1-Dichloroethene	7	µg/L	ND	ND	NA	ND
1,1-Dichloropropene	---	µg/L	NA	NA	NA	ND
1,2,3-Trichlorobenzene	---	µg/L	NA	NA	NA	ND
1,2,3-Trichloropropane	----	µg/L	ND	ND	NA	ND
1,2-Dibromo-3-Chloropropane	0.2	µg/L	ND	ND	NA	ND
1,2-Dibromoethane	0.05	µg/L	ND	ND	NA	ND
1,2-Dichlorobenzene	600	µg/L	ND	ND	NA	ND
1,2-Dichloroethane	5	µg/L	ND	ND	NA	ND
1,2-Dichloropropane	5	µg/L	ND	ND	NA	ND
1,3-Dichlorobenzene	----	µg/L	NA	NA	NA	ND
1,4-Dichlorobenzene	75	µg/L	ND	ND	NA	ND
2-Butanone	----	µg/L	ND	ND	NA	ND
2-Hexanone	----	µg/L	ND	ND	NA	ND
4-Methyl-2-Pentanone	----	µg/L	ND	ND	NA	ND
Acetone	----	µg/L	1.2 J	ND	NA	ND
Acrylonitrile	----	µg/L	ND	ND	NA	ND

PW-11, Downgradient, Summary of Data Since March 1999

Parameters	MCL	Units	Apr. 2024	Nov. 2024	Dec. 2024	Apr. 2025
Benzene	5	µg/L	ND	ND	NA	ND
Bromochloromethane	----	µg/L	ND	ND	NA	ND
Bromodichloromethane	----	µg/L	ND	ND	NA	ND
Bromoform	----	µg/L	ND	ND	NA	ND
Bromomethane	----	µg/L	ND	ND	NA	ND
Carbon Disulfide	----	µg/L	ND	ND	NA	ND
Carbon Tetrachloride	5	µg/L	ND	ND	NA	ND
Chlorobenzene	100	µg/L	0.53 J	1.8 J	NA	0.51 J
Chlorodibromomethane	----	µg/L	ND	ND	NA	ND
Chloroethane	----	µg/L	ND	ND	NA	ND
Chloroform	----	µg/L	ND	ND	NA	ND
Chloromethane	----	µg/L	ND	ND	NA	ND
cis-1,2-Dichloroethene	70	µg/L	ND	ND	NA	ND
cis-1,3-Dichloropropene	----	µg/L	ND	ND	NA	ND
Dibromomethane	----	µg/L	ND	ND	NA	ND
Dichloromethane	5	µg/L	ND	ND	NA	ND
Ethyl Benzene	700	µg/L	ND	ND	NA	ND
Methyl Iodide	----	µg/L	ND	ND	NA	ND
Styrene	100	µg/L	ND	ND	NA	ND
tert-butyl methyl ether (MTBE)	----	µg/L	ND	ND	NA	ND
Tetrachloroethene	5	µg/L	ND	ND	NA	ND
Toluene	1,000	µg/L	ND	ND	NA	ND
trans-1,3-Dichloropropene	----	µg/L	ND	ND	NA	ND
trans-1,4-Dichloro-2- butene	----	µg/L	ND	ND	NA	ND
trans-1,2-Dichloroethene	100	µg/L	ND	ND	NA	ND
Trichloroethene	5	µg/L	ND	ND	NA	ND
Trichlorofluoromethane	----	µg/L	1.2 J	2.1	NA	0.66 J
Vinyl Acetate	----	µg/L	ND	ND	NA	ND
Vinyl Chloride	2	µg/L	ND	ND	NA	ND
Xylenes	10,000	µg/L	ND	ND	NA	ND
Per- and Polyfluoroalkyl Substances (PFAS)						
Perfluorooctanoic acid (PFOA)	4	ng/L	NA	NA	170	260
Perfluorooctanesulfonic acid (PFOS)	4	ng/L	NA	NA	82	150
Perfluorononanoic acid (PFNA)	10	ng/L	NA	NA	1.3 J	2.4
Perfluorohexanesulfonic acid (PFHxS)	10	ng/L	NA	NA	64	85
Perfluorobutanesulfonic acid (PFBS)	----	ng/L	NA	NA	8.6	9.5
Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)	10	ng/L	NA	NA	ND	0.31 J

Notes:
Red shaded area denotes concentration greater than the primary MCL
Yellow shaded area denotes concentration greater than the secondary MCL or Guidance Levels which are non-enforceable
MCL = Maximum Contaminant Level; Analytes detected in groundwater were compared to primary or secondary MCLs for drinking water supplies from <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations> and <https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance- nuisance-chemicals> (USEPA, 2025)
*Total metals, except for 2010 analyses which were for dissolved metals
---- = no regulatory limit
(s) = secondary MCL
(g) = guidance level
B = analyte was detected in method blank
D = diluted out
J = estimated value > MDL but < RL
µg/L = microgram per liter
µmho/cm = micro mho per centimeter
mg/L = milligram per liter
ng/L = nanograms per liter
N = insufficient BOD oxygen depletion
NA= not analyzed
NAD = no available data
ND = non-detect

PW-12, Downgradient, Summary of Data Since March 1999

Parameters	MCL	Units	Mar. 1999	Sep. 1999	Mar. 2000	Sep. 2000	Feb. 2001	Aug. 2001	Feb. 2002	Aug. 2002	Mar. 2003	Aug. 2003	Mar. 2004	Sep. 2004	Sep. 2004	Mar. 2005	Sep. 2005	Mar. 2006	Sep. 2006	Mar. 2007	Sep. 2007	Apr. 2008	Oct. 2008	Feb. 2009	
Benzene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bromochloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bromodichloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bromoform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Carbon Disulfide	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Carbon Tetrachloride	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chlorobenzene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chlorodibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chloroform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
cis-1,2-Dichloroethene	70	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	0.99	0.72	0.98	1.2	ND	2.1	1.9	1.8	
cis-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Dibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Dichloromethane	5	µg/L	ND	ND	ND	1.43	ND	ND	ND	ND	ND	3.4	3.9	ND	NA	ND	ND	ND	ND	6.3	ND	ND	ND	ND	
Ethyl Benzene	700	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Methyl Iodide	----	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	
Styrene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
tert-butyl methyl ether (MTBE)	----	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	
Tetrachloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	0.25	ND	ND	ND	ND	ND	ND	ND	
Toluene	1,000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	0.34	ND	ND	ND	ND	ND	ND	ND	
trans-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
trans-1,4-Dichloro-2- butene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
trans-1,2-Dichloroethene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Trichloroethene	5	µg/L	1.4	1.9	ND	1.54	ND	ND	ND	ND	ND	ND	ND	1.4	NA	1.6	2.4	1.9	2	2.9	1.7	3.2	2.4	2.4	
Trichlorofluoromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Vinyl Acetate	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Vinyl Chloride	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	0.85	ND	ND	ND	ND	1.6	1.3	ND	
Xylenes	10,000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Per- and Polyfluoroalkyl Substances (PFAS)																									
Perfluorooctanoic acid (PFOA)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Perfluorooctanesulfonic acid (PFOS)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Perfluorononanoic acid (PFNA)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Perfluorohexanesulfonic acid (PFHxS)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Perfluorobutanesulfonic acid (PFBS)	----	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Notes:
Red shaded area denotes concentration greater than the primary MCL
Yellow shaded area denotes concentration greater than the secondary MCL or Guidance Levels which are non-enforceable
MCL = Maximum Contaminant Level; Analytes detected in groundwater were compared to primary or secondary MCLs for drinking water supplies from <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations> and <https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance- nuisance-chemicals> (USEPA, 2025)
*Total metals, except for 2010 analyses which were for dissolved metals
---- = no regulatory limit
(s) = secondary MCL
(g) = guidance level
B = analyte was detected in method blank
D = diluted out
dup = duplicate quality control sample
J = estimated value > MDL but < RL
M = matrix spike and/or matrix spike duplicate recovery outside acceptance limits
µg/L = microgram per liter
µmho/cm = micro mho per centimeter
mg/L = milligram per liter
ng/L = nanograms per liter
N = insufficient BOD oxygen depletion
NA = not analyzed
NAD = no available data
ND = non-detect

Q = laboratory control samples outside acceptance limits
R = resampled for vinyl chloride to verify detection in monitoring well exceeded MCL
X = analyte exceeded calibration range
Y = replicate/duplicate precision outside acceptance limits

PW-12, Downgradient, Summary of Data Since March 1999

Parameters	MCL	Units	Oct. 2009	Apr. 2010	Oct. 2010	Apr. 2011	Oct. 2011	Oct. 2012	Oct. 2013	Oct. 2014	May 2015	Jan. 2016	Apr. 2016	Oct. 2016	Oct. 2018	Apr. 2019	Nov. 2019	Dec. 2019 R	Dec. 2019 R (dup)	Jun. 2020	Oct. 2020	Apr. 2021	Nov. 2021	Apr. 2022
Metals*																								
Aluminum	50-200 (s)	µg/L	NA	ND	NA	NA	NA	NA	NA	NA	NA	13.8	50.9	ND	85.9	150	65.5	NA	NA	131	130	133	28 J	83
Antimony	6	µg/L	ND	ND	NA	ND	0.33 J	ND	ND	1.30 B	ND	ND	ND	2	ND	ND	ND	NA	NA	ND	ND	0.78 J	ND	ND
Arsenic	10	µg/L	1.1	ND	ND	0.24 J	0.35 J	ND	ND	0.651 B	ND	7.7	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	1.9
Barium	2,000	µg/L	144	132	100	142	141	133	69.5	241	147	68.5	116	88.5	50.3 B	147	142	NA	NA	156	184	120	120	28
Beryllium	4	µg/L	0.23	0.12 B	NA	0.081 J	0.13 J	ND	ND	0.479 B	ND	1.5	ND	ND	1.8	ND	0.29 J	NA	NA	ND	ND	ND	ND	ND
Cadmium	5	µg/L	0.031	ND	ND	ND	ND	ND	ND	17,800	18,500	ND	ND	0.36	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
Calcium	---	µg/L	14,100	18,000	14,000	15,000	14,800	16,700	14,700	ND	ND	17,400	18,900	17,200	19,700	19,000	19,000	NA	NA	20,600	19,800	23,300	24,000	44,000
Chromium	100	µg/L	ND	ND	ND	1.2 J	1 J	0.78 J	ND	0.405 B	ND	1.8	ND	ND	1.2 J	ND	ND	NA	NA	ND	ND	ND	1.9 J	1.4 J
Cobalt	----	µg/L	0.45	0.137 J	NA	0.18 J	0.4 J	0.91 J	ND	0.292 B	ND	ND	ND	ND	0.8 J	ND	ND	NA	NA	ND	ND	ND	0.64 J	1.3
Copper	1,300	µg/L	0.8	2.07 J	1.4 J	0.89 J	1 J	0.29 J	ND	3.00 B	ND	ND	ND	ND	ND	ND	1.4 J	NA	NA	5.6 J	ND	ND	ND	3.3 J
Iron	300 (s)	µg/L	30,400	25,400	17,000	54,200	36,800	28,900	27,500	57,000	53,000	2,130	8,170	23,400	5,590	97,700	49,900	NA	NA	52,100	46,000	55,200	55,000	ND
Lead	15	µg/L	ND	0.126 J	ND	0.39 J	0.29 J	0.11 J	8.4	0.717 B	ND	ND	ND	ND	4	7.4	2 J	NA	NA	1.9 J	4.3	3.7 J	ND	ND
Magnesium	---	µg/L	7,730	8,680	4,900	8,610	8,370	10,100	8,110	9,460	10,200	8,280	9,300	9,250	9,780	11,300	11,700	NA	NA	12,000	11400	12,500	15,000	40,000
Manganese	50 (s)	µg/L	804	792 B	NA	881	868	946	849	1,020	1,080	820	1,040	966	847	1,140	1,190	NA	NA	1,290	1410	1,270	1,500	22
Mercury	2	µg/L	0.04	0.084 JB	0.029 J	ND	0.1 JN	0.1 J	ND	0.037 B	ND	ND	ND	ND	ND	0.064	ND	NA	NA	ND	ND	ND	ND	ND
Nickel	100	µg/L	0.86	1.1 J	NA	1.1	0.74 J	0.98 J	ND	4.00 B	ND	1.3	ND	ND	2.9 J	ND	ND	NA	NA	ND	ND	ND	2.9 J	7.6
Potassium	---	µg/L	1,060	938	2,000	1,040	1,070	1140	959	ND	ND	1,500	1,080	1,710	2,750	1,010	952	NA	NA	1,260	1270	1,420	1,200 J	13,000
Selenium	50	µg/L	ND	ND	ND	0.95 J	1.3 J	1.5 J	ND	1,090	1140	2.2	12.9	ND	8.8 JB	ND	ND	NA	NA	3.3 J	ND	ND	ND	ND
Silver	100 (s)	µg/L	0.83	ND	NA	0.043 J	0.098 J	ND	ND	ND	ND	1.8	ND	ND	ND	ND	3.9	NA	NA	1.4 J	5.7	ND	ND	ND
Sodium	20,000 (g)	µg/L	26,300	26,500 B	20,000	29,000	27,300	32,300	26,400	28,600	32,000	NA	31,800	279,000	23,600	24,200	27,600	NA	NA	32,400	31300	32,800	30,000	200,000
Thallium	2	µg/L	ND	ND	NA	0.35 J	0.099 J	ND	ND	ND	ND	ND	ND	ND	ND	19.5	ND	NA	NA	ND	ND	ND	ND	ND
Vanadium	----	µg/L	ND	ND	NA	ND	ND	ND	ND	1.10 B	ND	ND	ND	ND	ND	2.1	ND	NA	NA	ND	ND	ND	ND	2.9 J
Zinc	5,000 (s)	µg/L	2.8	3.28 J	ND	15.9	6.2 N	11.1 N	103	32.9 B	14.5	2.8	2.1	5.1	26.6	<5.0	2.1 J	NA	NA	ND	ND	ND	ND	ND
Wet Chemistry																								
Alkalinity	----	mg/L	ND	ND	15	ND	ND	ND	ND	24.2	ND	8.8	33	8.8	8.5 J	27	19 J	NA	NA	50	22 J	ND	16	230
Ammonia	----	mg/L	1	1.38	0.656	1.4	1.02	1.28	1.61	1.73	1.42	1.3	1.4	2.9	0.91	1.3	1.4	NA	NA	1.2	1.3	1.3	ND	1.79
Chemical Oxygen Demand	----	mg/L	5.5	ND	11	ND	7.41	15.5	ND	5.00 J	ND	ND	15	140	ND	27	18 J	NA	NA	18 J	24 J	33 J	117	93
Chloride	250 (s)	mg/L	55	71.8	31.5 D	71.9	74 D	80 D	77.3	84.6	83.3	75	88	90	63	92	94	NA	NA	98	98	100	96.7	366
Nitrate (N)	10	mg/L	NA	NA	NA	NA	NA	NA	0.0574	ND	ND	0.49	0.14	0.91	NAD	ND	ND	NA	NA	ND	ND	ND	ND	ND
Nitrate/Nitrite	10	mg/L	0.095	ND	0.21	ND	ND	--	ND	NA	NA	NA	NA	NA	NAD	NA	ND	NA	NA	NA	NA	NA	NA	NA
pH	6.5-8.5 (s)	standard	5.5	5.01	5.73	3.15	5.04	4.69	3.93	5.01	3.17	NA	NA	4.41	3.96 X	3.54	5.74	NA	NA	5.74	5.64	5.61	5.67	7
Specific Conductivity	----	µmho/cm	410	460	246	588	NA	NA	NA	NA	NA	NA	NA	NA	NAD	NA	606	NA	NA	616.5	611.1	639.8	521	1,380
Conductivity	---	µmho	NA	NA	NA	NA	546	489	594	662	505	NA	658	506	445	674	ND	NA	NA	NA	NA	NA	NA	NA
Sulfate	250 (s)	mg/L	70	79.4	47 D	84	100 D	72 D	97.7	96.6	95.2	60	94	79	73	97	110	NA	NA	110	120	120	134	43.3
Total Dissolved Solids	500 (s)	mg/L	240	250	150	244	334	258	252	230	ND	150	210	260	220	180	310	NA	NA	370	300	430	326	885
Total Hardness	----	mg/L	82	90.2	84.3	71	71.32	8.33	70.1	83.4	88.4	78	NA	81	89	94	96	NA	NA	100	96	110	120	270
Total Organic Carbon	----	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NAD	NA	ND	NA	NA	NA	NA	NA	NA	NA
Total Organic Halides	----	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NAD	NA	ND	NA	NA	NA	NA	NA	NA	NA
Turbidity	----	ntu	10	23.7	15.2	160	6.3	57	46.7	107	49.2	8	NA	95	6.9	96	3.9	NA	NA	14	3.4	30	11	2
Volatile Organic Compounds																								
1,1,1,2-Tetrachloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	200	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
1,1-Dichloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
1,1-Dichloroethene	7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.086 J	NA	NA	0.078 J	0.093 J	0.076 J	ND	ND
1,1-Dichloropropene	---	µg/L	NA	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	---	µg/L	NA	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	0.2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
1,2-Dibromoethane	0.05	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	600	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
1,2-Dichloroethane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.078 J	NA	NA	0.075	0.1	0.1	ND	ND
1,2-Dichloropropane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	----	µg/L	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	75	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
2-Butanone	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
2-Hexanone	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
Acetone	----	µg/L	ND	ND	ND	ND	1.2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	2.8	ND

PW-12, Downgradient, Summary of Data Since March 1999

Parameters	MCL	Units	Oct. 2009	Apr. 2010	Oct. 2010	Apr. 2011	Oct. 2011	Oct. 2012	Oct. 2013	Oct. 2014	May 2015	Jan. 2016	Apr. 2016	Oct. 2016	Oct. 2018	Apr. 2019	Nov. 2019	Dec. 2019 R	Dec. 2019 R (dup)	Jun. 2020	Oct. 2020	Apr. 2021	Nov. 2021	Apr. 2022
Acrylonitrile	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
Benzene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.026 J	NA	NA	0.024 J	0.027 J	ND	ND	ND
Bromochloromethane	----	µg/L	ND	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
Bromodichloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
Bromoform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
Bromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
Carbon Disulfide	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.037 J	NA	NA	0.04 J	ND	ND	ND	ND
Carbon Tetrachloride	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
Chlorobenzene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
Chlorodibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
Chloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
Chloroform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
Chloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	0.4 JB	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	70	µg/L	1.2	1.93 J	0.79 J	1.9	1.6	1.5	ND	3.24	2.53	1.1	3.1	1.7	0.46 J	2.8	4.4	NA	NA	3.4	3.8	3.6	3.6	3.9
cis-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
Dibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.50 J	ND	ND	NA	NA	ND	ND	ND	ND	ND
Dichloromethane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
Ethyl Benzene	700	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.028 J	NA	NA	ND	0.027 J	0.017 J	ND	ND
Methyl Iodide	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.8 JYQB	ND	ND	NA	NA	ND	ND	ND	ND	ND
Styrene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.014 J	NA	NA	ND	ND	ND	ND	ND
tert-butyl methyl ether (MTBE)	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
Tetrachloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
Toluene	1,000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.027	NA	NA	0.036 J	0.056 J	0.014 J	ND	ND
trans-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2- butene	----	µg/L	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
Trichloroethene	5	µg/L	1.6	2.21 J	0.91 J	2.2	ND	1.5	1.97	5.21	3.03	1.5	3.5	1.9	0.96 J	3.3	3.8	NA	NA	3.2	3	2.9	3	3.3
Trichlorofluoromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
Vinyl Acetate	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND
Vinyl Chloride	2	µg/L	0.71	ND	ND	1.6	0.9 J	ND	0.9 J	1.83	ND	0.31	1.4	0.91	ND	2	2.4	1.9	2.2	2.2	2.4	2.2	2.8	3.3
Xylenes	10,000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.19	NA	NA	0.06 J	0.151	0.117	ND	ND
Per- and Polyfluoroalkyl Substances (PFAS)																								
Perfluorooctanoic acid (PFOA)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanesulfonic acid (PFOS)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorononanoic acid (PFNA)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorohexanesulfonic acid (PFHxS)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorobutanesulfonic acid (PFBS)	----	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Red shaded area denotes concentration greater than the primary MCL

Yellow shaded area denotes concentration greater than the secondary MCL or Guidance Levels which are non-enforceable

MCL = Maximum Contaminant Level; Analytes detected in groundwater were compared to primary or secondary MCLs for drinking water supplies from <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations> and <https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals> (USEPA, 2025)

*Total metals, except for 2010 analyses which were for dissolved metals

---- = no regulatory limit

(s) = secondary MCL

(g) = guidance level

B = analyte was detected in method blank

D = diluted out

dup = duplicate quality control sample

J = estimated value > MDL but < RL

M = matrix spike and/or matrix spike duplicate recovery outside acceptance limits

µg/L = microgram per liter

µmho/cm = micro mho per centimeter

mg/L = milligram per liter

ng/L = nanograms per liter

N = insufficient BOD oxygen depletion

NA = not analyzed

NAD = no available data

ND = non-detect

Q = laboratory control samples outside acceptance limits

R = resampled for vinyl chloride to verify detection in monitoring well exceeded MCL

X = analyte exceeded calibration range

Y = replicate/duplicate precision outside acceptance limits

PW-12, Downgradient, Summary of Data Since March 1999

Parameters	MCL	Units	Oct. 2022	Apr. 2023	Oct. 2023	Apr. 2024	May. 2024 R	May. 2024 R (dup)	Nov. 2024	Dec. 2024	Apr. 2025
Metals*											
Aluminum	50-200 (s)	µg/L	860	ND	34 J	170	NA	NA	ND	NA	42 J
Antimony	6	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Arsenic	10	µg/L	0.53 J	ND	0.25 J	ND	NA	NA	0.29 J	NA	ND
Barium	2,000	µg/L	160	82	73	75	NA	NA	95	NA	66
Beryllium	4	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Cadmium	5	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Calcium	---	µg/L	25,000	25,000	27,000	27,000	NA	NA	30,000	NA	30,000
Chromium	100	µg/L	2.9	1.8 J	0.86 J	2.5	NA	NA	2.5	NA	ND
Cobalt	----	µg/L	0.65 J	0.44 J	0.39 J	0.45 J	NA	NA	0.73 J	NA	0.25 J
Copper	1,300	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Iron	300 (s)	µg/L	60,000	64,000	62,000	62,000	NA	NA	70,000	NA	73,000
Lead	15	µg/L	0.56 J	ND	ND	ND	NA	NA	ND	NA	ND
Magnesium	---	µg/L	14,000	14,000	15,000	14,000	NA	NA	15,000	NA	17,000
Manganese	50 (s)	µg/L	1,700	1,600	1,700	1,600	NA	NA	1,500	NA	2,000
Mercury	2	µg/L	ND	0.077 J	ND	ND	NA	NA	ND	NA	0.014 J
Nickel	100	µg/L	3.2 J	2 J	1.5 J	2.7 J	NA	NA	2.8 J	NA	1.8 J
Potassium	---	µg/L	1,400 J	1,300 J	1,400 J	1,300 J	NA	NA	1,400 J	NA	1,300 J
Selenium	50	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Silver	100 (s)	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Sodium	20,000 (g)	µg/L	35,000	33,000	36,000	36,000	NA	NA	40,000	NA	41,000
Thallium	2	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Vanadium	----	µg/L	1.3 J	ND	ND	ND	NA	NA	ND	NA	ND
Zinc	5,000 (s)	µg/L	ND	ND	ND	ND	NA	NA	12 J	NA	ND
Wet Chemistry											
Alkalinity	----	mg/L	22	ND	26	NA	30	26	24	NA	ND
Ammonia	----	mg/L	1.73	1.6	1.6 M	1.5	NA	NA	1.5	NA	NA
Chemical Oxygen Demand	----	mg/L	28	24	35	37	NA	NA	36	NA	29
Chloride	250 (s)	mg/L	110	100	98	95	NA	NA	98	NA	99
Nitrate (N)	10	mg/L	ND	ND	0.41 J	ND	NA	NA	ND	NA	ND
Nitrate/Nitrite	10	mg/L	NA	NA	NA	ND	NA	NA	NA	NA	NA
pH	6.5-8.5 (s)	standard	5.4	5.3	5.4	3.6	NA	NA	5.6	NA	3
Specific Conductivity	----	µmho/cm	620	770	730	650	NA	NA	780	NA	1,100
Conductivity	---	µmho	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	250 (s)	mg/L	160	170	170	180	NA	NA	200	NA	200
Total Dissolved Solids	500 (s)	mg/L	380	450	440	440	NA	NA	520	NA	410
Total Hardness	----	mg/L	120	120	130	130	NA	NA	140	NA	140
Total Organic Carbon	----	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Halides	----	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Turbidity	----	ntu	32	14	5	23	NA	NA	2.7	NA	6.2
Volatile Organic Compounds											
1,1,1,2-Tetrachloroethane	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
1,1,1-Trichloroethane	200	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
1,1,2,2-Tetrachloroethane	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
1,1,2-Trichloroethane	5	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
1,1-Dichloroethane	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
1,1-Dichloroethene	7	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
1,1-Dichloropropene	---	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	---	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
1,2-Dibromo-3-Chloropropane	0.2	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
1,2-Dibromoethane	0.05	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
1,2-Dichlorobenzene	600	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
1,2-Dichloroethane	5	µg/L	ND	ND	ND	0.42 J	NA	NA	0.67 J	NA	ND
1,2-Dichloropropane	5	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
1,3-Dichlorobenzene	----	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	75	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
2-Butanone	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
2-Hexanone	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
4-Methyl-2-Pentanone	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Acetone	----	µg/L	1.9 J	0.74 J	0.97 J	0.9 J	NA	NA	ND	NA	ND

PW-12, Downgradient, Summary of Data Since March 1999

Parameters	MCL	Units	Oct. 2022	Apr. 2023	Oct. 2023	Apr. 2024	May. 2024 R	May. 2024 R (dup)	Nov. 2024	Dec. 2024	Apr. 2025
Acrylonitrile	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Benzene	5	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Bromochloromethane	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Bromodichloromethane	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Bromoform	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Bromomethane	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Carbon Disulfide	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Carbon Tetrachloride	5	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Chlorobenzene	100	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Chlorodibromomethane	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Chloroethane	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Chloroform	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Chloromethane	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	1.4
cis-1,2-Dichloroethene	70	µg/L	3.6	5.3	4	4.2	NA	NA	5	NA	4.8
cis-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Dibromomethane	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Dichloromethane	5	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Ethyl Benzene	700	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Methyl Iodide	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Styrene	100	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
tert-butyl methyl ether (MTBE)	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Tetrachloroethene	5	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Toluene	1,000	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
trans-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
trans-1,4-Dichloro-2- butene	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
trans-1,2-Dichloroethene	100	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Trichloroethene	5	µg/L	3.1	3.5	3.2	3.2	NA	NA	4.5	NA	3.9
Trichlorofluoromethane	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Vinyl Acetate	----	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Vinyl Chloride	2	µg/L	2.8	4	3.3	2.6	NA	NA	3.3	NA	2.9
Xylenes	10,000	µg/L	ND	ND	ND	ND	NA	NA	ND	NA	ND
Per- and Polyfluoroalkyl Substances (PFAS)											
Perfluorooctanoic acid (PFOA)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	7.2	9.2
Perfluorooctanesulfonic acid (PFOS)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	ND	ND
Perfluorononanoic acid (PFNA)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	ND	ND
Perfluorohexanesulfonic acid (PFHxS)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	1.4 J	1.1 J
Perfluorobutanesulfonic acid (PFBS)	----	ng/L	NA	NA	NA	NA	NA	NA	NA	ND	0.66 J
Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	ND	ND

Notes:
Red shaded area denotes concentration greater than the primary MCL
Yellow shaded area denotes concentration greater than the secondary MCL or Guidance Levels which are non-enforceable
MCL = Maximum Contaminant Level; Analytes detected in groundwater were compared to primary or secondary MCLs for drinking water supplies from <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations> and <https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance- nuisance-chemicals> (USEPA, 2025)
*Total metals, except for 2010 analyses which were for dissolved metals
---- = no regulatory limit
(s) = secondary MCL
(g) = guidance level
B = analyte was detected in method blank
D = diluted out
dup = duplicate quality control sample
J = estimated value > MDL but < RL
M = matrix spike and/or matrix spike duplicate recovery outside acceptance limits
µg/L = microgram per liter
µmho/cm = micro mho per centimeter
mg/L = milligram per liter
ng/L = nanograms per liter
N = insufficient BOD oxygen depletion
NA = not analyzed
NAD = no available data

ND = non-detect
Q = laboratory control samples outside acceptance limits
R = resampled for vinyl chloride to verify detection in monitoring well exceeded MCL
X = analyte exceeded calibration range
Y = replicate/duplicate precision outside acceptance limits

PW-16, Upgradient, Summary of Data Since March 1999

[illegible]

PW-16, Upgradient, Summary of Data Since March 1999

Parameters	MCL	Units	Mar. 1999	Sep. 1999	Mar. 2000	Sep. 2000	Feb. 2001	Aug. 2001	Feb. 2002	Aug. 2002	Mar. 2003	Aug. 2003	Mar. 2004	Sep. 2004	Mar. 2005	Sep. 2005	Mar. 2006	Sep. 2006	Mar. 2007	Sep. 2007	Apr. 2008	Oct. 2008	Feb. 2009	Oct. 2009	
Benzene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bromochloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bromodichloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bromoform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Carbon Disulfide	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8	ND	ND	ND	ND	ND	ND	
Carbon Tetrachloride	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chlorobenzene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chlorodibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chloroform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
cis-1,2-Dichloroethene	70	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
cis-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Dibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Dichloromethane	5	µg/L	ND	ND	ND	25	ND	ND	ND	ND	ND	2.7	3.3	ND	ND	ND	ND	ND	2.2	ND	2.2	ND	ND	ND	
Ethyl Benzene	700	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Methyl Iodide	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Styrene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
tert-butyl methyl ether (MTBE)	----	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	
Tetrachloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Toluene	1,000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.37	ND	ND	ND	ND	ND	ND	ND	ND	
trans-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
trans-1,4-Dichloro-2- butene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
trans-1,2-Dichloroethene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Trichloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Trichlorofluoromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Vinyl Acetate	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Vinyl Chloride	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Xylenes	10,000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Per- and Polyfluoroalkyl Substances (PFAS)																									
Perfluorooctanoic acid (PFOA)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Perfluorooctanesulfonic acid (PFOS)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Perfluorononanoic acid (PFNA)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Perfluorohexanesulfonic acid (PFHxS)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Perfluorobutanesulfonic acid (PFBS)	----	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Notes:

Red shaded area denotes concentration greater than the primary MCL

Yellow shaded area denotes concentration greater than the secondary MCL or Guidance Levels which are non-enforceable

MCL = Maximum Contaminant Level; Analytes detected in groundwater were compared to primary or secondary MCLs for drinking water supplies from <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations> and <https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals> (USEPA, 2025)

*Total metals, except for 2010 analyses which were for dissolved metals

---- = no regulatory limit

(s) = secondary MCL

(g) = guidance level

B = analyte was detected in method blank

D = diluted out

J = estimated value > MDL but < RL

M = matrix spike and/or matrix spike duplicate recovery outside acceptance limits

µg/L = microgram per liter

µmho/cm = micro mho per centimeter

mg/L = milligram per liter

ng/L = nanograms per liter

N = insufficient BOD oxygen depletion

NA = not analyzed

NAD = no available data

ND = non-detect

Q = laboratory control samples outside acceptance limits

X = analyte exceeded calibration range.

Y = replicate/duplicate precision outside acceptance limits

PW-16, Upgradient, Summary of Data Since March 1999																							
Parameters	MCL	Units	Apr. 2010	Oct. 2010	Apr. 2011	Oct. 2011	Oct. 2012	Oct. 2013	Oct. 2014	May 2015	Nov. 2015	Apr. 2016	Oct. 2016	Oct. 2018	Apr. 2019	Nov. 2019	Jun. 2020	Oct. 2020	Apr. 2021	Nov. 2021	Apr. 2022	Oct. 2022	Apr. 2023
Benzene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.071 J	0.048 J	0.069 J	0.048 J	ND	ND	ND	ND
Bromochloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.07 J	0.085 J	0.094 J	0.076 J	ND	ND	ND	ND
Chlorodibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.034 J	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	70	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.6	3.6	3	1.8	1.2 J	3.5	1.6 J	4.2
cis-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene	700	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.016 J	ND	ND	ND	ND	ND	ND	ND
Methyl Iodide	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.5	2.9 JYQB	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-butyl methyl ether (MTBE)	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	1,000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.021 J	0.019 J	0.037 J	0.016 J	ND	ND	ND	ND
trans-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2- butene	----	µg/L	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.12	0.082 J	0.096 J	0.042 J	ND	ND	ND	ND
Trichloroethene	5	µg/L	ND	ND	1.2	2.6	3.3	3.36	9.82	8.72	ND	ND	ND	ND	ND	6.9	4.8	2.9	2.2	2.2	4.8	2	4.3
Trichlorofluoromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	2	µg/L	ND	ND	ND	ND	ND	ND	2.14	ND	ND	ND	ND	ND	ND	2.9	2.0	1.6	1.1	1.1	3	0.91 J	2.7
Xylenes	10,000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.127	ND	0.053	0.069	ND	ND	ND	ND
Per- and Polyfluoroalkyl Substances (PFAS)																							
Perfluorooctanoic acid (PFOA)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanesulfonic acid (PFOS)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorononanoic acid (PFNA)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorohexanesulfonic acid (PFHxS)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorobutanesulfonic acid (PFBS)	----	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
Red shaded area denotes concentration greater than the primary MCL
Yellow shaded area denotes concentration greater than the secondary MCL or Guidance Levels which are non-enforceable
MCL = Maximum Contaminant Level; Analytes detected in groundwater were compared to primary or secondary MCLs for drinking water supplies from <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations> and <https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals> (USEPA, 2025)
*Total metals, except for 2010 analyses which were for dissolved metals
---- = no regulatory limit
(s) = secondary MCL
(g) = guidance level
B = analyte was detected in method blank
D = diluted out
J = estimated value > MDL but < RL
M = matrix spike and/or matrix spike duplicate recovery outside acceptance limits
µg/L = microgram per liter
µmho/cm = micro mho per centimeter
mg/L = milligram per liter
ng/L = nanograms per liter
N = insufficient BOD oxygen depletion
NA = not analyzed
NAD = no available data
ND = non-detect

Q = laboratory control samples outside acceptance limits
X = analyte exceeded calibration range.
Y = replicate/duplicate precision outside acceptance limits

PW-16, Upgradient, Summary of Data Since March 1999

Parameters	MCL	Units	Oct. 2023	Apr. 2024	Nov. 2024	Dec. 2024	Apr. 2025
Metals*							
Aluminum	50-200 (s)	µg/L	50 J	ND	ND	NA	ND
Antimony	6	µg/L	ND	ND	ND	NA	ND
Arsenic	10	µg/L	ND	ND	ND	NA	ND
Barium	2,000	µg/L	52	46	57	NA	53
Beryllium	4	µg/L	ND	ND	ND	NA	ND
Cadmium	5	µg/L	ND	ND	ND	NA	ND
Calcium	---	µg/L	10,000	12,000	11,000	NA	11,000
Chromium	100	µg/L	5	2.5	4.8	NA	ND
Cobalt	----	µg/L	4.9	4.1	6.1	NA	4.7
Copper	1,300	µg/L	ND	ND	ND	NA	ND
Iron	300 (s)	µg/L	560 J	270 J	310 J	NA	320 J
Lead	15	µg/L	ND	ND	ND	NA	ND
Magnesium	---	µg/L	9,100	9,500	9,800	NA	11,000
Manganese	50 (s)	µg/L	2,900	2,100	2,800	NA	3,500
Mercury	2	µg/L	0.011 J	ND	0.013 J	NA	0.026 J
Nickel	100	µg/L	4.2 J	3.6 J	5.9	NA	1.3 J
Potassium	---	µg/L	1,500 J	1,400 J	1,600 J	NA	1,500 J
Selenium	50	µg/L	ND	ND	ND	NA	ND
Silver	100 (s)	µg/L	ND	ND	ND	NA	ND
Sodium	20,000 (g)	µg/L	18,000	23,000	19,000	NA	21,000
Thallium	2	µg/L	ND	ND	ND	NA	ND
Vanadium	----	µg/L	ND	ND	ND	NA	ND
Zinc	5,000 (s)	µg/L	ND	ND	12 J	NA	7.2 J
Wet Chemistry							
Alkalinity	----	mg/L	50	42	48	NA	54
Ammonia	----	mg/L	ND	ND	ND	NA	ND
Chemical Oxygen Demand	----	mg/L	24	28	ND	NA	40
Chloride	250 (s)	mg/L	29	27	30	NA	29
Nitrate (N)	10	mg/L	1.5	1.6	1.3	NA	ND
Nitrate/Nitrite	10	mg/L	NA	NA	NA	NA	NA
pH	6.5-8.5 (s)	standard	5.9	5.9	6.1	NA	6.5
Specific Conductivity	----	µmho/cm	230	170	270	NA	260
Conductivity	---	µmho	NA	NA	NA	NA	NA
Sulfate	250 (s)	mg/L	16	18	24	NA	24
Total Dissolved Solids	500 (s)	mg/L	140	130	130	NA	160
Total Hardness	----	mg/L	63	69	68	NA	72
Total Organic Carbon	----	mg/L	NA	NA	NA	NA	NA
Total Organic Halides	----	mg/L	NA	NA	NA	NA	NA
Turbidity	----	ntu	1.7	3	3.5	NA	2.1
Volatile Organic Compounds							
1,1,1,2-Tetrachloroethane	----	µg/L	ND	ND	ND	NA	ND
1,1,1-Trichloroethane	200	µg/L	ND	ND	ND	NA	ND
1,1,2,2-Tetrachloroethane	----	µg/L	ND	ND	ND	NA	ND
1,1,2-Trichloroethane	5	µg/L	ND	ND	ND	NA	ND
1,1-Dichloroethane	----	µg/L	ND	ND	ND	NA	ND
1,1-Dichloroethene	7	µg/L	ND	ND	ND	NA	ND
1,1-Dichloropropene	---	µg/L	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	---	µg/L	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	----	µg/L	ND	ND	ND	NA	ND
1,2-Dibromo-3-Chloropropane	0.2	µg/L	ND	ND	ND	NA	ND
1,2-Dibromoethane	0.05	µg/L	ND	ND	ND	NA	ND
1,2-Dichlorobenzene	600	µg/L	ND	ND	ND	NA	ND
1,2-Dichloroethane	5	µg/L	ND	ND	ND	NA	ND
1,2-Dichloropropane	5	µg/L	ND	ND	ND	NA	ND
1,3-Dichlorobenzene	----	µg/L	NA	NA	NA	NA	ND
1,4-Dichlorobenzene	75	µg/L	ND	ND	ND	NA	ND
2-Butanone	----	µg/L	ND	ND	ND	NA	ND
2-Hexanone	----	µg/L	ND	ND	ND	NA	ND
4-Methyl-2-Pentanone	----	µg/L	ND	ND	ND	NA	ND
Acetone	----	µg/L	1.4 J	ND	1.8 J	NA	ND
Acrylonitrile	----	µg/L	ND	ND	ND	NA	ND

PW-16, Upgradient, Summary of Data Since March 1999

Parameters	MCL	Units	Oct. 2023	Apr. 2024	Nov. 2024	Dec. 2024	Apr. 2025
Benzene	5	µg/L	ND	ND	ND	NA	ND
Bromochloromethane	----	µg/L	ND	ND	ND	NA	ND
Bromodichloromethane	----	µg/L	ND	ND	ND	NA	ND
Bromoform	----	µg/L	ND	ND	ND	NA	ND
Bromomethane	----	µg/L	ND	ND	ND	NA	ND
Carbon Disulfide	----	µg/L	ND	ND	ND	NA	ND
Carbon Tetrachloride	5	µg/L	ND	ND	ND	NA	ND
Chlorobenzene	100	µg/L	ND	ND	ND	NA	ND
Chlorodibromomethane	----	µg/L	ND	ND	ND	NA	ND
Chloroethane	----	µg/L	ND	ND	ND	NA	ND
Chloroform	----	µg/L	ND	ND	ND	NA	ND
Chloromethane	----	µg/L	ND	ND	ND	NA	ND
cis-1,2-Dichloroethene	70	µg/L	2.6	1.6 J	3	NA	3.9
cis-1,3-Dichloropropene	----	µg/L	ND	ND	ND	NA	ND
Dibromomethane	----	µg/L	ND	ND	ND	NA	ND
Dichloromethane	5	µg/L	ND	ND	ND	NA	ND
Ethyl Benzene	700	µg/L	ND	ND	ND	NA	ND
Methyl Iodide	----	µg/L	ND	ND	ND	NA	ND
Styrene	100	µg/L	ND	ND	ND	NA	ND
tert-butyl methyl ether (MTBE)	----	µg/L	ND	ND	ND	NA	ND
Tetrachloroethene	5	µg/L	ND	ND	ND	NA	ND
Toluene	1,000	µg/L	ND	ND	ND	NA	ND
trans-1,3-Dichloropropene	----	µg/L	ND	ND	ND	NA	ND
trans-1,4-Dichloro-2- butene	----	µg/L	ND	ND	ND	NA	ND
trans-1,2-Dichloroethene	100	µg/L	ND	ND	ND	NA	ND
Trichloroethene	5	µg/L	3.1	1.8	3.2	NA	3.1
Trichlorofluoromethane	----	µg/L	ND	ND	ND	NA	ND
Vinyl Acetate	----	µg/L	ND	ND	ND	NA	ND
Vinyl Chloride	2	µg/L	1.6	0.7 J	1.9	NA	1.5
Xylenes	10,000	µg/L	ND	ND	ND	NA	ND
Per- and Polyfluoroalkyl Substances (PFAS)							
Perfluorooctanoic acid (PFOA)	4	ng/L	NA	NA	NA	29	39
Perfluorooctanesulfonic acid (PFOS)	4	ng/L	NA	NA	NA	20	19
Perfluorononanoic acid (PFNA)	10	ng/L	NA	NA	NA	2.1	2.8
Perfluorohexanesulfonic acid (PFHxS)	10	ng/L	NA	NA	NA	27	25
Perfluorobutanesulfonic acid (PFBS)	----	ng/L	NA	NA	NA	7.1	6.9
Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)	10	ng/L	NA	NA	NA	ND	0.28 J

Notes:

Red shaded area denotes concentration greater than the primary MCL

Yellow shaded area denotes concentration greater than the secondary MCL or Guidance Levels which are non-enforceable

MCL = Maximum Contaminant Level; Analytes detected in groundwater were compared to primary or secondary MCLs for drinking water supplies from <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations> and <https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals> (USEPA, 2025)

*Total metals, except for 2010 analyses which were for dissolved metals

---- = no regulatory limit

(s) = secondary MCL

(g) = guidance level

B = analyte was detected in method blank

D = diluted out

J = estimated value > MDL but < RL

M = matrix spike and/or matrix spike duplicate recovery outside acceptance limits

µg/L = microgram per liter

µmho/cm = micro mho per centimeter

mg/L = milligram per liter

ng/L = nanograms per liter

N = insufficient BOD oxygen depletion

NA = not analyzed

NAD = no available data

ND = non-detect

Q = laboratory control samples outside acceptance limits

X = analyte exceeded calibration range.

Y = replicate/duplicate precision outside acceptance limits

PW-17, Upgradient, Summary of Data Since March 1999																								
Parameters	MCL	Units	Mar. 1999	Sep. 1999	Mar. 2000	Sep. 2000	Feb. 2001	Aug. 2001	Feb. 2002	Aug. 2002	Mar. 2003	Aug. 2003	Mar. 2004	Sep. 2004	Mar. 2005	Sep. 2005	Mar. 2006	Sep. 2006	Mar. 2007	Sep. 2007	Apr. 2008	Oct. 2008	Feb. 2009	Oct. 2009
Benzene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorodibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	70	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.4	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane	5	µg/L	ND	ND	ND	75.2	ND	ND	ND	ND	ND	3.5	3.6	ND	ND	0.47	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene	700	µg/L	ND	ND	ND	4.42	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Iodide	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-butyl methyl ether (MTBE)	----	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND
Tetrachloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	1,000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2- butene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.44	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	10,000	µg/L	ND	ND	ND	14.44	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Per- and Polyfluoroalkyl Substances (PFAS)																								
Perfluorooctanoic acid (PFOA)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanesulfonic acid (PFOS)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorononanoic acid (PFNA)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorohexanesulfonic acid (PFHxS)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorobutanesulfonic acid (PFBS)	----	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
Red shaded area denotes concentration greater than the primary MCL
Yellow shaded area denotes concentration greater than the secondary MCL or Guidance Levels which are non-enforceable
MCL = Maximum Contaminant Level; Analytes detected in groundwater were compared to primary or secondary MCLs for drinking water supplies from <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations> and <https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance- nuisance-chemicals> (USEPA, 2025)
*Total metals, except for 2010 analyses which were for dissolved metals
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(s) = secondary MCL
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R = resampled for nitrate to verify detection in monitoring well exceeded MCL
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PW-17, Upgradient, Summary of Data Since March 1999

Parameters	MCL	Units	Apr. 2010	Oct. 2010	Oct. 2010 (dup)	Apr. 2011	Oct. 2011 (dup)	Oct. 2012	Oct. 2013	Oct. 2014	May 2015	Oct. 2016	Oct. 2018	Apr. 2019	Nov. 2019	Nov. 2019 (dup)	Jun. 2020	Oct. 2020	Apr. 2021	Nov. 2021	Apr. 2022	Oct. 2022	Apr. 2023
Metals*																							
Aluminum	50-200 (s)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,390	244	427	36.7	41.7	67.2	825	134	120	120	6,500	1,100
Antimony	6	µg/L	ND	NA	NA	0.42 J	0.56 J	ND	ND	1.60 B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	10	µg/L	ND	1.2 J	1.2 J	1.9	2.2	ND	ND	1.20 B	ND	ND	ND	ND	ND	ND	1 J	1.3 J	0.88 J	0.91 J	2	3.8	1.6
Barium	2,000	µg/L	34.9	110	110	138	172	ND	84.1	123	101	317	97.8 B	93.4	78.9	76	88.4	112	80.9	71	28	110	74
Beryllium	4	µg/L	0.43	NA	NA	ND	ND	ND	ND	ND	ND	0.38	ND	ND	ND	ND	0.18 J	0.10 J	0.17 J	ND	ND	ND	ND
Cadmium	5	µg/L	0.065 J	ND	ND	0.15 J	0.12 J	ND	ND	ND	ND	0.72	0.51 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Calcium	---	µg/L	2,470 N	120,000	110,000	130,000	120,000	ND	90,000	129,000	124,000	26,300	13,300	99,900	52,700	51,900	97,200	63,400	101,000	49,000	43,000	30,000	63,000
Chromium	100	µg/L	ND	4.2 J	2.6 J	1.7 J	1.7 J	1.6 J	ND	9.87 B	ND	15.6	1.5 J	ND	ND	ND	2.6 J	2.8 J	ND	1 J	1.1 J	8	2.8
Cobalt	----	µg/L	4.1	NA	NA	3.3	2.9	ND	ND	0.435 B	ND	15.5	ND	1.3	1.7 J	1.5 J	ND	3.8 J	ND	1.8	1.4	8	2.8
Copper	1,300	µg/L	1.2 J	12	12	6.4	6.9	0.2 J	ND	4.20 B	ND	22.3	1.7 J	5.7	2.2 J	ND	3.3 J	ND	ND	ND	2.9 J	8.4 J	1.8 J
Iron	300 (s)	µg/L	8.3	ND	ND	1,420	1,300	ND	349	591	481	11,500	292	811	953	813	404	1,970	630	920	ND	9,900	2,900
Lead	15	µg/L	0.2 J	0.4 J	0.38 J	1.5	1.2	0.088 J	ND	0.827 B	ND	7.9	ND	2.6	ND	ND	ND	ND	ND	ND	ND	9	1.3 J
Magnesium	---	µg/L	NA	39,000	41,000	49,800	44,800	2.8 J	29,000	40,400	36,100	2,250	57,800	39,500	20,700	20,500	36,100	23,000	36,500	16,000	40,000	12,000	24,000
Manganese	50 (s)	µg/L	20.3	NA	NA	647	620	2.8 J	118	57.8	28	188	91.2	427	895	781	157	1,510	336	770	23	1,600	940
Mercury	2	µg/L	0.081 J	0.044 J	0.016 J	ND	0.09 JN	ND	ND	ND	ND	0.14	ND	0.15	ND	ND	ND	ND	ND	0.014 J	ND	0.037 J	0.032 J
Nickel	100	µg/L	5.4	NA	NA	22.5	22.2	0.68 J	ND	5 B	ND	7.9	4.8 J	9.3	9.4	8.5	4.9 J	22.7	5	11	7.6	28	12
Potassium	---	µg/L	NA	3,000	3,100	3,200	6,010	ND	3,590	ND	ND	2,290	5,120	2,560	3,520	3,400	2,480	3,440	2,500	3,500	13,000	3,900	3,300
Selenium	50	µg/L	ND	ND	ND	0.57 J	2.2 J	ND	4.8	4	ND	ND	4.6 JB	ND	ND	ND	2.8 J	ND	ND	ND	ND	ND	ND
Silver	100 (s)	µg/L	ND	NA	NA	0.082 J	0.071 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4 J	ND	ND	ND	ND	ND	ND
Sodium	20,000 (g)	µg/L	NA	9,000	9,200	14,500	12,900	11.5 J	6,450	7,470	6,610	3,320	55,700	20,400	20,700	21,400	19,500	21,900	27,800	21,000	200,000	16,000	17,000
Thallium	2	µg/L	ND	NA	NA	0.29 J	0.098 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.5 J	ND	ND	ND	ND	ND	ND
Vanadium	----	µg/L	ND	NA	NA	2.8 J	1.8 J	NA	ND	2.8	ND	9.1	2.9 J	2.1	ND	ND	ND	4 J	ND	ND	2.6 J	14 J	2.3 J
Zinc	5,000 (s)	µg/L	18.2	10 J	11 J	27.9	22 N	13.3 N	20.7	7	ND	73.7	8.2 J	10.3	9.3 J	9.2 J	3.9 J	20.8	5.2 J	7.7 J	ND	42 J	11 J
Wet Chemistry																							
Alkalinity	----	mg/L	4	372	371	510	480	330	329	466	381	47	730	420	220	220	390	250	370	194	228	130	230
Ammonia	----	mg/L	ND	ND	ND	0.08 J	0.109	0.389 J	ND	ND	ND	ND	ND	ND	ND	0.026 J	ND	ND	ND	0.064 J	0.123 J	0.156 J	ND
Chemical Oxygen Demand	----	mg/L	ND	28	30	20.1	21.4	34.4	35.3	12	10	94	ND	22	ND	ND	15 J	22 J	19 J	113	181	55	ND
Chloride	250 (s)	mg/L	5.5	6.73 D	6.58 D	9	11	4.8 D	5.87	4.53	4.74	13	5.1 M	14	32	31	2.2 J	32	16	25.5	379	25	18
Nitrate (N)	10	mg/L	NA	NA	NA	NA	NA	0.0818	ND	0.235	3.5	0.42	0.21	0.36 J	0.38 J	0.15 J	ND	0.18 J	0.247 J	ND	0.29 J	0.33 J	
Nitrate/Nitrite	10	mg/L	0.54	0.065	0.065	ND	0.52	ND	ND	NA	NA	NA	NAD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH	6.5-8.5 (s)	standard	5.3	7.14	7.16	6.75	4.55	4.64	7.56	7.54	6.53	6.45	7.6	7.34	6.81	6.82	7.19	6.71	6.69	6.89	7	6.3	6.9
Specific Conductivity	----	µmho/cm	70	796	795	931	NA	NA	NA	NA	NA	NAD	NAD	NA	581	576	810.5	608.7	882.5	428	1,410	330	470
Conductivity	---	µmho	NA	NA	NA	NA	892	604	756	550	676	125	1,200	876	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	250 (s)	mg/L	12	81.1 D	86.9 D	86	36	35 D	36.4	56.7	47.1	3.1	93 M	58	24	26	52	30	72	21.5	45.6	12	25
Total Dissolved Solids	500 (s)	mg/L	31	518	513	617	567	378	406	539	486	100	730	420	280	290	510	290	520	186	948	180	440
Total Hardness	----	mg/L	20	529 D	539 D	550	484.04	0.012 J	344	489	458	76	570	410	220	210	390	250	403	190	270	120	260
Total Organic Carbon	----	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NAD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Halides	----	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NAD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Turbidity	----	ntu	11	ND	ND	17	13	290	3.72	8.49	2.9	280	6.5	15	4.8	4.8	4.2	1.5	5.7	7	3	140	24
Volatile Organic Compounds																							
1,1,1,2-Tetrachloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	200	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.031 J	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.028 J	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloropropene	---	µg/L	NA	1.15 J	ND	ND	ND	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	---	µg/L	NA	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	0.2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	0.05	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	600	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.072 J	0.092 J	ND	0.067 J	0.038 J	ND	ND	ND	ND
1,3-Dichlorobenzene	----	µg/L	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	75	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.34	0.34	0.16	0.34	0.26	0.72 J	ND	ND	ND
2-Butanone	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6 J	1.6 J	2.1	ND

PW-17, Upgradient, Summary of Data Since March 1999

[illegible]

Notes:

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Q = laboratory control samples outside acceptance limits

PW-17, Upgradient, Summary of Data Since March 1999

Parameters	MCL	Units	Oct. 2023	Nov. 2023 R	Nov. 2023 R (dup)	Apr. 2024	Nov. 2024	Dec. 2024	Apr. 2025
Metals*									
Aluminum	50-200 (s)	µg/L	650	NA	NA	320	340	NA	570
Antimony	6	µg/L	ND	NA	NA	ND	ND	NA	ND
Arsenic	10	µg/L	2.3	NA	NA	1.7	2.2	NA	1.2
Barium	2,000	µg/L	81	NA	NA	70	81	NA	97
Beryllium	4	µg/L	ND	NA	NA	ND	ND	NA	ND
Cadmium	5	µg/L	ND	NA	NA	ND	ND	NA	ND
Calcium	---	µg/L	31,000	NA	NA	33,000	29,000	NA	93,000
Chromium	100	µg/L	1.7 J	NA	NA	1.8 J	2.3	NA	1.5 J
Cobalt	----	µg/L	4.3	NA	NA	4	6.6	NA	2.2
Copper	1,300	µg/L	1.3 J	NA	NA	1.2 J	1.7 J	NA	9.4
Iron	300 (s)	µg/L	3,800	NA	NA	1,600	3,000	NA	1,200
Lead	15	µg/L	0.99 J	NA	NA	0.95 J	1.2 J	NA	1.2 J
Magnesium	---	µg/L	12,000	NA	NA	13,000	11,000	NA	35,000
Manganese	50 (s)	µg/L	1,800	NA	NA	1,300	2,600	NA	490
Mercury	2	µg/L	ND	NA	NA	ND	0.013 J	NA	0.017 J
Nickel	100	µg/L	14	NA	NA	11	24	NA	13
Potassium	---	µg/L	3,600	NA	NA	4,400	4,700	NA	3,800
Selenium	50	µg/L	ND	NA	NA	ND	ND	NA	ND
Silver	100 (s)	µg/L	ND	NA	NA	ND	ND	NA	ND
Sodium	20,000 (g)	µg/L	18,000	NA	NA	21,000	19,000	NA	14,000
Thallium	2	µg/L	ND	NA	NA	ND	ND	NA	ND
Vanadium	----	µg/L	2 J	NA	NA	1.5 J	1.4 J	NA	2.7 J
Zinc	5,000 (s)	µg/L	17 J	NA	NA	7.1 J	32	NA	13 J
Wet Chemistry									
Alkalinity	----	mg/L	130	NA	NA	130	120	NA	300
Ammonia	----	mg/L	ND	NA	NA	ND	ND	NA	NA
Chemical Oxygen Demand	----	mg/L	37	NA	NA	33	ND	NA	37
Chloride	250 (s)	mg/L	25	NA	NA	23	28	NA	12
Nitrate (N)	10	mg/L	17	0.44 J	0.34 J	0.46 J	0.42 J	NA	1.2
Nitrate/Nitrite	10	mg/L	NA	NA	NA	NA	NA	NA	NA
pH	6.5-8.5 (s)	standard	6.3	NA	NA	6.3	6.6	NA	7.6
Specific Conductivity	----	µmho/cm	390	NA	NA	290	350	NA	750
Conductivity	---	µmho	NA	NA	NA	NA	NA	NA	NA
Sulfate	250 (s)	mg/L	10	NA	NA	13	9.4	NA	100
Total Dissolved Solids	500 (s)	mg/L	190	NA	NA	230	180	NA	470
Total Hardness	----	mg/L	130	NA	NA	140	120	NA	380
Total Organic Carbon	----	mg/L	NA	NA	NA	NA	NA	NA	NA
Total Organic Halides	----	mg/L	NA	NA	NA	NA	NA	NA	NA
Turbidity	----	ntu	13	NA	NA	4.7	13	NA	14
Volatile Organic Compounds									
1,1,1,2-Tetrachloroethane	----	µg/L	ND	NA	NA	ND	ND	NA	ND
1,1,1-Trichloroethane	200	µg/L	ND	NA	NA	ND	ND	NA	ND
1,1,2,2-Tetrachloroethane	----	µg/L	ND	NA	NA	ND	ND	NA	ND
1,1,2-Trichloroethane	5	µg/L	ND	NA	NA	ND	ND	NA	ND
1,1-Dichloroethane	----	µg/L	ND	NA	NA	ND	ND	NA	ND
1,1-Dichloroethene	7	µg/L	ND	NA	NA	ND	ND	NA	ND
1,1-Dichloropropene	---	µg/L	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	---	µg/L	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	----	µg/L	ND	NA	NA	ND	ND	NA	ND
1,2-Dibromo-3-Chloropropane	0.2	µg/L	ND	NA	NA	ND	ND	NA	ND
1,2-Dibromoethane	0.05	µg/L	ND	NA	NA	ND	ND	NA	ND
1,2-Dichlorobenzene	600	µg/L	ND	NA	NA	ND	ND	NA	ND
1,2-Dichloroethane	5	µg/L	ND	NA	NA	ND	ND	NA	ND
1,2-Dichloropropane	5	µg/L	ND	NA	NA	ND	ND	NA	ND
1,3-Dichlorobenzene	----	µg/L	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	75	µg/L	0.96 J	NA	NA	0.72 J	1.1 J	NA	ND
2-Butanone	----	µg/L	ND	NA	NA	ND	ND	NA	ND
2-Hexanone	----	µg/L	ND	NA	NA	ND	ND	NA	ND
4-Methyl-2-Pentanone	----	µg/L	ND	NA	NA	ND	ND	NA	ND
Acetone	----	µg/L	11	NA	NA	1.4 J	2	NA	ND

PW-17, Upgradient, Summary of Data Since March 1999

Parameters	MCL	Units	Oct. 2023	Nov. 2023 R	Nov. 2023 R (dup)	Apr. 2024	Nov. 2024	Dec. 2024	Apr. 2025
Acrylonitrile	----	µg/L	ND	NA	NA	ND	ND	NA	ND
Benzene	5	µg/L	ND	NA	NA	ND	ND	NA	ND
Bromochloromethane	----	µg/L	ND	NA	NA	ND	ND	NA	ND
Bromodichloromethane	----	µg/L	ND	NA	NA	ND	ND	NA	ND
Bromoform	----	µg/L	ND	NA	NA	ND	ND	NA	ND
Bromomethane	----	µg/L	ND	NA	NA	ND	ND	NA	ND
Carbon Disulfide	----	µg/L	ND	NA	NA	ND	ND	NA	ND
Carbon Tetrachloride	5	µg/L	ND	NA	NA	ND	ND	NA	ND
Chlorobenzene	100	µg/L	0.51 J	NA	NA	ND	0.59 J	NA	ND
Chlorodibromomethane	----	µg/L	ND	NA	NA	ND	ND	NA	ND
Chloroethane	----	µg/L	ND	NA	NA	ND	ND	NA	ND
Chloroform	----	µg/L	ND	NA	NA	ND	ND	NA	ND
Chloromethane	----	µg/L	ND	NA	NA	ND	ND	NA	ND
cis-1,2-Dichloroethene	70	µg/L	ND	NA	NA	ND	ND	NA	ND
cis-1,3-Dichloropropene	----	µg/L	ND	NA	NA	ND	ND	NA	ND
Dibromomethane	----	µg/L	ND	NA	NA	ND	ND	NA	ND
Dichloromethane	5	µg/L	ND	NA	NA	ND	ND	NA	ND
Ethyl Benzene	700	µg/L	ND	NA	NA	ND	ND	NA	ND
Methyl Iodide	----	µg/L	ND	NA	NA	ND	ND	NA	ND
Styrene	100	µg/L	ND	NA	NA	ND	ND	NA	ND
tert-butyl methyl ether (MTBE)	----	µg/L	ND	NA	NA	ND	ND	NA	ND
Tetrachloroethene	5	µg/L	ND	NA	NA	ND	ND	NA	ND
Toluene	1,000	µg/L	ND	NA	NA	ND	ND	NA	ND
trans-1,3-Dichloropropene	----	µg/L	ND	NA	NA	ND	ND	NA	ND
trans-1,4-Dichloro-2- butene	----	µg/L	ND	NA	NA	ND	ND	NA	ND
trans-1,2-Dichloroethene	100	µg/L	ND	NA	NA	ND	ND	NA	ND
Trichloroethene	5	µg/L	ND	NA	NA	ND	ND	NA	ND
Trichlorofluoromethane	----	µg/L	ND	NA	NA	ND	ND	NA	ND
Vinyl Acetate	----	µg/L	ND	NA	NA	ND	ND	NA	ND
Vinyl Chloride	2	µg/L	ND	NA	NA	ND	ND	NA	ND
Xylenes	10,000	µg/L	ND	NA	NA	ND	ND	NA	ND
Per- and Polyfluoroalkyl Substances (PFAS)									
Perfluorooctanoic acid (PFOA)	4	ng/L	NA	NA	NA	NA	NA	8.7	51
Perfluorooctanesulfonic acid (PFOS)	4	ng/L	NA	NA	NA	NA	NA	7.6	19
Perfluorononanoic acid (PFNA)	10	ng/L	NA	NA	NA	NA	NA	ND	6.9
Perfluorohexanesulfonic acid (PFHxS)	10	ng/L	NA	NA	NA	NA	NA	23	16
Perfluorobutanesulfonic acid (PFBS)	----	ng/L	NA	NA	NA	NA	NA	3.3	9.2
Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)	10	ng/L	NA	NA	NA	NA	NA	ND	ND

Notes:

Red shaded area denotes concentration greater than the primary MCL

Yellow shaded area denotes concentration greater than the secondary MCL or Guidance Levels which are non-enforceable

MCL = Maximum Contaminant Level; Analytes detected in groundwater were compared to primary or secondary MCLs for drinking water supplies from <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations> and <https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals> (USEPA, 2025)

*Total metals, except for 2010 analyses which were for dissolved metals

---- = no regulatory limit

(s) = secondary MCL

(g) = guidance level

B = analyte was detected in method blank

D = diluted out

dup = duplicate quality control sample

J = estimated value > MDL but < RL

µg/L = microgram per liter

µmho/cm = micro mho per centimeter

mg/L = milligram per liter

ng/L = nanograms per liter

NA = not analyzed

NAD = no available data

ND = non-detect

R = resampled for nitrate to verify detection in monitoring well exceeded MCL

Q = laboratory control samples outside acceptance limits

Y = replicate/Duplicate precision outside acceptance limits

PW-19, Downgradient, Summary of Data Since March 1999

Parameters	MCL	Units	Mar. 1999	Sep. 1999	Mar. 2000	Sep. 2000	Feb. 2001	Aug. 2001	Feb. 2002	Aug. 2002	Mar. 2003	Aug. 2003	Mar. 2004	Sep. 2004	Mar. 2005	Sep. 2005	Mar. 2006	Sept. 2006	Mar. 2007	Sep. 2007	Apr. 2008	Oct. 2008	Feb. 2009	Oct. 2009	
Benzene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bromochloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bromodichloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bromoform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Carbon Disulfide	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Carbon Tetrachloride	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chlorobenzene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chlorodibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chloroform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.86	ND	ND	ND	ND	ND	ND	ND	ND	
Chloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
cis-1,2-Dichloroethene	70	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
cis-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Dibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Dichloromethane	5	µg/L	ND	ND	ND	25.8	ND	ND	ND	ND	ND	3.1	13	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Ethyl Benzene	700	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Methyl Iodide	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Styrene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
tert-butyl methyl ether (MTBE)	----	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	
Tetrachloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Toluene	1,000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.43	ND	ND	ND	ND	ND	ND	ND	ND	
trans-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
trans-1,4-Dichloro-2- butene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
trans-1,2-Dichloroethene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Trichloroethene	5	µg/L	ND	ND	ND	1.47	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Trichlorofluoromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Vinyl Acetate	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Vinyl Chloride	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Xylenes	10,000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Per- and Polyfluoroalkyl Substances (PFAS)																									
Perfluorooctanoic acid (PFOA)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Perfluorooctanesulfonic acid (PFOS)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Perfluorononanoic acid (PFNA)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Perfluorohexanesulfonic acid (PFHxS)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Perfluorobutanesulfonic acid (PFBS)	----	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Notes:

Red shaded area denotes concentration greater than the primary MCL

Yellow shaded area denotes concentration greater than the secondary MCL or Guidance Levels which are non-enforceable

MCL = Maximum Contaminant Level; Analytes detected in groundwater were compared to primary or secondary MCLs for drinking water supplies from <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations> and <https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals> (USEPA, 2025)

*Total metals, except for 2010 analyses which were for dissolved metals

---- = no regulatory limit

(s) = secondary MCL

(g) = guidance level

B = analyte was detected in method blank

D = diluted out

dup = duplicate quality control sample

J = estimated value > MDL but < RL

µg/L = microgram per liter

µmho/cm = micro mho per centimeter

mg/L = milligram per liter

ng/L = nanograms per liter

NA = not analyzed

NAD = no available data

ND = non-detect

Q = laboratory control samples outside acceptance limits

Y = replicate/duplicate precision outside acceptance limits

PW-19, Downgradient, Summary of Data Since March 1999

Parameters	MCL	Units	Apr. 2010	Oct. 2010	Apr. 2011	Oct. 2011	Oct. 2011 (dup)	Oct. 2012	Oct. 2013	Oct. 2014	May 2015	Nov. 2015	Nov. 2015 (dup)	Apr. 2016	Apr. 2016 (dup)	Oct. 2016	Oct. 2018	Apr. 2019	Nov. 2019	Jun. 2020	Jun. 2020 (dup)
Acrylonitrile	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	----	µg/L	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.021 J	ND	ND
Carbon Tetrachloride	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorodibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.031 J	ND	ND
cis-1,2-Dichloroethene	70	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene	700	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.018	ND	ND
Methyl Iodide	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	2.9 JYQB	ND	ND	ND	ND
Styrene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-butyl methyl ether (MTBE)	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	1,000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2- butene	----	µg/L	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	10,000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.101	ND	ND
Per- and Polyfluoroalkyl Substances (PFAS)																					
Perfluorooctanoic acid (PFOA)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanesulfonic acid (PFOS)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorononanoic acid (PFNA)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorohexanesulfonic acid (PFHxS)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorobutanesulfonic acid (PFBS)	----	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Red shaded area denotes concentration greater than the primary MCL

Yellow shaded area denotes concentration greater than the secondary MCL or Guidance Levels which are non-enforceable

MCL = Maximum Contaminant Level; Analytes detected in groundwater were compared to primary or secondary MCLs for drinking water supplies from <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations> and <https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals> (USEPA, 2025)

*Total metals, except for 2010 analyses which were for dissolved metals

---- = no regulatory limit

(s) = secondary MCL

(g) = guidance level

B = analyte was detected in method blank

D = diluted out

dup = duplicate quality control sample

J = estimated value > MDL but < RL

µg/L = microgram per liter

µmho/cm = micro mho per centimeter

mg/L = milligram per liter

ng/L = nanograms per liter

NA = not analyzed

NAD = no available data

ND = non-detect

Q = laboratory control samples outside acceptance limits

Y = replicate/Duplicate precision outside acceptance limits

PW-19, Downgradient, Summary of Data Since March 1999

Parameters	MCL	Units	Oct. 2020	Oct. 2020 (dup)	Apr. 2021	Apr. 2021 (dup)	Nov. 2021	Nov. 2021 (dup)	Apr. 2022	Apr. 2022 (dup)	Oct. 2022	Oct. 2022 (dup)	Apr. 2023	Oct. 2023	Apr. 2024	Nov. 2024	Dec. 2024	Apr. 2025	Jun. 2025 R
Metals																			
Aluminum	50-200 (s)	µg/L	2.3 J	2.3 J	21.2 J	25.4 J	120	180	ND	ND	53 J	680	460	1,100	370	21 J	NA	560	NA
Antimony	6	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Arsenic	10	µg/L	ND	ND	2.4 J	2.7 J	2.1	2	1.7	1.5	1.6	2.8	1.6	2.8	1.8	9.8	NA	2.9	NA
Barium	2,000	µg/L	85.6	85.6	33.3	32.5	48	46	68	56	53	54	59	48	42	78	NA	27	NA
Beryllium	4	µg/L	0.13 J	0.13 J	0.18 J	0.25 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Cadmium	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Calcium	---	µg/L	96,200	96,200	63,200	61,700	82,000	84,000	11,000	9,500	69,000	67,000	69,000	52,000	58,000	120,000	NA	31,000	NA
Chromium	100	µg/L	2.1 J	2.1 J	ND	ND	1.3 J	1.4 J	1.1 J	6.4	1.1 J	2.2	1.5 J	7.7	1.4 J	2.7	NA	1.5 J	NA
Cobalt	----	µg/L	ND	ND	1.4 J	1.7 J	1.2	1.3	4.4	3.8	1.5	4.5	3	10	1.2	12	NA	1.3	NA
Copper	1,300	µg/L	ND	ND	ND	ND	1.8 J	2.9 J	ND	ND	6.7	6.2	5.3	5.8	2.1 J	2.7 J	NA	28	NA
Iron	300 (s)	µg/L	ND	ND	41.1 J	46.1 J	ND	ND	320 J	ND	ND	510 J	350 J	710 J	270 J	1,100	NA	450 J	NA
Lead	15	µg/L	1.5 J	1.5 J	2.1 J	3.3 J	ND	ND	ND	ND	ND	1.3 J	0.7 J	2	0.76 J	ND	NA	1.1 J	NA
Magnesium	---	µg/L	108,000	108,000	60,700	59,300	61,000	69,000	9,200	5,800	60,000	58,000	61,000	61,000	50,000	910,000	NA	29,000	NA
Manganese	50 (s)	µg/L	13.3	13.3	198	192	26	29	2,600	30	7.2	49	26	87	49	360	NA	26	NA
Mercury	2	µg/L	ND	ND	ND	ND	ND	ND	0.039 J	0.18	ND	ND	ND	0.023 J	ND	ND	NA	0.031 J	NA
Nickel	100	µg/L	5.8	5.8	7.7	7.7	8.3	8.8	2.8 J	4.7 J	11	12	13	22	8	21	NA	7.7	NA
Potassium	---	µg/L	31,900	31,900	16,300	16,000	18,000	18,000	2,000 J	2,100	14,000	14,000	15,000	11,000	9,300	20,000	NA	8,900	NA
Selenium	50	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	1.5 J	1.5 J	ND	ND	ND	ND	NA	ND	NA
Silver	100 (s)	µg/L	ND	ND	ND	ND	ND	ND	ND	0.61 J	ND	ND	ND	ND	ND	ND	NA	ND	NA
Sodium	20,000 (g)	µg/L	477,000	477,000	212,000	206,000	250,000	260,000	19,000	34,000	220,000	210,000	340,000	240,000	140,000	380,000	NA	190,000	NA
Thallium	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Vanadium	----	µg/L	2.7 J	2.7 J	2.7 J	2.7 J	2.2 J	2.1 J	ND	ND	6	5.2	3.3 J	2.7 J	1.7 J	3.2 J	NA	4.5	NA
Zinc	5,000 (s)	µg/L	ND	ND	ND	ND	ND	7.5 J	ND	ND	ND	ND	ND	9.4 J	ND	9 J	NA	ND	NA
Wet Chemistry																			
Alkalinity	----	mg/L	350	350	260	270	254	258	42	28	290	300	300	270	200	300	NA	250	NA
Ammonia	----	mg/L	ND	ND	ND	ND	ND	ND	0.088 J	0.095 J	0.091 J	0.062 J	ND	ND	ND	0.14 J	NA	NA	NA
Chemical Oxygen Demand	----	mg/L	58 J	58 J	45	33	245	272	ND	ND	64	68	150	44	61	130	NA	20 J	NA
Chloride	250 (s)	mg/L	970	970	430	420	482	477	36.2	44.4	460	440	530	410	370	730 J	NA	220	NA
Nitrate (N)	10	mg/L	ND	ND	ND	ND	ND	ND	0.939	0.311 J	ND	ND	ND	ND	ND	ND	NA	0.22 J	NA
Nitrate/Nitrite	10	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
pH	6.5-8.5 (s)	standard	7.29	7.24	7.34	7.29	7.34	7.35	6	6	7.2	7.2	7.2	6.6	7	7	NA	7.9	NA
Specific Conductivity	----	µmho/cm	3.92	3.92	1,850	1,848	1,900	1,900	222	247	1,900	1,800	2,200	2,000	1,600	3,200	NA	1,200	NA
Conductivity	---	µmho	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	250 (s)	mg/L	300	310	61	61	116	116	17.7	27.9	74	69	ND	100	42 J	ND	NA	32	NA
Total Dissolved Solids	500 (s)	mg/L	2,300	2,300	1,000	1,100	1,200	1,150	146	150	900	950	1,500	1,100	950	1,800	NA	630	NA
Total Hardness	----	mg/L	680	680	408	398	450	490	65	48	420	410	420	380	350	750	NA	200	NA
Total Organic Carbon	----	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Halides	----	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Turbidity	----	ntu	1.1	1.1	1.3	1.3	3	2	2	2	1.4	9.4	8.2	21	4.2	4.5	NA	8.5	NA
Volatile Organic Compounds																			
1,1,1,2-Tetrachloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
1,1,1-Trichloroethane	200	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
1,1,2,2-Tetrachloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
1,1,2-Trichloroethane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
1,1-Dichloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
1,1-Dichloroethene	7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
1,1-Dichloropropene	---	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	---	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
1,2-Dibromo-3-Chloropropane	0.2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
1,2-Dibromoethane	0.05	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
1,2-Dichlorobenzene	600	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
1,2-Dichloroethane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
1,2-Dichloropropane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
1,3-Dichlorobenzene	----	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
1,4-Dichlorobenzene	75	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
2-Butanone	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
2-Hexanone	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
4-Methyl-2-Pentanone	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Acetone	----	µg/L	0.95 J	0.95 J	ND	ND	ND	3.2	3.7	ND	1.7 J	1.6 J	1.1 J	1.1 J	ND	1.6 J	NA	0.76 J	NA

PW-19, Downgradient, Summary of Data Since March 1999

Parameters	MCL	Units	Oct. 2020	Oct. 2020 (dup)	Apr. 2021	Apr. 2021 (dup)	Nov. 2021	Nov. 2021 (dup)	Apr. 2022	Apr. 2022 (dup)	Oct. 2022	Oct. 2022 (dup)	Apr. 2023	Oct. 2023	Apr. 2024	Nov. 2024	Dec. 2024	Apr. 2025	Jun. 2025 R
Acrylonitrile	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Benzene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Bromochloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Bromodichloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Bromoform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Bromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Carbon Disulfide	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Carbon Tetrachloride	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Chlorobenzene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Chlorodibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Chloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Chloroform	----	µg/L	0.033 J	0.033 J	.025 J	0.023 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Chloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
cis-1,2-Dichloroethene	70	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
cis-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Dibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Dichloromethane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Ethyl Benzene	700	µg/L	0.02 J	0.02 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Methyl Iodide	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Styrene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
tert-butyl methyl ether (MTBE)	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Tetrachloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Toluene	1,000	µg/L	0.062 J	0.062 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
trans-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
trans-1,4-Dichloro-2- butene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
trans-1,2-Dichloroethene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Trichloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Trichlorofluoromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Vinyl Acetate	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Vinyl Chloride	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Xylenes	10,000	µg/L	0.112	0.112	0.04	0.039	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA
Per- and Polyfluoroalkyl Substances (PFAS)																			
Perfluorooctanoic acid (PFOA)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	4.1	6.8
Perfluorooctanesulfonic acid (PFOS)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	3.3	NA
Perfluorononanoic acid (PFNA)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	2.2	NA
Perfluorohexanesulfonic acid (PFHxS)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.7 J	NA
Perfluorobutanesulfonic acid (PFBS)	----	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.95 J	NA
Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA

Notes:

Red shaded area denotes concentration greater than the primary MCL

Yellow shaded area denotes concentration greater than the secondary MCL or Guidance Levels which are non-enforceable

MCL = Maximum Contaminant Level; Analytes detected in groundwater were compared to primary or secondary MCLs for drinking water supplies from <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations> and <https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals> (USEPA, 2025)

*Total metals, except for 2010 analyses which were for dissolved metals

---- = no regulatory limit

(s) = secondary MCL

(g) = guidance level

B = analyte was detected in method blank

D = diluted out

dup = duplicate quality control sample

J = estimated value > MDL but < RL

µg/L = microgram per liter

µmho/cm = micro mho per centimeter

mg/L = milligram per liter

ng/L = nanograms per liter

NA = not analyzed

NAD = no available data

ND = non-detect

Q = laboratory control samples outside acceptance limits

R = resampled for PFOA to verify detection in monitoring well exceeded MCL

Y = replicate/duplicate precision outside acceptance limits

PW-20, Upgradient, Summary of Data Since March 1999

Parameters	MCL	Units	Mar. 1999	Sep. 1999	Mar. 2000	Sep. 2000	Feb. 2001	Aug. 2001	Feb. 2002	Aug. 2002	Mar. 2003	Aug. 2003	Mar. 2004	Sep. 2004	Mar. 2005	Sep. 2005	Mar. 2006	Sep. 2006	Mar. 2007	Sep. 2007	Apr. 2008	Oct. 2008	Feb. 2009	Oct. 2009	
Metals*																									
Aluminum	50-200 (s)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Antimony	6	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Arsenic	10	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Barium	2,000	µg/L	44.1	65	58.8	75.1	90	110	120	120	73.2	37.2	32.6	34.9	39	72.3	83.6	146	41.9	46	51.9	45.7	41.1	45.2	
Beryllium	4	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.066	0.063	0.089	0.026	ND	0.032	0.028 J	0.024	0.038		
Cadmium	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	0.25	ND	ND	ND	ND	0.14	0.074	0.16	0.043	ND	0.026	0.046 J	0.04	0.042	
Calcium	---	µg/L	NA	4,500	4,870	6,520	7,600	10,000	13,000	13,000	8,190	5,170	5,980	7,230	7,400	11,800	10,600	31,600	10,600	10,200	13,900	9,900	8,560	9,420	
Chromium	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	1	1	0.3	ND	ND	ND	0.2	0.25	0.35	0.92	ND	ND	1.2	1.1	
Cobalt	----	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.3	4	9.4	3.1	5	2.3	1	5.1	3	
Copper	1,300	µg/L	NA	ND	ND	0.86	ND	ND	ND	ND	4.8	1.4	4.6	3.5	2.9	5.5	7	3	4.4	8.8	1.9	1.9	3.9	0.65	
Iron	300 (s)	µg/L	NA	ND	127	109	110	80	220	7,600	20.4	89.7	ND	17.1	34	8.2	14.4	9.1	15.4	29.1	ND	ND	33.3	ND	
Lead	15	µg/L	ND	ND	ND	ND	ND	8	10	5.8	ND	ND	0.66	ND	ND	0.49	0.61	0.43	0.51	ND	ND	ND	0.35	ND	
Magnesium	---	µg/L	NA	4,200	4,520	6,150	7,000	9,800	11,000	11,000	6,570	4,240	5,350	6,800	7,300	NA	NA	NA	NA	NA	NA	NA	NA	8,580	
Manganese	50 (s)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	116	200	465	97	81.4	93.3	49.1	58.3	50.9	
Mercury	2	µg/L	ND	1.8	ND	0.126	1	0.7	1	2.6	0.27	ND	ND	ND	ND	0.54	0.23	0.33	0.07	0.038	0.14	0.085 J	0.038 J	0.52	
Nickel	100	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.5	4	7.5	2.5	3.5	3.2	1.9	3.6	1.9	
Potassium	---	µg/L	NA	1610	1660	2080	ND	ND	ND	ND	2,220	1,530	1,610	1,430	1,600	NA	NA	NA	NA	NA	NA	NA	NA	1,180	
Selenium	50	µg/L	NA	ND	ND	ND	ND	ND	ND	ND	0.84	ND	ND	0.68	ND	0.67	2.1	2.1	1.1	ND	1.2	1.2 J	2	ND	
Silver	100 (s)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.017	1	ND	ND	ND	0.045	0.060 J	ND	0.83	
Sodium	20,000 (g)	µg/L	NA	11,500	15,600	13,400	16,000	14,000	18,000	21,000	14,500	4,970	5,010	5,180	5,800	NA	NA	NA	NA	NA	NA	NA	NA	20,400	
Thallium	2	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.23	ND	ND	ND	ND	ND	ND	0.16	ND	
Vanadium	----	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.69	ND	0.85	0.43	ND	ND	ND	ND	ND	
Zinc	5,000 (s)	µg/L	12.6	ND	ND	6.16	ND	10	40	10	16.4	5.1	9.4	5.5	ND	9.3	ND	13.1	5.9	10.4	7.2	4.6 J	6.8	2	
Wet Chemistry																									
Alkalinity	----	mg/L	6	11.1	14.6	7.84	19	12	22	30	15	13	18	10	30.4	6.5	4.6	ND	12	23	21	25	25	26	
Ammonia	----	mg/L	NA	ND	ND	ND	ND	ND	ND	0.3	0.08	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chemical Oxygen Demand	----	mg/L	ND	ND	9.09	ND	ND	11	ND	ND	5.1	ND	ND	ND	29	ND	22	28	9	ND	ND	ND	7.2	9.8	
Chloride	250 (s)	mg/L	17.5	18.5	19.6	28.2	23	28	36	38	19	5.3	8.9	17	24	58	86	59	21	22	40	36	25	40	
Nitrate (N)	10	mg/L	0.334	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.22	0.2	0.34	0.22	0.45	NA	NA	NA	NA	
Nitrate/Nitrite	10	mg/L	NA	0.103	0.205	0.128	0.25	1	0.1	0.15	0.41	0.26	0.36	0.5	0.24	NA	NA	NA	NA	NA	NA	0.22	0.16	0.14	0.39
pH	6.5-8.5 (s)	standard	NA	5.14	5.2	5.25	5.29	5.35	5.35	5.99	5.1	5.3	5.3	5.4	6.02	5.1	4.9	5	5.7	5.1	5.2	5.6	5.3	5.4	
Specific Conductivity	----	µmho/cm	104	116	157	171	200	150	260	290	170	91	120	140	198	220	270	720	290	260	340	250	230	270	
Conductivity	---	µmho	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Sulfate	250 (s)	mg/L	NA	9.7	15.6	24	24	33	55	64	30	24	18	15	7.7	20	48	140	72	28	73	42	40	24	
Total Dissolved Solids	500 (s)	mg/L	NA	80	126	72	110	160	200	220	100	88	71	100	68	140	140	470	150	190	200	190	160	110	
Total Hardness	----	mg/L	30.4	23.5	36.3	40.9	48	66	80	100	53	31	33	45	51.48	84	85	240	72	100	96	72	61	84	
Total Organic Carbon	----	mg/L	NA	ND	4.21	1.51	ND	ND	7.2	ND	ND	ND	ND	1	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Total Organic Halides	----	mg/L	NA	ND	18.4	ND	17	24	27	49	14	ND	ND	ND	14.95	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Turbidity	----	ntu	NA	0.59	1.81	ND	3.7	0.7	2.1	60	5.2	ND	ND	ND	1.4	1.2	0.1	0.4	2.1	2.2	0.8	0.10 J	1.1	ND	
Volatile Organic Compounds																									
1,1,1,2-Tetrachloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1,1-Trichloroethane	200	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1,2,2-Tetrachloroethane	----	µg/L	ND	ND	ND	5.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1,2-Trichloroethane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1-Dichloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1-Dichloroethene	7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1-Dichloropropene	---	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1,2,3-Trichlorobenzene	---	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1,2,3-Trichloropropane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,2-Dibromo-3-Chloropropane	0.2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,2-Dibromoethane	0.05	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,2-Dichlorobenzene	600	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,2-Dichloroethane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,2-Dichloropropane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,3-Dichlorobenzene	----	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	
1,4-Dichlorobenzene	75	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
2-Butanone	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
2-Hexanone	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
4-Methyl-2-Pentanone	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Acetone	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	2.6	ND	6	ND	ND	ND	ND	40	ND	2.6	ND	ND	ND	ND	
Acrylonitrile	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	

PW-20, Upgradient, Summary of Data Since March 1999

[illegible]

Notes:

Red shaded area denotes concentration greater than the primary MCL

Yellow shaded area denotes concentration greater than the secondary MCL or Guidance Levels which are non-enforceable

MCL = Maximum Contaminant Level; Analytes detected in groundwater were compared to primary or secondary MCLs for drinking water supplies from <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations> and <https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance- nuisance-chemicals> (USEPA, 2025)

*Total metals, except for 2010 analyses which were for dissolved metals

-- = No regulatory limit

(s) = secondary MCL

(g) = guidance level

B = analyte was detected in method blank

D = diluted out

dup = duplicate quality control sample

J = estimated value > MDL but < RL

M = matrix spike and/or matrix spike duplicate recovery outside acceptance limits

$\mu\text{g/L}$ = microgram per liter

$\mu\text{mho/cm}$ = micro mho per centimeter

mg/L = milligram per liter

ng/L = nanograms per liter

NA = not analyzed

NAD = no available data

ND = non-detect

PW-20, Upgradient, Summary of Data Since March 1999

Parameters	MCL	Units	Apr. 2010	Oct. 2010	Apr. 2011	Oct. 2011	Oct. 2012	Oct. 2012 (dup)	Oct. 2013	Oct. 2013 (dup)	Oct. 2014	Oct 2014 (dup)	May 2015	May 2015 (dup)	Nov. 2015	Apr. 2016	Oct. 2016	Oct. 2018	Apr. 2019	Nov. 2019	Jun. 2020	Oct. 2020	Apr. 2021	Nov. 2021	Apr. 2022
Metals*																									
Aluminum	50-200 (s)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49.4	18.3	22.8 J	28.8	14.2 J	39.5	ND	29.2 J	ND	110
Antimony	6	µg/L	ND	NA	ND	ND	ND	ND	ND	ND	1.30 B	1.20 B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	10	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4
Barium	2,000	µg/L	40.5	53	44.7	46.8	57.1	54.8	43.6	43.9	65.8	68.7	66.1	62.6	0.19	139	106	60.5 B	40.1	55	89.7	45.3	38.8	47	69
Beryllium	4	µg/L	0.031 J	NA	ND	0.23 J	ND	ND	ND	ND	ND	ND	ND	ND	13,500	ND	ND	ND	ND	ND	0.29 J	0.16 J	0.21 J	ND	ND
Cadmium	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.63 B	ND	ND	0.98	ND	ND	0.36 J	ND	ND	ND	ND	ND	ND	ND
Calcium	---	µg/L	14,800	11,000	12,000	11,900	9,280	8,220	6,380	6,370	7,650	7,910	10,900	10,700	ND	19,400	13,300	33,900	12,400	15,100	18,700	11,200	12,300	11,000	62,000
Chromium	100	µg/L	ND	2.6 J	4.2	2 J	2.3 J	1 J	ND	ND	1.80 B	2.0 B	ND	ND	0.86	2.2	ND	0.66	ND	ND	1 J	ND	ND	2.9	1.7 J
Cobalt	----	µg/L	0.97 J	NA	0.7 J	0.57 J	1.2 J	1 J	ND	ND	5.60 B	5.70 B	ND	ND	ND	2.1	1.6	ND	ND	ND	ND	0.65 J	ND	0.71 J	1.6
Copper	1,300	µg/L	3.2 *	4.2 J	0.52 J	298	0.91 J	0.41 J	ND	ND	ND	ND	ND	ND	ND	ND	1.3	ND	2.4	ND	ND	ND	ND	ND	3.1 J
Iron	300 (s)	µg/L	55.8	230	171	69.6 J	217	69.8 J	78.2	69.1	709	889	ND	ND	11,900	38.2	1,130	33.6 J	60.5	16.9	30.5 J	ND	57.3 J	ND	1,200
Lead	15	µg/L	0.25 J	ND	0.24 J	5.8	0.59 J	0.28 J	4.7	4.7	1.70 B	1.90 B	ND	ND	81.3	ND	ND	1.9 J	<2.0	ND	ND	ND	2.8 J	ND	ND
Magnesium	---	µg/L	NA	9,700	9,290	9,270	7,420	7,300	4,920	5,050	6,340	6,550	8,270	8,220	4.2	15,100	10,400	26,300	9,330	10,100	13,200	7,330	7,250	5,900	24,000
Manganese	50 (s)	µg/L	46.8	NA	30.2	24.7	53.4	52.1	37	37.1	80.5	88.5	42.3	40.6	2,330	115	108	20.7	19.6	21.5	42	24.5	20.8	20	610
Mercury	2	µg/L	0.18 J	0.044 J	ND	0.07 JN	ND	ND	ND	ND	0.143 B	0.147 B	0.315	0.295	1.1	0.67	0.47	ND	0.15	0.052 J	0.32	0.53	0.12	0.052 J	0.015 J
Nickel	100	µg/L	2.2 J	NA	3.4	1.7	2.6 J	1.9 J	ND	ND	4.2 B	4.2 B	ND	ND	28500	4.6	ND	1.5 J	ND	1.1 J	2.1 J	1.5 J	ND	2.7 J	5.8
Potassium	---	µg/L	NA	1,900	1,630	1,600	1,380	1,380	1,330	1,380	ND	ND	ND	ND	1.6	2,750	2,100	5,460	1,470	2,050	2,410	1,910	1,770	1,700 J	3,400
Selenium	50	µg/L	2.3 J	ND	1.1 J	1.2 J	1.2 J	0.89 J	ND	ND	0.710 B	2	2	ND	ND	ND	ND	3.7 JB	ND	2.9 J	3.7 J	ND	ND	ND	ND
Silver	100 (s)	µg/L	ND	NA	ND	0.076 J	ND	ND	ND	ND	ND	ND	ND	ND	10.7	0.84	ND	ND	ND	ND	1.9 J	ND	ND	ND	ND
Sodium	20,000 (g)	µg/L	NA	23,000	19,400	20,000	19,000	18,800	19,200	19,300	21,600	22,600	27,700	27,700	ND	45,300	35,000	24,300	16,000	23,000	33,300	24,700	26,300	29,000	23,000
Thallium	2	µg/L	ND	NA	ND	0.11 J	0.3 J	0.031 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	----	µg/L	ND	NA	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	4.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	5,000 (s)	µg/L	3.7 J	5.1 J	8	25.3 N	14.4 N	14.2 N	95.5	91	37.8	44.7	27.1	19.3	17	5.8	7.7	6.3 J	3	4 J	3.2 J	ND	ND	ND	ND
Wet Chemistry																									
Alkalinity	----	mg/L	28	31	28	31	19	19	20.6	20.2	28.6	33	23.2	23	ND	34	25	170	26	42	45	42 J	47 J	30	260
Ammonia	----	mg/L	ND	ND	0.064 J	0.09	0.044 J	0.047 J	ND	ND	0.137 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chemical Oxygen Demand	----	mg/L	11	15	9.5	3.43 J	15.5	14.5	ND	ND	ND	ND	ND	ND	ND	27	ND	30 J	29	ND	15 J	20 J	21 J	113	50
Chloride	250 (s)	mg/L	29	21.6 D	39.9	31 D	45 D	46 D	33.9	33	49.8	50.9	37.2	37.6	75	99	85	15	25	38	70	36	26	38.7	20.2
Nitrate (N)	10	mg/L	NA	NA	NA	NA	NA	NA	0.254	0.246	0.162	0.163	0.39	0.337	ND	0.69	0.6	1.3	0.72	0.36 J	0.17 J	0.59	0.5	0.29 J	0.312 J
Nitrate/Nitrite	10	mg/L	0.67	0.54	0.307	0.76	0.21	0.22	ND	ND	NA	NA	NA	NA	NA	NA	NA	NAD	NA	NA	NA	NA	NA	NA	NA
pH	6.5-8.5 (s)	standard	5.4	5.57	5.45	4.99	4.71	5.18	5.64	5.66	5.63	5.52	5.47	5.56	NA	NA	5.64	6.41	5.91	6.24	6.05	6.17	6.85	6.12	7
Specific Conductivity	----	µmho/cm	320	267	256	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NAD	NA	340	403.9	282	292.1	217	532
Conductivity	---	µmho	NA	NA	NA	255	200	201	222.5	220.1	308	312	251.5	255.3	0.47	517	398	526	256	NA	NA	NA	NA	NA	NA
Sulfate	250 (s)	mg/L	68	46.9 D	41	46	8 D	8.1 D	15.2	15.5	13.4	13.5	43.3	42.8	ND	53	30	95 M	40	44	33	36	39	32.9	36.6
Total Dissolved Solids	500 (s)	mg/L	180	139	161	151	94	100	110	110	113	105	161	158	ND	210	230	290	41	170	250	110	180	119	347
Total Hardness	----	mg/L	82	78.4	71	67.85	53.75	50.59	36.2	36.7	45.2	46.7	61.3	60.5	418	NA	76	190	69	79	100	58	60.6	51	250
Total Organic Carbon	----	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28	NA	NA	NAD	NA	NA	NA	NA	NA	NA	NA
Total Organic Halides	----	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	NA	NA	NAD	NA	NA	NA	NA	NA		

PW-20, Upgradient, Summary of Data Since March 1999																									
Parameters	MCL	Units	Apr. 2010	Oct. 2010	Apr. 2011	Oct. 2011	Oct. 2012	Oct. 2012 (dup)	Oct. 2013	Oct. 2013 (dup)	Oct. 2014	Oct 2014 (dup)	May 2015	May 2015 (dup)	Nov. 2015	Apr. 2016	Oct. 2016	Oct. 2018	Apr. 2019	Nov. 2019	Jun. 2020	Oct. 2020	Apr. 2021	Nov. 2021	Apr. 2022
Acrylonitrile	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	----	µg/L	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorodibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	70	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene	700	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.021 J	0.02 J	ND	ND
Methyl Iodide	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-butyl methyl ether (MTBE)	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	1,000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.032 J	0.032 J	ND	ND
trans-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2- butene	----	µg/L	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	10,000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.059 J	0.04 J	0.107	0.087	ND
Per- and Polyfluoroalkyl Substances (PFAS)																									
Perfluorooctanoic acid (PFOA)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanesulfonic acid (PFOS)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorononanoic acid (PFNA)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorohexanesulfonic acid (PFHxS)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorobutanesulfonic acid (PFBS)	----	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Red shaded area denotes concentration greater than the primary MCL

Yellow shaded area denotes concentration greater than the secondary MCL or Guidance Levels which are non-enforceable

MCL = Maximum Contaminant Level; Analytes detected in groundwater were compared to primary or secondary MCLs for drinking water supplies from <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations> and <https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals> (USEPA, 2025)

*Total metals, except for 2010 analyses which were for dissolved metals

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(g) = guidance level

B = analyte was detected in method blank

D = diluted out

dup = duplicate quality control sample

J = estimated value > MDL but < RL

M = matrix spike and/or matrix spike duplicate recovery outside acceptance limits

µg/L = microgram per liter

µmho/cm = micro mho per centimeter

mg/L = milligram per liter

ng/L = nanograms per liter

NA = not analyzed

NAD = no available data

ND = non-detect

PW-20, Upgradient, Summary of Data Since March 1999															
Parameters	MCL	Units	Oct. 2022	Apr. 2023	Apr. 2023 (dup)	Oct. 2023	Oct. 2023 (dup)	Apr. 2024	Apr. 2024 (dup)	Nov. 2024	Nov. 2024 (dup)	Dec. 2024	Dec. 2024 (dup)	Apr. 2025	Apr. 2025 (dup)
Metals*															
Aluminum	50-200 (s)	µg/L	30 J	ND	ND	70 J	52 J	ND	ND	59 J	66 J	NA	NA	ND	ND
Antimony	6	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Arsenic	10	µg/L	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Barium	2,000	µg/L	48	37	36	35	34	33	35	34	27	NA	NA	39	37
Beryllium	4	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Cadmium	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Calcium	---	µg/L	7,500	7,200	7,100	5,700	5,300	7,400	7,900	4,300	5,000	NA	NA	5,200	5,300
Chromium	100	µg/L	1.6 J	1.4 J	1.4 J	2 J	1.1 J	0.59 J	0.59 J	4.2	1.3 J	NA	NA	0.54 J	ND
Cobalt	----	µg/L	1.2	1.1	1.2	3.4	2.6	1.8	1.8	2	0.69 J	NA	NA	0.44 J	0.44 J
Copper	1,300	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Iron	300 (s)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Lead	15	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Magnesium	---	µg/L	4,900	4,200	4,100	3,400	3,200	4,300	4,500	2,600	2,900	NA	NA	3,300	3,300
Manganese	50 (s)	µg/L	39	18	18	27	27	11	15	38	18	NA	NA	22	20
Mercury	2	µg/L	0.056 J	0.11	0.12	0.083 J	0.099 J	ND	ND	0.012 J	0.013 J	NA	NA	0.021 J	ND
Nickel	100	µg/L	2.5 J	1.9 J	1.8 J	3 J	2.3 J	1.5 J	1.5 J	5.7	2.4 J	NA	NA	1.5 J	1.6 J
Potassium	---	µg/L	1,700 J	1,400 J	1,400 J	1,400 J	1,300 J	1,300 J	1,300 J	1,300 J	1,300 J	NA	NA	1,400 J	1,400 J
Selenium	50	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Silver	100 (s)	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Sodium	20,000 (g)	µg/L	29,000	24,000	23,000	24,000	23,000	26,000	25,000	24,000	25,000	NA	NA	29,000	29,000
Thallium	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Vanadium	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Zinc	5,000 (s)	µg/L	ND	ND	ND	ND	ND	ND	ND	15 J	14 J	NA	NA	ND	ND
Wet Chemistry															
Alkalinity	----	mg/L	30	24	28	26	26	30	30	18	22	NA	NA	22	22
Ammonia	----	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
Chemical Oxygen Demand	----	mg/L	6.5 J	ND	11 J	20 J	11 J	20 J	16 J	ND	ND	NA	NA	21 J	58
Chloride	250 (s)	mg/L	38	19	19	16	15	13	13	15	14	NA	NA	27	27
Nitrate (N)	10	mg/L	ND	0.32 J	0.32 J	0.28 J	0.3 J	0.35 J	0.36 J	0.7 J	0.42 J	NA	NA	0.34 J	0.35 J
Nitrate/Nitrite	10	mg/L	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA
pH	6.5-8.5 (s)	standard	5.9	5.8	5.9	5.8	5.7	6.7	6.4	6.1	5.9	NA	NA	6.4	6.5
Specific Conductivity	----	µmho/cm	220	180	180	180	180	140	140	150	170	NA	NA	210	210
Conductivity	---	µmho	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	250 (s)	mg/L	31	39	39	31	31	45	45	32	28	NA	NA	29	28
Total Dissolved Solids	500 (s)	mg/L	110	120	140	100	100	130	130	91	110	NA	NA	120	110
Total Hardness	----	mg/L	39	35	35	28	26	36	38	21	24	NA	NA	26	27
Total Organic Carbon	----	mg/L	NA	NA	NA	NA	NA	ND	ND	ND	ND	NA	NA	NA	NA
Total Organic Halides	----	mg/L	NA	NA	NA	NA	NA	ND	ND	ND	ND	NA	NA	NA	NA
Turbidity	----	ntu	0.63	0.6	0.43	0.5	0.28 J	0.42	0.18 J	1.2	1.7	NA	NA	0.61	0.57
Volatile Organic Compounds															
1,1,1,2-Tetrachloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
1,1,1-Trichloroethane	200	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
1,1,2,2-Tetrachloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
1,1,2-Trichloroethane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
1,1-Dichloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
1,1-Dichloroethene	7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
1,1-Dichloropropene	---	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
1,2,3-Trichlorobenzene	---	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
1,2,3-Trichloropropane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
1,2-Dibromo-3-Chloropropane	0.2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
1,2-Dibromoethane	0.05	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
1,2-Dichlorobenzene	600	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
1,2-Dichloroethane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
1,2-Dichloropropane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
1,3-Dichlorobenzene	----	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
1,4-Dichlorobenzene	75	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
2-Butanone	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
2-Hexanone	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
4-Methyl-2-Pentanone	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Acetone	----	µg/L	1.7 J	ND	ND	9.3	11	ND	ND	ND	1.2 J	NA	NA	ND	ND

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Acrylonitrile	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Benzene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Bromochloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Bromodichloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Bromoform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Bromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Carbon Disulfide	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Carbon Tetrachloride	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Chlorobenzene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Chlorodibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Chloroethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Chloroform	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Chloromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
cis-1,2-Dichloroethene	70	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
cis-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Dibromomethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Dichloromethane	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Ethyl Benzene	700	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Methyl Iodide	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Styrene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
tert-butyl methyl ether (MTBE)	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Tetrachloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	0.57 J	0.61 J
Toluene	1,000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
trans-1,3-Dichloropropene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
trans-1,4-Dichloro-2- butene	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
trans-1,2-Dichloroethene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Trichloroethene	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Trichlorofluoromethane	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Vinyl Acetate	----	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Vinyl Chloride	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Xylenes	10,000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
Per- and Polyfluoroalkyl Substances (PFAS)															
Perfluorooctanoic acid (PFOA)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	11	10	17	18
Perfluorooctanesulfonic acid (PFOS)	4	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	26	24	29	28
Perfluorononanoic acid (PFNA)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.2	2.3	3.3	3.6
Perfluorohexanesulfonic acid (PFHxS)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.4	6.4	9.6	9.4
Perfluorobutanesulfonic acid (PFBS)	----	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.3 J	1.2 J	2.8	2.9
Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)	10	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND

Notes:

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